“I think I can solve it on my own:”

Latino Adolescents’ Communication About Daily Family- and School-Related Stress

by

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DEDICATION

A Iván.

A mami, papi, Titi Rosita y Titi Violeta.

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ABSTRACT

All adolescents in the United States experience stress, but Latino adolescents must contend daily with additional risks and vulnerabilities related to their ethnic identity (e.g., discrimination, family conflict derived from divergent cultural expectations, and mental health disparities). To date little research has examined the daily experiences of Latino high school students. The primary goal of this study is to investigate the associations between daily stressful events and adolescent moods among a sample of 93 Latino high school students (M_{age} = 16.41, *SD* = 1.01; 55% female; 54% 11th grade) from the Midwestern United States. Students completed 1,139 weekday diaries over a 4-week period. Multilevel models were used to analyze the relations between daily family- (*n* = 197) and school-related events (*n* = 680) and daily depressed, anxious, and positive moods. Speaking to parents or friends and students' confidence that the stressful event would get resolved were included in the models, as was the moderating role of gender in these relations. Results revealed that Latina girls who experienced a family-related stressful event had increased same-day depressed moods. Boys and girls exhibited increases in same-day anxious moods on days in which they experienced a family-related stressful event. Speaking to parents or friends, or not speaking to anyone, about a stressful event was not associated with daily mood scores. Daily event resolvability was associated with lower same-day depressed mood scores for girls and lower same-day anxious mood scores for boys and girls. Possible culturally informed explanations for these gender differences are considered. Next steps in analyzing these data and general future directions for research are offered.

CHAPTER I

Introduction

Adolescents in the United States experience inordinate amounts of stress and report even higher rates of stress than adults, with the highest stress levels reported during the school year (American Psychological Association, 2014). Not surprisingly, an overwhelming majority of the 1,018 adolescents in one survey (83%) reported that school was a major source of stress (American Psychological Association, 2014). Close to a third of the adolescents surveyed reported feeling overwhelmed, depressed or sad as a result of stress, but over 50% reported that stress did not impact their physical or psychological health. Stress in adolescence has been linked to anxiety, depression, and lower self-esteem (Anyan & Hjemdal, 2016; Byrne et al., 2007; Waaktaar et al., 2004). Adolescent stress may also interfere with academic achievement and targeted, as opposed to universal, stress-reduction school-based interventions may be necessary (Feiss et al., 2019).

In 2018, 18% of the total population of the United States were Latinos (U.S. Census Bureau, 2018b). Latino adolescents constitute the largest ethnic or racial minority youth group and an increase in this group is projected to continue in the coming decades (Hussar & Bailey, 2013). Despite government claims of a Latino "invasion" that have fueled racist and xenophobic attacks by white supremacists (Romero et al., 2019), only one-third of the 58.9 million Latinos currently living in the U.S. were born in a foreign country.

Latino adolescents may be more vulnerable to stress given the cumulative stressors they experience by virtue of their ethnic identity, including acculturative stress, language conflicts, and discrimination (e.g., Acosta et al., 2004; Arbona & Jimenez, 2014; Nair et al., 2018; Torres & DeCarlo Santiago, 2017). For example, Latino adolescents who experience stress related to language (e.g., barriers, brokering), family dynamics, and intergroup relations report increases in internalizing symptoms and decreases in academic achievement (Alatorre Alva & De Los Reyes, 1999). This vulnerability to stress is coupled with mental health disparities among Latino youth. Latino high school students report feeling sad or hopeless at higher rates than their Black or White peers, have the highest rates of making a plan for suicide, and have the second highest rates of seriously considering and attempting suicide (Kann et al., 2018).

Latino youth may experience family- and school-related stress as independent or intertwined factors. Latino families often strongly endorse the cultural value of *familismo* were the emphasis is on loyalty, reciprocity, and a strong commitment to the family unit (Stein et al., 2014). Latino adolescents, therefore, may feel added pressure to do well in school to honor the sacrifices made by their family and to be able to help them in the future (Ceballo et al., 2014). In addition to school stress derived from a sense of *familismo*, differences in rate of acculturation, family responsibilities, and financial strain may all contribute to Latino adolescents' family- and school-related stress.

Little research has focused on the daily experiences of Latino adolescents during the high school years, a key developmental period for the onset of risks, vulnerabilities, and mental health disparities. This dissertation attempts to address this gap by focusing on family- and school-related sources of daily stress in the lives of Latino youth. The present study will provide an in-depth and detailed account of Latino adolescents' daily life challenges and moods. This study's

central aims are to examine (a) the relations between daily stressful events (related to family and school) and daily moods, (b) how communicating about daily events impacts daily moods, and (c) whether these relations vary by gender. Investigating adolescents' communication about daily stressors is particularly important because communication is a potentially malleable, protective factor. Another important contribution of this study is the simultaneous examination of the influence that family- and school-related stress, jointly and separately, have on adolescents' daily mood; depressed and anxious moods may be precursors to mental health difficulties.

Ethnic Identification: Latina/o(s), Latinx, Hispanics

Developmental psychologists have grappled with ways to adequately define and measure culture for decades (Phinney, 1996; Trimble, 2007; Vélez-Agosto et al., 2017). Widely recognized as an important dimension of human development, definitions of culture are bountiful and exemplify the considerable confusion that exists (Causadias, 2013; Konstam, 2007; Phinney, 1996; Trimble, 2007). Culture is comprised of a host of interrelated dimensions, including, but not limited to, age, ethnicity, gender, sexual orientation, and race, and individuals can simultaneously assume roles that are divergent (Konstam, 2007; Trimble, 2007). Culture is a dynamic, changing, and reciprocal process whereby one adapts and learns what it means to be a member of one's society through shifts in sociological, historical, and political influences (Chao & Otsuki-Clutter, 2011; Mistry et al., 2016; Vélez-Agosto et al., 2017). In other words, culture is the context that defines what is "normal" and shapes a person's definition of the self (Konstam, 2007; Rogoff, 2003).

Ethnicity is perhaps most often thought of as culture because the meaning of ethnicity usually focuses on cultural characteristics—typical attitudes, behaviors, norms, and values—that stem from a common culture of origin transmitted across generations. It is not surprising that

ethnicity and race have been conceptually confounded and empirically conflated with culture (Quintana et al., 2006). Ethnic or racial minority group membership does not necessarily mean a common cultural experience (Mistry et al., 2016), nor should a shared historical ancestor be the primary cultural framework determinant (McLoyd, 2006). This means that researchers must further "unpack the packaged variable of ethnicity" (or race) if they are to achieve a better understanding of the implications of group membership (Phinney, 1996; Quintana et al., 2006).

Three aspects of ethnicity are assumed to be important for psychological science: 1) the cultural attitudes, behaviors, and values that distinguish ethnic groups; 2) the subjective sense of ethnic group membership (i.e., ethnic identity); and 3) the experiences associated with "minority" status (Mistry et al., 2016; Phinney, 1996). The term minority "refers to individuals from a variety of non-White racial groups, and ethnic groups refers to people coming from a particular region of the world or country who share characteristics such as culture, language, or beliefs" (Cabrera, 2013, p. 3). It is important to note that the "minority" label implies historical social inequalities experienced by non-Whites and not necessarily demographic (e.g., population size) minority status (Cabrera, 2013). Ethnic and racial designations are not categorical variables that can clearly differentiate among, or even within, groups (Mistry et al., 2016; Phinney, 1996; Trimble, 2007). Despite the difficulty in delineating the contours of ethnic or racial group membership, "categories are necessary for human discourse, and without categorical labels, discussion of psychological phenomena is virtually impossible" (Phinney, 1996, p. 919).

Latinos in this study are adolescents who share an ethnic origin in the nations of Latin America and the Spanish speaking Caribbean (e.g., Mexico or Puerto Rico). Although the term Latino is used throughout, there is considerable heterogeneity within this group in terms of country of origin, ethnicity, gender, racial identity, migration histories, socioeconomic status, etc.

This diversity also accounts for different experiences based on Latinos' intersectional identities. Despite this heterogeneity, Phinney (1996) points to some common characteristics: high levels of interdependence, conformity, and readiness to sacrifice for the welfare of ingroup members; avoidance of conflict in interpersonal relations; strong attachment, loyalty and reciprocity to close and extended family members; more clearly defined familial gender roles; valuing obedience to people with authority; and having more flexible attitudes towards time. Many of these characteristics are said to differentiate Latinos' collectivist attitudes from more individualistic ones observed in mainstream cultures in the United States (Phinney, 1996; S. J. Schwartz et al., 2010). Collectivist attitudes emphasize the group over the individual and view persons as interdependent and connected (Katsiaficas et al., 2014; Phinney, 1996; Rankin & Kenyon, 2008; S. J. Schwartz et al., 2010). These characteristics are used as guideposts only because ethnic cultures are constantly changing and evolving.

"Latinxs" has emerged recently as an inclusive term to recognize trans, non-binary, gender expansive, gender queer, and gender nonconforming people, especially among academic and activist circles. However, it is anachronistic to use this term when describing historical trends and data (Noe-Bustamante et al., 2020; Vidal-Ortiz & Martínez, 2018). Although LGBTQIA+ Latinxs have been active in our communities for many decades, until recently, we did not have an inclusive pan-ethnic or ethnoracial category. "Latin@" and "Latin***e"*** are other variations that have been used in the past and continue to be used in the search for more inclusivity, one that challenges androcentrism in the Spanish language (Vidal-Ortiz & Martínez, 2018). The use of Latinx is not without controversy (Noe-Bustamante et al., 2020; R. T. Rodríguez, 2017; Vidal-Ortiz & Martínez, 2018), as were previous terms such as Chicana/o and Hispanics (Beltrán, 2010; Mora, 2014). I do not use Latinx because, as Vidal-Ortiz and Martínez

(2018) persuasively argue, gender is not a category that is engaged as an object of study. A cursory search of PsychINFO reveals a little over 400 articles that use the term Latinx; yet most of these articles adhere to binary gender or sexual identity categories to describe participants. The use of Latinx in social science research ought to be more than gesture. Its use and misuse remind us that LGBTQIA+ people of Latin American and Spanish speaking Caribbean origin are missing from our scholarly work and that more research with and about them is desperately needed.

Theoretical Frameworks

Resilience

This study is grounded in resilience frameworks. Resilience broadly refers to the ability to adapt and recover successfully in the wake of adversity (Southwick et al., 2014). Studying resilience generally requires defining risks, threats, and adaptive outcomes. Resilience is not a static personal trait, but rather, may change because of developmental, environmental, or contextual changes (Masten, 2014; Southwick et al., 2014). As Southwick et al. (2014) argue, resilience is likely to exist on a continuum that is domain specific and changes over time. In other words, people may experience different levels of resilience in different contexts at different points in their lives. Masten (2014, p. 6) defines resilience "as the capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability, or development." This definition accounts for shifts in how resilience is understood and defined and a consensus that an individual's resilience is dependent on complex adaptive systems that are constantly interacting and transforming (Bronfenbrenner & Morris, 2006; Lerner, 2007; Masten, 2014).

Latino families, by virtue of their cultural and ethnic identity, are exposed to considerable risks, including acculturative stress, discrimination, segregation, and violence (Bosma et al.,

2019). At the same time, cultural and ethnic identity can serve a protective role when dealing with these risks by, for example, creating adaptive cultural practices and promotive environments and fostering positive family and community relationships (Bosma et al., 2019; García Coll et al., 1996; Southwick et al., 2014). Masten (2009) identified 10 protective factors that might buffer adolescents from risk, including intellectual and self-regulation skills, positive bonds with caregivers, positive relationships with adults, supportive friends and romantic partners, bonds to schools and other organizations, and cultural standards, rituals, relationships, and supports (Bosma et al., 2019).

Bosma et al. (2019) found Latino youth and parents identified discrimination and racism, economic instability, and immigration status as salient challenges. Many Latino parents work long hours or multiple jobs that may hinder their ability to closely supervise their children or be able to attend school functions (Bosma et al., 2019). Latino parents, however, are involved in their children's education in ways that are not traditionally measured (Ceballo et al., 2014). Recent changes in government sanctioned anti-Latino policies have exacerbated the challenges Latino families face, including increases in feelings of fear, anxiety, and anger among Latino youth (Wray-Lake et al., 2018). Economic instability, discrimination, and racism are all intertwined with Latino family's concern about immigration status. Immigration raids cause considerable disruption to Latino communities and affect the health and well-being of its members (Lopez et al., 2017). Many Latino youth worry about what their immigration status, and those of their close friends and family, mean to their future aspirations and goals (Bosma et al., 2019).

The parents and youth in Bosma et al.'s qualitative study (2019) also identified many factors that contribute to Latino youth's resilience, including academic achievement, parental

support, positive family attachment, positive relationships with other adults, positive and prosocial friends, and cultural pride. Latino youth and parents stressed that education was a key component of success. Educational attainment was strongly linked to Latino youth's ability to achieve upward mobility and to justify the sacrifices that may come from obtaining an education (Bosma et al., 2019; Ceballo et al., 2014). Therefore for many Latino families, the word "education," in Spanish, referred to as, "*educación*," means more than academic learning; it encompasses integrity, good upbringing, and moral values (Ceballo et al., 2012).

Positive family attachment was also identified by Latino youth as an important component of future success and, therefore, a contributor to youth resilience (Bosma et al., 2019). This is not surprising since many Latino families endorse the cultural value of *familismo* (Stein et al., 2014). *Familismo* refers to a value wherein familial obligations, respect, support or cohesion, and family as referent are key (Stein et al., 2014). Familism can also be defined as loyalty, cohesiveness, and obedience within the family (Stein et al., 2015). Stein et al. (2014) identifies attitudinal and behavioral components to *familismo*; the former being the actual values and beliefs and the latter its behavioral manifestations (Calzada et al., 2013). Although *familismo* was first studied with Latino adults, in recent years it has become fertile ground for the study of culturally relevant factors that promote or hinder Latino youth's psychological and behavioral development (Stein et al., 2014, 2015). In this study, communication with parents and friends about daily stressful events may point to positive and supportive relationships in the lives of Latino high school students; as such, communication with parents or friends is conceptualized as a source of resilience. These relationships, in turn, can help to reduce the negative effects of daily stressful events on adolescent moods.

Stress Models

The diathesis-stress model and, more recently, the differential susceptibility theory have been extensively used to examine the relation between individual characteristics, contextual risks, and internalizing and externalizing behaviors (e.g., Rioux et al., 2016; Slagt et al., 2016). The diathesis-stress model of psychopathology (Monroe & Simons, 1991) posits that individuals with certain characteristics may be more vulnerable and exhibit worse outcomes in adverse environments (Rioux et al., 2016). Differential susceptibility theory (Belsky & Pluess, 2009), on the other hand, argues that susceptible individuals may also disproportionately benefit from contextual support (Assary & Pluess, 2017). Both models, but especially the diathesis-stress model, draw from biological and evolutionary perspectives. In doing so, they measure responses to stress, but not necessarily the stressors involved (Wheaton et al., 2013). These models may not adequately capture ethnic and racial minority status' contribution to adolescents' family- and school-related stress (Solberg et al., 1994).

In sociological research, the stress process model (Pearlin & Bierman, 2013) was introduced over 30 years ago to help explain how involuntary job loss led to increases in depression largely indirectly through financial and marital strain. In this model, the individual is exposed to a primary stressor that leads to a negative health outcome through mediated and moderated links to secondary stressors (Figure 1). In this sense, the stress process model is like the family stress model that supports a relation between socioeconomic status (SES), adult romantic relationships, the quality of parent-child relationships, and the personal adjustment of adults and children (Conger et al., 2010). Pearlin and Bierman (2013) argue that one of the benefits of the stress process model is that each of its components (stressors,

moderators/mediators, and mental health outcomes) can be traced back to people's social and economic statuses and help to explain mental health disparities in society.

Stressors are difficult circumstances and experiences that may have negative effects on a person's behaviors, cognitions, emotions, psychological functioning, and well-being (Pearlin & Bierman, 2013). Stressors that threaten an individuals' stability of identity, role occupancy, social and network locations, or physical well-being may be lead stress and, ultimately, distress (Wheaton et al., 2013). Pearlin and Bierman (2013) identify two broad forms of social stressors: (1) socio-environmental demands that are beyond an adaptation of the person's capabilities, and (2) the lack of means to attain sough-after ends. While external challenges are labeled *stressors*, internal dysfunctions stemming from these circumstances are labeled *stress*. Stress, therefore, is not inherent to external conditions, but comes from discrepancies between conditions and individual characteristics (e.g., needs, perceptions, status, values, etc.). It is possible, therefore, for the same stressor to elicit different stress responses.

Stressors may be disruptive life events (e.g., loss of a job) but can also be chronic and arise out of difficult life conditions (e.g., discriminatory experiences, family conflict). Stressors need not be a discrete or observable event representing change; it may well be that "change is a challenge, but so is dealing with unremitting sameness" (Wheaton et al., 2013, p. 303). For stressors to cause stress and lead to distress, ecological contexts and coping resources must come into play (**Error! Reference source not found.**). In order words, context can make the stressor less threatening (e.g., if it has been experienced before), or coping mechanisms may be in place that diminish the consequences of a stressful situation (e.g., high levels of social support; Wheaton et al., 2013). Event stressors, those linked to a specific occurrence, and chronic stressors can be present in the micro-, meso-, and macro- systems (e.g., discrimination,

neighborhood crime, and recession, respectively; Bronfenbrenner & Morris, 2006; Pearlin & Bierman, 2013; Vélez-Agosto et al., 2017; Wheaton et al., 2013).

The stress process model may be useful in understanding how family- and school-related stress impacts Latino youth. For example, when exposed to stereotype threat, members of stigmatized groups may underperform because they fear confirming negative stereotypes which, in turn, acts as an acute stressor that drains cognitive resources (Dupere et al., 2015; Nadler & Clark, 2011; B. A. Rodríguez, 2014). Most importantly, the stress process model allows researchers to take into account a wide range of stressors related to family and school sources, the unequal distribution of these stressors across ethnic, racial, and socioeconomic strata, and a myriad of culturally specific protective factors (Dupere et al., 2015; Solberg et al., 1994; Vélez-Agosto et al., 2017). Understanding Latino adolescents' daily experiences with stressful events can, therefore, shed light on the sources of mental health disparities found in nationally representative samples of high school students (Kann et al., 2018). Moreover, focusing on family- and school-related stressful events can help us to identify stress-related risks in the most important contexts in which adolescent life unfolds.

Daily vs. Major Life Stressors

Daily stressors, or hassles, can be understood as "the irritating, frustrating, distressing demands that to some degree characterize everyday transactions with the environment" (Kanner et al., 1981, p. 3). They are the repeated or chronic strains of everyday life (Delongis et al., 1982). Daily hassles include, for example, arguments with significant others, looming deadlines, or minor health problems. Major life stressors, on the other hand, refer to disruptions to social relationships, habits, and patterns of activity that may, in turn, affect health-related behaviors (Kanner et al., 1981). Major life stressors include a death in the family, divorce, or job loss.

Kanner et al. (1981) argue that major life stressors disrupt a person's pattern of daily stressors or hassles. Cohen, Murphy, and Prather (2019) focused their recent review of stressful life events and disease risk on those events that threatened identity, physical well-being, self-esteem, and social status.

Both daily and major life stressors are contextual and may arise from a person's characteristics, environment, or their interactions. Major life events are disruptive in that they are discrete and infrequent (Kanner et al., 1981). However, major life events may lead to more severe health risks when they are coupled with a person's already taxed resources because of the presence of chronic daily stressors. Daily stressors' impact, on the other hand, may be dependent on their duration, frequency, foreseeability, repetition, and timing (Almeida, 2005; Kanner et al., 1981).

There is little consensus about the criteria that make an event stressful (Cohen et al., 2019). Major life events are relatively rare but require substantial individual adjustments that may impact a person's health and wellbeing (Almeida, 2005). A meta-analysis of subjective well-being and adaptation to major family- and work-related events found that different events 1) influence affective and cognitive well-being differently and 2) vary in the magnitude of initial reactions and adaptations (Luhmann et al., 2012). When someone experiences a major stressful life event they may respond with prolonged physiological arousal, whereas daily hassles may garner spikes in arousal confined to a single day (Almeida, 2005). Almeida (2005) contends, however, that daily stressors may have a greater impact on wellbeing. Daily stressors—both the routine challenges to daily life and the unexpected small occurrences—overload our capacity by piling up over a series of days resulting in more serious stress reactions like anxiety or depression (Almeida, 2005).

Although outside the scope of this study, Kanner et al. (1981) point to the positive counters of daily stressors, and one could argue major life events, as uplifts (e.g., joy derived from expressions of love, good news, etc.). Daily or discreet uplifts can serve as breathers, sustainers, or restorers—pauses from regular negative encounters, coping strategies, or replenishers to recover from harm or loss (Kanner et al., 1981). There is evidence, however, that the consequences of bad events are stronger and longer lasting (Baumeister et al., 2001). To further complicate matters, it is not obvious what makes an event undesirable or bad (Luhmann et al., 2012). Even experiences termed as negative can have hidden benefits such as enhancing or promoting meaning in life (Vohs et al., 2019; Wilson & Gilbert, 2008) . Certainty, explanatory coherence and content, novelty, surprise, and variability may contribute to a person's capacity to adapt to and make meaning of life events (Luhmann et al., 2012; Wilson & Gilbert, 2008).

In a small qualitative study with nine immigrant Latino youth, stress was defined as not knowing what to do, something that makes you feel tired or exhausted, and feeling like you can't do something anymore (DeJonckheere et al., 2017). Latino youth expressed that stress was related to pressure from family members, peers, teachers, or the school environment (Cervantes & Cordova, 2011; Cordova et al., 2014; DeJonckheere et al., 2017). Consistent with the purpose of this dissertation, I focus on two of the most salient sources of stress during adolescence—family and school—to examine whether these daily occurrences have different effects on daily moods.

Familismo

Latino youth's family-related stress cannot be understood without attending to *familismo*, a core Latino cultural value that deeply influences family relations (Vélez-Agosto et al., 2017). In their review of *familismo* across childhood and adolescence, Stein and colleagues (2014)

identify four central components of familismo— family as referent, obligations, respect, and support or cohesion. *Familismo* is multidimensional and can be assessed through attitudinal and behavioral measures (Calzada et al., 2013; Valdivieso-Mora et al., 2016). Attitudinal *familismo* encompasses feelings of loyalty, solidarity, and reciprocity among family members. Behavioral *familismo* refers to the behaviors associated with these beliefs (Calzada et al., 2013). *Familismo* has been found to both buffer and contribute to Latino youth's behavioral and psychological problems (Lugo Steidel & Contreras, 2003; Stein et al., 2014).

A systematic review of the relation between *familismo* and mental health outcomes among mostly Latino adolescents found that higher rates of attitudinal *familismo* were related to lower rates of depression, internalizing symptoms, and suicide (Valdivieso-Mora et al., 2016). In a review of 32 studies that examined *familismo* during adolescence, Stein and colleagues (2014) found that both parents and children exhibited *familismo*-related attitudes and behaviors. Parents and children that exhibit high levels of attitudinal and behavioral *familismo* also report lower levels of parent-adolescent conflict and higher family cohesion (Stein et al., 2014).

Latino adolescents' high rates of attitudinal or behavioral *familismo* may reflect more positive family functioning and support. Latino parents engage in high levels of parental monitoring both by soliciting information from their adolescent children and engaging in behavioral control practices (Roche et al., 2019). Latino adolescents, in turn, understand close monitoring by and time spent with parents as manifestations of parental love and concern (Bosma et al., 2019; Stein et al., 2014). Parental awareness may buffer Latino youth from the negative consequences of stressful events outside the family (Ceballo et al., 2001, 2012; Hernández et al., 2010). Adolescents exhibit behavioral *familismo* by interpreting for parents, doing chores, and taking care of other family members and siblings (Stein et al., 2014).

High rates of *familismo* have also been found to contribute to Latino youth's distress. Latino adolescents who experience family conflict or discord and highly endorse attitudinal *familismo* may experience greater distress stemming from a violation of their expectations of family harmony (Hernández et al., 2010; Nair et al., 2018; Stein et al., 2014). In violating these expectations, family discord heightens adolescents' threat appraisals and leads to increases in psychological distress (Hernández et al., 2010). For Latina girls, endorsement of attitudinal *familismo* may lead to higher rates of internalizing symptoms as they avoid conflict with their parents (Kuhlberg et al., 2010). Latino boys, on the other hand, experienced greater depressive symptoms and lower GPAs when their parents engage in high monitoring behaviors and there is moderately high parent-child conflict (Hernández et al., 2010).

Family-Related Stressors

Familismo's focus on a sense of obligation to take care of the family, provide emotional and instrumental support, and to take family into consideration when making decisions means that youth may be affected by family-related stressors indirectly through their parents' distress (Valdivieso-Mora et al., 2016). The recent implementation of stronger border security measures, ambiguity about the Deferred Action for Childhood Arrivals (DACA) program, and the end of Temporary Protected Status (TPS) program are some examples of immigration policies that profoundly affect Latino families and the family-related stress experienced by youth. Fear of deportation and detention or family separation threatens Latino families' core belief in the importance of close proximity to family members (Ayón et al., 2017).

Children of detained or deported parents and those in mixed-status families, with documented and undocumented members, experience frustration, uncertainty, longing, and fear (Pilar et al., 2014). Many children also describe a fractured life; they appear to be okay in front

of others but live in constant fear at home (Pilar et al., 2014). After the 2016 election of Donald Trump, 40% of 562 Latino youth from California in one study responded to open-ended questions about the election with immigration related answers. Among the high school students who spoke about immigration un-prompted in their answers (n = 224), feelings of anger, anxiety, contempt, disgust and fear were salient (Wray-Lake et al., 2018). For Latino adolescents, family-related stressful events may be linked to the sociopolitical context and this, in turn, may exacerbate their negative affective reactions.

Another source of family-related stress stems from acculturation gaps between parents and children. Acculturation refers to an overall process of cultural involvement in which a group (or person) retain its culture-of-origin involvement and establishes host culture involvement to varying degrees (Smokowski et al., 2008). Conflicts often arise when parents and adolescents exhibit different levels of culture-of-origin retention and host culture establishment (Cervantes et al., 2013; Cervantes & Cordova, 2011; Smokowski et al., 2008). Past research has shown that Latino youth, especially those born in the United States, tend to adopt the values and lifestyles of mainstream American culture more readily than their parents (Nair et al., 2018). The pursuit of independence and autonomy characteristic of adolescence in the United States may be at odds with Latino parenting practices that emphasizes respect of parental authority (Roche et al., 2019).

Family stress stemming from parent-child conflict due to *familismo* and acculturation gaps may be especially salient during adolescence. Latino families expect their adolescent children to take on cultural and language brokering responsibilities, engage in practices that benefit the family like caring for siblings, and adhere to strict cultural norms about respect for parental authority (DeJonckheere et al., 2017). In a qualitative study, Latino youth revealed family-related stresses were linked to responsibilities and expectations to care for elderly family

members or siblings, financial strain in the form of difficulties paying rent, purchasing school materials and medicines, food insecurity, and lack of access to healthcare (Cervantes & Cordova, 2011). Latino adolescents may experience family-related stressful events stemming from various sources, including family conflict related to discrepancies between parents' and adolescents' beliefs and behavioral expectations related to *familismo*, acculturation gaps and cultural/language brokering, and difficult situations related to family finances and the immigration status of its members.

School-Related Stressors

It is worth repeating that Latino adolescents constitute the largest ethnic or racial minority youth group in the United States and an increase in this group is projected to continue in the coming decades (Hussar & Bailey, 2013). The number of Latinos enrolled at all levels of school has more than doubled in the past 20 years, from 8.8 million in 1996 to 17.8 million in 2016, and Latino youth now make up 25% and 19% of the K-12 and college student population, respectively (U.S. Census Bureau, 2018a). Latino children outpace their non-Latino peers in rates of enrollment in kindergarten, elementary school, and high school (6% vs. 5%, 45% vs. 41%, and 22% vs. 21%, respectively).

Despite being the largest youth population in the United States, Latinos continue to have the lowest rates of academic achievement when compared to their African American, Asian, and non-Hispanic White peers (Ryan & Bauman, 2016). Latinos' educational attainment is similar to that of the U.S. population when comparing high school graduation rates (28% vs. 27%), but Latinos have lower rates of bachelor's (11% vs. 20%) and graduate or professional degrees (5% vs. 12%; Ryan & Bauman, 2016). This may help to explain why more Latino families live in poverty compared to the national average (18% vs. 12%; Semega et al., 2019), despite adult

Latino men having the highest employment-population ratio (77.1%) and adult Latina women having a comparable employment-population ratio (57%) to their Black (59%), Asian (57%), and White (56%) peers (US Bureau of Labor Statistics, 2019).

There is a dearth of information about Latino adolescents' school-related stress, especially during the high school years. School is a major part of adolescent life and provides a context of great demand for academic and social performance (Anniko et al., 2019). School-related stress may arise from young people's perception that they are ill equipped for the demands of academic life or that their personal resources are no longer able to address school-related tasks (Burger & Samuel, 2017). School-related stress can also be caused by dysfunctional peer interactions and repetitive negative judgements by parents, peers, and teachers (Scrimin et al., 2014). School-related stress has been linked to negative academic performance, poorer emotional well-being, and school failure or even dropout (Byrne et al., 2007; Scrimin et al., 2014; Shankar & Park, 2016).

Kaplan, Liu, and Kaplan (2005) found that for early adolescents, high stress school environments, independently and through interaction with high academic expectations, negatively affected their academic performance in high school. School stress was defined by items related to students' feeling unhappy or stressed in school, feelings of ineptitude, and feelings of rejection by teachers and other students. Similarly, O'Malley, Voight, Renshaw, and Eklund (2015) found that students who perceived a more positive school climate had higher self-reported GPAs. In a study of high school students, Arsenio and Lora (2014) found that higher levels of academic stress (e.g., talking to teachers, doing oral reports in class, or assignments not understood) were related to higher negative and lower positive moods in a sample of 119 high school students. More importantly, negative moods increased disengaged coping (i.e. denial and

avoidance of academic problems) and disengaged coping, in turn, was related to increases in negative academic affect and stress.

Latino students' school-related stress may help to explain why Latinos continue to have the lowest rates of academic achievement when compared to African American, Asian, and White peers (Ryan & Bauman, 2016). Despite efforts to bridge this achievement gap (Nora & Crisp, 2012), little research has focused on the relation between school-related stress and negative academic, behavioral, and psychological outcomes among Latino adolescents. In one study of Latino 9th graders, those who reported high levels of culturally specific stressors (e.g., language, family dynamics) were more likely to report lower grades and greater anxiety and depression (Alatorre Alva & De Los Reyes, 1999).

Latino students may experience additional school-related stress when their culture is not being acknowledged and when there are racial tensions in school (Cervantes & Cordova, 2011; Torres & DeCarlo Santiago, 2017). Torres and DeCarlo Santiago (2017) define culture and educational stress as teacher and peer discrimination, racial tensions, and the absence of Latino culture and history in school. Using a small sample of mostly Latino middle school students, Torres and DeCarlo Santiago (2017) found that not having Latino culture acknowledged in schools and racial tensions were significant stressors linked to internalizing symptoms.

Intragroup expectations and stereotype threat can be understood as instances of discrimination more broadly. Perceived discrimination can occur both as a single event and as a chronic reality (Wheaton et al., 2013). For adolescents to effectively deal with the fallout of perceived discrimination, it is important for them to have access to stable sources of coping, such as strong support networks (Spees et al., 2017; Wheaton et al., 2013). Not all academic stress,

however, may elicit negative consequences, and certain levels of stress may push students towards better performance (Reddy et al., 2017).

There are important differences between non-immigrant and immigrant Latino students, and between documented and undocumented youth (Cervantes & Cordova, 2011). The immigrant paradox, whereby first-generation youth exhibit more positive developmental outcomes compared to peers from later generations, may also be implicated in academic risks and outcomes (Aretakis et al., 2015). For immigrant youth, difficulties understanding coursework in English may be an additional source of stress (Cordova et al., 2014). This worry about understanding the material can translate into test anxiety (DeJonckheere et al., 2017), especially in the age of high stakes testing (LaRoche & Shriberg, 2004; White et al., 2016). Immigrant youth may also experience a sense of loss after leaving a culture and environment that was familiar to them, including school, teachers, and classmates (DeJonckheere et al., 2017). Undocumented youth may be in the most precarious position when it comes to academic prospects since they live in fear of deportation and do not qualify for federal aid to pursue higher education.

In addition to stress related to the school environment, Latino students may also feel added pressure to do well because of higher attitudinal and behavioral *familismo*. Latino students interviewed in DeJonckheere et al.'s (2017) study reported feeling stress from competing demands to do homework, spend time with peers and family, and pressure from parents to do well in school. Latino adolescents from disadvantaged backgrounds may feel added pressure to do well in school to honor the sacrifices made by their family and to be able to financially support them in the future (Ceballo et al., 2014; Esparza & Sánchez, 2008).

Although Latino parents express high educational aspirations for their children (Ceballo et al., 2017), Latino 9th graders who expressed higher educational aspirations had greater levels of depressive symptoms and distress than those who did not (Turcios-Cotto & Milan, 2013). Interestingly, Latino youth with higher educational aspirations also expressed greater desire for individuation. Turcios-Cotto and Milan (2013) suggest that the relation between higher educational aspirations, individuation, and distress may stem from Latino youth's desire to go to college and their family's desire for them to stay close to home. Academic achievement is conceptualized as an individualistic goal or value, whereas many Latinos hold strong collectivistic values and views (Vasquez-Salgado et al., 2015). Using focus group data from 170 Latino adolescents (M_{age} = 14.8), Cervantes and Cordova (2011) found that lack of parental supervision or support, moving often, and dropping out of school to work were identified as barriers to academic achievement. Thus, the relation between Latino youth's academic achievement and aspirations and their family obligations is complex and warrants additional research.

Latino cultural values such as *familismo* (the strong identification and attachment to family) or *respeto* (showing respect for others based on age, gender, and authority), may serve to protect Latino youth from school-related stress by focusing on the family unit, rather than the school context. These same cultural values can also amplify Latino youth's perceived pressure to perform and create conflict between their responsibilities to their family and aspirations for higher education (Cervantes & Cordova, 2011).

As proposed by the stress process model (Wheaton et al., 2013), school-related stress may not be tied to a single event but may develop slowly and insidiously over the course of Latino students' academic careers. Additional research is needed to understand Latino students'

experiences of school-related stress and its relation to academic, behavioral, and psychological outcomes. While the literature recognizes that stress is a significant risk for a myriad of negative outcomes, the sources of school-related stress that are uniquely related to Latino ethnic identity remain largely underdeveloped. Most of the research has focused on the experiences of Latino college students. This focus is warranted since Latinos make up the largest ethnic or racial minority group enrolling in colleges across the United States but have the lowest rates of completion of any group (Nora & Crisp, 2012; J. C. Watson & Watson, 2016). It is not enough, however, to focus on college students. More attention is needed to understand the ways that Latino ethnic identity contributes to school-related stress at the elementary, middle, and high school level. Thus, a primary aim of this dissertation is to examine how family- and school-related stressful events may have independent and interrelated effects on Latino adolescents' daily moods.

Adolescent Moods

Moods refer to transient episodes of feeling or affect that are different from emotions (D. Watson & Vaidya, 2013). Emotions have been classically understood as multimodal psychophysiological systems with at least four distinct components: 1) the subjective (e.g., feelings of anger or sadness); 2) the physiological (e.g., activation of the nervous system); 3) the expressive (e.g., the facial expression of anger); and 4) the behavioral (e.g., verbal or physical demonstrations of anger). Moods research essentially focuses on the assessment of subjective feelings (D. Watson & Vaidya, 2013). Emotions tend to be extremely brief while moods may persist for several hours or even days. Watson and Vaidya (2013) clarify that moods subsume all subjective feeling states, not only the experiences that accompany prototypical emotions. In other words, by studying moods researchers want to understand all aspects of the affective experience.

Research supports the existence of two relatively independent affective states: negative and positive affect (Peeters et al., 2003; D. Watson & Vaidya, 2013). Negative affect is characterized by feelings of distress, fear, hostility, jitters, and nervousness, among others. Positive affect includes feeling active, elated, excited, and strong (D. Watson & Vaidya, 2013). Positive and negative affect stem from internal personality characteristics, as well as from the interaction between personality and the environment (Diener et al., 1999). Negative affect has been linked to psychological and behavioral problems.

One study of the effects of daily events on moods states in major depressive disorder (MDD) found that adults with MDD did not report more frequent negative events than their healthy peers (Peeters et al., 2003). Participants with MDD, however, reported fewer positive events and appraised both positive and negative events as more stressful. In addition, MDD participants had blunted responses to negative events when compared to healthy participants. These findings suggest that participants with MDD respond less strongly to negative events but recover more slowly. Healthy participants may have a stronger initial response to negative events but their return to homeostasis at a faster rate may be beneficial in the short and long terms (Peeters et al., 2003).

Hankin and Abramson's (2001) elaborated vulnerability-transactional stress theory posits that negative events contribute to depressive symptoms, anxiety, and externalizing behaviors through initial elevations of negative affect that remain in cognitively vulnerable people. Hankin and Abramson sought to construct a descriptive timeline and theoretical explanation to account for the higher incidence of depression among adolescent girls, especially after early adolescence. Their elaborated vulnerability-transactional stress theory considers gender differences in different aspects of the causal chain, including negative life events, cognitive vulnerability, and

negative events within the adolescent's control and derived from negative affect (e.g, romantic break up, fight with friend).

Among a suburban sample of 220 European American adolescents, change in daily range of emotions slowed between early and middle adolescence and a trend towards more negative affect stopped, but was not reversed, at around Grade 10 (Larson et al., 2002). Students in this study were almost evenly distributed across Grades 5 to 8 at Time 1 and across Grades 9 to 12 around 4 years later during Time 2. The students provided data for 1 week at each time point using the experience sampling method by responding to signals from pagers. The relation between stressful events and negative affect in this sample did not change between Time 1 and Time 2 suggesting that stressful events continue to affect adolescents throughout the high school years (Larson et al., 2002).

Different cultural backgrounds can influence how we experience or gauge life events and, in turn, if we experience good or bad emotional reactions (Wilson & Gilbert, 2008). Wilson and Gilbert's (2008) AREA model of affective adaptation postulates that people ***a***ttend to self-relevant unexplained events, ***r***eact emotionally, attempt to ***e***xplain or understand these events, and, if successful, ***a***dapt by attending less to them or having weaker reactions. In this model, information that is self-relevant but poorly understood is prioritized by attention and memory. Failing to make sense of an event, not just by understanding its causes but by assigning meaning within one's goals and self-concepts, increases intrusive or recurrent thoughts which, in turn, contributes to more intense affective reactions (Wilson & Gilbert, 2008). The AREA model further provides for event variables that may help or hinder affective adaptation such as certainty, explanatory coherence, explanatory content, novelty, surprise, and variability.

Individual affect, for example, may not sufficiently explain well-being in more collectivistic cultures because collectivistic cultures may place greater emphasis on the relation between people and their primary group memberships (Lent, 2004). Although school-related goals may appear at first glance individualistic in nature (e.g., academic achievement to attend college), Latino adolescents' school-related goals may be driven by a sense of loyalty to the family unit (Spees et al., 2017). *Familismo*, on the other hand, is a collectivistic value that may be in tension with more individualistic values characteristic of American culture.

Adolescent Communication About Stressful Events

As a component of the cultural value of *familismo*, communication within Latino families is often prioritized (e.g., Valdivieso-Mora et al., 2016). Communication with parents may help to attenuate adolescents' negative affective reactions to daily stressors by aiding adolescents in attributing their feelings to a specific event (Wilson & Gilbert, 2008). This is important because attributing affects to specific sources helps in achieving understanding and explanation, a necessary step for positive outcomes (Wilson & Gilbert, 2008). A recent meta-analysis of developmental changes in parental monitoring during adolescence revealed declines in adolescents' disclosure, as well as parental control, knowledge, and solicitation, and increases in degrees of adolescent secrecy (Lionetti et al., 2019). Whether adolescents share their daily family- and school-related stress with parents may be an important aspect of managing these stressors.

Research in parent-adolescent communication has centered on its relation to adolescent sexual risk and substance use behaviors and the potential use of communication strategies in interventions (e.g., Carver et al., 2017; Coakley et al., 2017; Malacane & Beckmeyer, 2016; Sutton et al., 2014). Greater parental knowledge of their children's behaviors has been linked to

multiple measures of positive adjustment including lower rates of delinquency, depressed mood, deviant peers, family discord, and school problems (Kerr & Stattin, 2000). In a large European sample of adolescents, parental monitoring and control were found to be less important for parental knowledge than adolescents' voluntary disclosures, even after considering parent-child relationship quality and family closeness (Kerr & Stattin, 2000; Stattin & Kerr, 2000).

Studies with Latino families have mixed results about the beneficial effect of parental knowledge on child well-being dependent on the source of the information. In a small study of Latino early adolescents, Davison and Cardemil (2009) found that children and parents who reported better communication also reported fewer externalizing symptoms in children. Non-Hispanic and Hispanic early adolescents who disclose information about their lives to parents (e.g., friends, school, what they do in their free time) exhibited lower depressive symptoms a year later (Fernandez et al., 2018). Parent solicitation of this information, however, was associated with subsequent increases in adolescents' depressive symptoms (Fernandez et al., 2018). Similarly, among Mexican American families, disclosures by children in Grade 7 were linked to cross-sectional lower levels of delinquency and depression, and better school performance, but paternal solicitation was associated with increases in depressive symptoms (Blocklin et al., 2011). Thus, adolescent disclosure may represent an element of healthy parent-child relationships, while parent solicitation may be interpreted as intrusive and illegitimate during a time when children seek more autonomy (Roche et al., 2019).

Cultural norms about communication may create barriers and facilitators to Latino parent-child communication. In a qualitative study of Latino mental health stressors, adolescent boys and mothers described Latino culture as not promoting communication and parents not teaching children how to talk about their feelings (Garcia & Lindgren, 2009). Parents attributed

this lack of communication to having limited time because of long hours spent at work (Garcia & Lindgren, 2009; Guilamo-Ramos et al., 2007). Although Dominican and Puerto Rican mothers and their adolescent children in another qualitative study also reported communication barriers due to challenging work schedules, both insisted on the importance of parent-child communication (Guilamo-Ramos et al., 2007).

Latino parents tend to engage in high levels of behavioral control of their children since they commonly endorse high levels of the cultural value of *respeto* (Guilamo-Ramos et al., 2007; James, 2012). *Respeto* refers to respect and obedience to authority, maintaining harmony in close and extended family relationships, and using the appropriate level of courtesy and decorum in private and public situations (Calzada et al., 2010; Guilamo-Ramos et al., 2007). During adolescence, *respeto* manifests itself as expectations that children will adhere to parental guidelines and obey rules (Guilamo-Ramos et al., 2007). Without open communication, parental expectations based on *respeto* may lead to parent-child conflict and less voluntary disclosures by adolescents (for an example in middle childhood, see Villanueva-Dixon et al., 2008).

Adolescents' disclosure of stressful events may give parents an opportunity to express their love, care, and concern (Bosma et al., 2019). Dominican and Puerto Rican mothers, for example, believed that they had to be very strict and firm with their adolescent children, while at the same time having warm and supportive relationships. Their adolescent children, in turn, believed that parental control was a way for mothers to ensure they remained safe and achieved their goals. These Dominican and Puerto Rican adolescents expressed a desire to communicate frequently, spontaneously, and openly with their parents without fearing that they would react in anger (Guilamo-Ramos et al., 2007).

In addition to parents, Latino youth may more readily disclose their daily family- and school-related stressful events to their friends. Latino youth identified close friends as an important source of support, especially for topics that their parents may be unable or unprepared to discuss (Bosma et al., 2019). Between 40% and 50% of low-income Mexican adolescents in a large multi-method study reported peer relationships that involved multiple forms of support (e.g, academic and emotional support, intimate counsel; Stanton-Salazar & Spina, 2005). Adolescents' self-disclosures in the qualitative portion of the study were related to mutual trust and symmetrical reciprocity (Stanton-Salazar & Spina, 2005). These rich and supportive peer relationships allowed Latino youth to develop relationship-based coping strategies to manage environmental stressors. Adolescents, however, perceived relationships with friends as more complicated and tenuous than those with family members (Stanton-Salazar & Spina, 2005).

General friendship support has been associated with psychological well-being (Way & Chen, 2000). Family support was also positively associated with close and general friendship support. As these authors suggest, there may be bidirectional effects between family and friendship support. Social support, conceptualized broadly as including mother, father, friends, and school personnel support, was associated with less internalizing and externalizing problems and better GPA and conduct scores among 304 Latinos in Grades 6 and 7 (Crean, 2004). In a study with a diverse sample of middle schoolers, however, Ozer and Weinstein (2004) found that mother, father, and teacher support, but not friend support, positively impacted the relation between exposure to violence and PTSD symptoms. Additional research is needed to understand how and under what circumstances Latino high school students self-disclose to their friends or their parents and what, if any, effect this has on their daily moods.

Methodology

Daily diaries are an appropriate methodological approach to examine the relations between stressful events, moods, and communication. Daily stressors could affect well-being in at least two ways: first, by having direct, immediate, and separate effects on emotional and physical functioning, and second, by piling up across days to create more persistent disruptions and overloads (e.g., Arbona & Jimenez, 2014; Kennedy & Ceballo, 2013; Soto et al., 2011; Spees et al., 2017). Daily stressful events can have a cumulative negative effect on adolescents' well-being through increases in negative affect (Hankin & Abramson, 2001; Santiago et al., 2017). Talking about daily stressful events, in turn, may help to attenuate negative affective reactions by allowing adolescents to give meaning to these events (Hankin & Abramson, 2001). Daily diaries can capture the within-person variability that daily stressors can have on adolescents and this within-person analysis can help rule out stable factors related to personality and the environment as possible explanations for the relation between stressors and well-being (Almeida, 2005).

Daily diary methods can capture stressful processes as they unfold in real time, reducing recall bias and state-congruent recall, where the current state cues similar instances (Bolger et al., 2003; Santiago et al., 2017). By asking adolescents about their daily experiences, this study can shed light on Latino adolescents' average moods, how they fluctuate as a function of different types of stressful events, and what impact communicating about these events has on same- and multiple-day moods. In this sense, adolescents serve as their own referents (Bolger et al., 2003). In doing so, this study can provide a rich account of Latino adolescents' daily experiences, while at the same time allowing for comparisons between adolescents that can be obtained from other research methods (Bolger et al., 2003; DeCarlo Santiago et al., 2016).

Daily diaries can also increase validity and reliability. In this study, students were given a low-cost tablet to take home so that they could find a private time before going to bed to answer the diary questions. Adolescents, therefore, were able to report on their experiences on the day that they occurred and did not have to worry about other people reading their responses. To further encourage adolescents' honest disclosures, the diaries did not include any prompts for personally identifiable information (e.g., name, address, etc.) and adolescents were only identified with a participant ID unique to this study. Furthermore, the software used to collect diary data automatically date- and time-stamped the diaries so that diaries that were not completed in a timely fashion could be identified. For all these reasons, daily dairy data from this study has enhanced validity and reliability (Bolger et al., 2003).

To the best of my knowledge, there are only two daily diary studies of Latino adolescents' daily stressful events and moods; these studies examined engagement and disengagement coping strategies as buffers between stressful events and moods (Papadakis et al., 2018; Santiago et al., 2017). In one study, engagement coping buffered the effect of daily stressful events on next-day negative moods (Santiago et al., 2017). Engagement coping refers to efforts to act on or adapt to a stressor by using mechanisms of primary (e.g., problem solving, emotional expression, emotion regulation) and secondary (e.g., acceptance, distraction, positive thinking) control (Papadakis et al., 2018). In another study, disengagement coping partially mediated the association between working memory and inhibition and daily negative mood (Papadakis et al., 2018). Disengagement coping is any effort to withdraw from the source of the stress (e.g., denial, avoidance; Papadakis et al., 2018). Given the sparsity of work in this area, many questions about Latino adolescents' daily mood and stressful events remain unanswered and this study is will contribute to this growing literature.

Research Questions and Hypotheses

Given the paucity of research examining the daily experiences of Latino adolescents, this study will shed light not only on the degree to which adolescents report family- or school-related stressful events, but also on adolescents' daily moods and how daily moods may vary as a function of the type of stressful event. The following research questions will be addressed.

Question 1: Do daily reports of family- or school-related stressful events differentially impact Latino adolescents' moods?

Both family- and school-related stressful events are linked to poorer psychological outcomes in Latino adolescents. In one of the only studies examining daily stress, coping, and mood among Latino adolescents, peer and academic stress was related to same-day negative affect and poverty-related stress to next day negative affect (Santiago et al., 2017). These findings suggest daily stress has a limited effect on adolescents' moods and that only more severe forms of stress (e.g., economic, family trouble/change, violence, family conflict, and discrimination) affect moods beyond the day they are experienced (Santiago et al., 2017).

A key difference between Santiago et al. (2017) and the current study is how adolescents were asked to report on the stressful events they might experience daily. Adolescents in this study could describe the stressful event in their own words and assign it as related to family, friends, financial issues, school/education, romantic issues, or other. Adolescents also evaluated their subjective experience of stress related to the event (i.e., How stressful was this to you?) and their confidence in it getting resolved. This information will provide a richer and more nuanced description of the perceived stressfulness of the events and allow for a more comprehensive understanding of their effects on adolescents' moods. Therefore, this study will test the

hypothesis that adolescents will report more school-related events, but family-related events will have a greater negative impact on adolescents' daily moods (Santiago et al., 2017).

Question 2: What effect does talking about daily family- or school-related stressful events have on Latino adolescents' daily mood?

I expect that adolescents who speak to parents about daily stressful events will have less negative affect than those who speak to friends or to no one at all (Fernandez et al., 2018; Roche et al., 2019), even though friends may be important sources of support (A. L. Schwartz et al., 2011). This hypothesis is supported by the AREA model because parents may be in a better position to help their adolescent children explain or understand daily stressful events (Wilson & Gilbert, 2008). Since *familismo* serves mostly as a protective or promotive factor for Latino youth (Stein et al., 2014), Latino high school students may value their parents' feedback more highly than that of their friends (Bosma et al., 2019). Speaking to parents, as opposed to friends, may also signal a better parent-adolescent relationship that can serve as an attenuation of adolescents' affective reaction to daily stressful events (Wilson & Gilbert, 2008).

Question 3: Do the relations between daily stressful events, communication, and moods among Latino adolescents vary by gender?

Gender differences may affect the relations between daily stressful events and adolescent moods (Santiago et al., 2017). Using daily diaries, Santiago et al. (2017) found that Latina girls reported higher levels of negative moods and lower levels of positive moods across days. Latina girls also reported higher disengagement coping than boys (Santiago et al., 2017). These findings suggest that in the face of academic-, peer-, and poverty-related stress, Latina girls will use avoidance to cope more often than boys, and avoidance, in turn, will exacerbate negative affect. These findings are in line with data from nationally representative samples and empirical studies

that report higher rates of internalizing problems among Latina girls (Kann et al., 2018; Kuhlberg et al., 2010).

Gendered rearing practices among Latino parents can affect the ways that Latino youth perceive family- and school-related stressful events. Although *familismo* and *respeto* are important cultural values across genders, their behavioral manifestation varies. Dominican and Puerto Rican mothers reported that Latino cultural norms of male liberty and female submissiveness affected their parenting practices (Guilamo-Ramos et al., 2007). Latina girls are expected to participate in more activities inside the home and boys are given more freedom to explore activities outside the home (Blocklin et al., 2011; Guilamo-Ramos et al., 2007). A recent study of Latino family profiles with 279 ninth graders, however, did not find any gender differences between engaged (above average family cohesion, parental support, monitoring, punitiveness, and psychological control), supportive (above average family cohesion and parental support, and below average parental monitoring, punitiveness, and psychological control), intrusive (below average family cohesion and parental support, and above average parental monitoring, punitiveness, and psychological control), or disengaged (below average family cohesion, parental support, monitoring, punitiveness, and psychological control) parenting profiles (Bámaca-Colbert et al., 2018). Similarly, a study of parenting and coping strategies among 367 Mexican American adolescents (14 to 16 years old) found no gender differences in the associations between perceived parenting practices (mother and fathers) and adolescent coping typologies (Cavanaugh et al., 2017). Therefore, findings are mixed as to the role that gendered parenting practices has on Latino adolescent development. It may be that younger cohorts of Latino youth have parents that adhere less strictly to traditional Latino gender

norms. This study will help to shed light on gender differences among Latino high school students regarding their daily stressors and communication patterns about stressors.

Among Mexican American adolescents, boys experience greater depressive affect and somatic symptoms at high levels of family stress, although girls exhibit greater overall somatic symptoms, depressive affect, and suicidal ideation (Piña-Watson et al., 2015). Home situations with high levels of stress may be harder for Latino boys because gendered socialization may discourage boys from being involved in family-support activities. Not surprisingly, in Mexican American families, mothers tend to have closer relationships with their offspring, especially daughters, than fathers, and have more direct communication (Blocklin et al., 2011).

Grounded in findings that support differences in parenting practices and in the mental health of Latino girls and boys, this study will test the hypothesis that Latina girls will speak to parents more often than boys but will report more negative moods in response to both family- and school-related events.

CHAPTER II

Method

Inclusion and Exclusion

The students in this study were part of a National Science Foundation-supported mixed-methods project (i.e. survey, daily diary, and interview) of Latino high school students' afterschool activities and exposure to community violence (NSF #1348957). Students' demographic data were collected during the first and second wave of the study. Demographic data from the first wave of data collection were used to select students for the daily diary study.

Students from Detroit who scored at or below the 30th percentile or at or above the 70th percentile on survey measures of past-year community violence exposure were invited to participate. Likewise, students from Chicago who scored at or below the 32nd percentile or at or above the 72nd percentile on measures of past-year community violence exposure were invited to participate. The selection of students who reported persistently low or high exposure to community violence reflects the variables of interest for the grant that supported this research. These selection criteria both maximized the reporting of community violence and the variance between students.

High school students who self-identified as Latino were retained. One student who identified as African American, European American, and Native American and completed the daily diary study was excluded from analysis. All students under the age of 18 who returned a signed parent consent form and signed an adolescent assent form by the start of data collection

were included. Students who were 18 years or older at the time the study began and signed an adolescent consent were also retained.

Participant Characteristics

A total of 94 high school students were included in the sample for this study. Students were on average 16 years of age (M = 16.41, SD = 1.01), 55% were female, and over half were in the 11th grade (54%). The sample was almost evenly split between students who attended school in Detroit (n = 46) and in Chicago (n = 48). Although all students identified as Latino, five also identified as African American, two as Asian American, three as European American, and four as other, including one who wrote "Polish". Most students (*78%*) reported their ethnic origin as Mexico. Almost all students were born in the United States (91%), including four students who were born in Puerto Rico. About three quarters of the students' mothers (70%) and fathers (71%) were not born in the United States. Over half the students spoke only (13%) or mostly Spanish (50%) with adults at home, while the majority (68%) spoke mostly English and some Spanish with their friends. This discrepancy between language spoken at home and with friends may explain why 67% of students had translated for their parents.

Students lived in households with an average of five people (M = 5.16, SD = 1.71), with almost equal numbers of adults (M = 2.39, SD = 1.00) and kids (M = 2.77, SD = 1.39). About half the mothers (46%) and a third of the fathers (38%) had not finished high school. Some students did not know the highest grade their mothers (19%) or fathers (31%) had completed in school. Close to half the students' mothers did not work (40%) or worked part-time (12%), with the other half (47%) working full-time. Three quarters of the fathers (75%) worked full-time, while a minority (14%) worked part-time. Only 11 students reported having a non-school related

job and five reported working 20 hours or more per week. Additional demographic characteristics are described in Table 1.

Sampling Procedures

Students were recruited from two charter schools in Detroit and Chicago. At the time of data collection, the charter school in Detroit was in a mostly Latino neighborhood (57%; Data Driven Detroit, 2013) that served 729 overwhelmingly Hispanic (93%) students in grades 9-12 (Public School Review, 2018). Graduation rates at the school were between 90-94% and 90% of students were eligible to receive free or reduced-price lunches (Public School Review, 2018). The charter school in Chicago was in the downtown area and served 956 students, a majority of whom (66%) were identified as Hispanic (Illinois Report Card, 2018). The graduation rate at the school in Chicago was 92% and 85% of students were eligible to receive free or reduced-price lunches, lived in substitute care, or their families receive public aid (Illinois Report Card, 2018).

A pilot study to test the procedures was conducted in the charter school in Detroit between October 24 and November 18, 2016. After a successful pilot, data was collected in Detroit between May 1 and June 11, 2017 and in Chicago between May 7 and May 31, 2018. A total of 172 students were approached to participate and 95 (55%) participated. Students could receive up to $100 in gift cards for their participation. Students received a $20 Prepaid MasterCard® debit card for completing logs for at least 4 out of 5 days in the first week, a $25 gift card if they completed 8 out of 10 logs in the second and third weeks, and a $50 gift card at the end of study if they completed 4 out of 5 logs in the fourth week and returned their tablets and chargers, when applicable. Gift cards were staggered throughout the study to incentivize participation and to acknowledge students' continued time commitment.

This study was conducted in accordance with protocols approved by the Health Sciences and Behavioral Sciences Institutional Review Board (IRB – HSBS) at the University of Michigan.

Sample Size, Power, and Precision

Power in multilevel models (MLMs) like the one needed for daily diary data is complicated because it depends on the number of level-1 and level-2 units (Kreft & de Leeuw, 1998) and the nature of the effects being tested (i.e., fixed versus random effects; Hox, 1995). Hedeker, Gibbons, and Waternaux (1999) provided sample size calculations for unbalanced longitudinal designs that varied: a) effect size (small, medium, and large); b) attrition rate between assessments (0.00, 0.05, and 0.10); c) the level-1 residual variance-covariance matrix (compound symmetry, first-order autoregressive [AR1] and non-stationary random effects [RE]); and d) the number of time points (4, 6, and 8). Given that we will have a maximum of 20 time points from the diary data, the following sample sizes estimates are conservative. Based on tables in Hedeker, Gibbons, and Waternaux (1999), we estimated a sample size of $N = 120$ to provide power of .80 to detect a small between-groups difference (averaged across all 30 days) with an autocorrelation between days of .10, .30, or .50 and an average between-days attrition rate of .05.

Measures and Covariates

One of the challenges of daily diary methods is balancing the need to include enough questions to adequately capture the phenomena of interest while at the same time being mindful of the considerable commitment and dedication requested of participants (Bolger et al., 2003; Gunthert & Wenze, 2014). In order to reduce participant burden, demographic information was not collected during the daily diary study (DAS). Participants were drawn from a larger longitudinal survey study (ASAS) in which they were asked to provide detailed demographic

information. All DAS students participated in the first wave of survey data collection (Time 1), but four DAS students did not participate in the second wave of the survey (Time 2). Data collection dates for both ASAS and DAS appear in Appendix A.

Demographics

Time 1 demographic variables included gender (1 = girls) and school (1 = Detroit). Although asked in binary terms, I refer to gender to denote the cultural and social constructions that may impact adolescents' patterns of stressors and communication. Student age (in years) at the beginning of the diary study was calculated using the student's Time 1 date of birth. Student grade was calculated using Time 1 and Time 2 grade and the start date for the diary study. Economic needs were assessed using the mean of an 8-item scale based on Parke et al.'s (2004) 7-item measure of economic hardship. Students were asked how much money their family had to afford basic needs such as home, clothing, furniture or household items, transportation, food, medical care, and leisure activities. An item related to school supplies was added. Item response scales ranged from 1 = *strongly agree* to 4 = *strongly disagree*, with higher scores indicating greater economic needs. Cronbach's alpha for all 8-items in this sample was .91.

Daily Stressful Event

Students who did not experience community violence were asked 16 questions about the most stressful thing that happened to them that day (Appendix B). Out of 1,334 valid daily diaries (i.e., diaries completed within 24 hours during the 4-week data collection period), 1,139 described daily stressful events (85%). First, students described in their own words the most stressful thing that happened that day. Students were then asked if the stressful event was related to (a) family, (b) friends, (c) school/education, (d) financial issues, (e) romantic issues, or (f) other (Appendix C). Students could select more than one option. There were 35 stressful events

that were not assigned to any category by students. Event descriptions were examined and assigned to recoded variables for all categories. All events that a student assigned to a category were kept in the recoded variables. The differences between the original and recoded variables appear in Appendix D.

Variables to identify events identified as related to family (n = 198) or school/education (n =680) were included in the analyses. Students' level of confidence in the stressful event getting resolved (0 = *not at all* to 2 = *very*) was also included in the analyses to control for the potential stress derived from the event and the resources that may be available to students to cope (Pearlin & Bierman, 2013).

In addition to these questions, students were asked the location of the event (8 inside locations and 7 outside locations), whether they were personally involved, and if there were others involved (parents, adult and child family members, non-family adults and children, friends, or team).

Parent-Adolescent Communication About Daily Stress

Students were asked if they talked to someone about the event (1 = *yes*; 66%) and who they talked to: (a) parents, (b) child/teen family member, (c) adult family member, (d) child/teen not in family, (e) adult not in family, (f) friends, (g) no one, or (h) other (Appendix E). Variables to identify events that students reported speaking to their parents (23%) or friends (38%), or to no one (30%*)* about were used in the analyses.

Daily Moods

A scale of daily adolescent moods was created using an adapted 17-item version of the Profile of Moods States (POMS; Cranford et al., 2006). Students were presented with 17 items that described different feelings and emotions and asked to indicate to what extent they felt this

way on that day. Five moods—depressed, anxious, angry, fatigued, and positive—were assessed scale from 1 = *very slightly or not at all* to 5 = *extremely*. Depressed mood included 4 items from the daily moods' checklist: discouraged, sad, hopeless, and lonely. Anxious mood included 5 items: anxious, uneasy, nervous, scared, and terrified. Anger had 2 items: angry and annoyed. Fatigued had 3 items: worn out, exhausted, and tired. Finally, positive mood included 3 items: cheerful, energetic, and happy. Depressed, anxious, and positive moods were the predicted outcomes in separate multilevel models.

In addition to the measures and covariates described above, students also answered questions about their after-school activities (i.e., what they did every hour between 3 pm and 12 am), who was with them in the after-school hours, the location of these after-school activities, and how challenging, boring or structured they were. If students experienced community violence, they answered 19 questions about the event in lieu of describing a stressful event. Community violence questions included describing the violent event in their own words, reporting how scared they were, the location of the event, if it had happened before, who they were with, if they knew the people involved, and who they spoke to about it. In addition to reporting on their daily moods, students also answered 12 questions related to post-traumatic stress symptoms, daily sleep quantity and quality, and the best thing that happened to them on that day.

Data Collection

Schools were first approached by email from the primary investigator requesting a meeting with school officials to explain the mixed methods, multi-year studies to be carried out. Only one school was contacted in Detroit, while the first school contacted in Chicago did not respond to the primary investigator's emails. The second school contacted in Chicago was the

site for this study. In addition to recruitment and data collection, the primary investigator, graduate students, and undergraduate research assistants also attended school functions (e.g., parent-teacher conferences, parent meetings, student assemblies, sporting events); provided tutoring and other student support as requested by the schools; presented findings from the survey study to parents, teachers, staff, and students; and distributed a newsletter with descriptive information about the studies to all students who participated in the studies and had not graduated.

Students who had completed at least one wave of the related survey study were gathered in the cafeteria during class time, lunch hours, or immediately after school. A graduate student explained the study, answered questions, and handed recruitment packets that included a recruitment letter and parent consent form to all eligible students. Recruitment packets were provided in both English and Spanish to all students. All students who returned a signed parent consent form, signed an adolescent assent form or signed an adolescent consent form if over the age of 18, participated in the study.

Students in Detroit gathered in the cafeteria during lunch time for a study orientation. Students in Chicago gathered in an empty classroom after school. During orientation, graduate students explained that students were being asked to complete a daily diary every weeknight before going to bed over a four-week period. To prevent any negative connotations the word "diary" may have, diaries were referred to as "logs" in the study. In the paper version of the Pilot (Detroit), students received five envelopes and diaries per week. Students were asked to day/time stamp the sealed envelopes containing the daily diary the next morning in school and drop the stamped envelope in a secure box. The investigators provided the day/time stamp and lock box. In the tablet version (Detroit and Chicago), students received a low-cost tablet and charger to

complete the diaries using Qualtrics^{xm} Offline Surveys. The information in the electronic diaries was identical to the information in the paper diaries. Qualtrics^{xm} Offline Surveys automatically records date and time information. The tablets were password protected and students could only access Qualtrics Offline; all other capabilities, including connecting to WiFi, were disabled. Students in the tablet version also received backup paper diaries and envelopes in case they had issues with their tablets and given the same instructions as Pilot students to day/time stamp the diaries. After receiving this information, students completed a practice diary for the weekday before data collection began (e.g., Friday). Graduate research assistants answered questions, gave students a card with their name and cellphone number, and asked students to contact them if they encountered any issues with the tablets or had additional questions. All students received a reminder call or text almost every night during data collection, except for one student who did not have a phone.

Students reported that paper or electronic diaries took about 15 minutes to complete. Information collected by Qualtrics^{xm} Offline Surveys for valid diaries indicates that Latino students spent an average of 25 minutes from start to end time to complete the daily diary. However, there are 27 diaries where the start and end times are over an hour apart. I suspect that students started entering information into these diaries, stopped, and then restarted. Excluding these 27 diaries, yields an average completion time of 14.28 minutes (SD = 8.38) which is line with students' reports during brief exit interviews after the pilot (Appendix F) and during school check-ins with graduate research assistants.

Graduate research assistants retrieved completed paper diaries several times per week. Graduate research assistants also gave students a new set of diaries and envelopes on Monday of Weeks 2, 3, and 4. On Monday of weeks 2, 3, 4, and 5 or Friday of Week 4, graduate research

assistants collected students' tablets at the beginning of lunch, uploaded the electronic diaries to Qualtrics™, and returned the tablets to students at the end of lunch. Graduate research assistants distributed gift cards to students on the Monday of Week 2, Monday of Week 3, Friday of Week 4 or Monday of Week 5.

Pilot (Detroit)

A Pilot was conducted with students from an 11th grade English Honors class in Detroit. This English Honors class was selected because about half the students (n = 22) had completed the first wave of the survey study. A graduate student recruited eligible students on October 19, 2016. All students who returned a signed parent consent form and signed an adolescent assent form or signed an adolescent consent form if they were over the age of 18, participated in the study (n = 14; 63% recruitment rate; eight girls). Students were randomly assigned to a paper or tablet version of the study. Data collection occurred between October 24 and November 18, 2016. Students in the Pilot completed a total of 192 valid diaries (165 paper and 27 electronic diaries) out of 280 possible diaries (69% compliance rate).

At the end of the pilot, students were asked to voluntarily participate in a short interview. These interviews were audio recorded, transcribed, and de-identified. Agreeing to participate in the interviews was not a condition to participate in the Pilot and refusing to be interviewed carried no consequences for students. Six students (one boy; three tablet version) were interviewed and asked what they liked or disliked about the study, how long it took to complete, whether they preferred the paper or tablet version, if they would recommend the study to friends, and if they would do the study for another week if they were compensated with an additional $25 gift card (Appendix F). The 2016 presidential election in the United States was held on November 8, 2016, 16 days after the study started and 11 days before it ended. Therefore,

students were also asked if the election affected their answers. Interviews lasted, on average, 3 minutes and 53 seconds.

Students interviewed stated that the daily diaries were easy to complete, that the time commitment was not too burdensome, that the questions were easy to understand and answer, and that daily text or call reminders were useful (Appendix F). Students also stated that in the tablet version they could complete the diaries faster, but that the paper version would not have any technology issues (e.g., discharging). Both paper and tablet versions were acceptable to students and they all stated they would recommend the study to their friends and would most likely complete an additional week if given another $25 gift card.

Detroit

Students in Detroit were recruited on April 26 and 27, 2017. A random list of the eligible students was generated based on student's answers to survey questions about past-year exposure to community violence. The principal investigator and graduate research assistants were granted permission by the school to pull eligible students from their classes and into the school cafeteria to explain the study and distribute recruitment packets. Data collection occurred between May 1 and June 11, 2017 on tablets only. Students were given five paper daily diaries and envelopes to use as backup. A date and time stamper and secure box were placed in the school cafeteria for students to drop off paper versions, when needed. All other procedures were the same as described in the Pilot. Not all students in Detroit started or finished the study at the same time. A total of 70 students were invited to participate; 33 students (18 girls) participated for a recruitment rate of 47%. Students in Detroit completed 370 valid daily diaries (19 paper and 351 electronic diaries) out of 660 possible diaries (56% compliance rate).

Chicago

Students in Chicago were recruited between May 1 and 3, 2018. Students were selected in the same manner as in Detroit, but the school distributed an invitation letter to eligible students with instructions to stay after school. The principal investigator and graduate students explained the study and distributed recruitment packets to eligible students assembled in the school cafeteria. The study was carried out between May 7 and May 31, 2018. Procedures were the same as for Detroit. A total of 80 students were invited to participate; 48 students (18 girls) participated for a recruitment rate of 60%. Students in Chicago completed 577 valid daily diaries (52 paper and 525 electronic diaries) out of 960 possible diaries (60% compliance rate).

Quality of Measurements

To ensure students understood what was being asked of them in the daily diaries and how to use the tablets, all participating students completed a training session with graduate research assistants at the beginning of the study. Students were asked to fill out a sample diary about their activities the day before they started the study. During this training session, students were able to ask questions and familiarize themselves with the format and questions. All diaries, whether on paper or tablet, had detailed instructions and a sample diary at the beginning in case students needed additional information. Graduate research assistants were also available by phone or text message to answer questions students may have for the duration of the study. No students called the graduate research assistants, but a few texted them with questions about their answers to the diaries (e.g., if showering when other people were in the house counted as being alone) or, more often, with questions about how to use the gift cards.

Analytic Strategy

As noted by Bolger, Davis, and Rafaeli (2003), daily process data present several analytic challenges since they have a multilevel structure were observations are nested within persons. First, multiple observations from the same person are non-independent. Second, data may show serial dependence (i.e. observations from adjacent days may have greater similarity than observations from non-adjacent days). Third, variability of number of observations between persons can lead to issues with traditional repeated measures analyses. Finally, an array of different temporal patterns may emerge that require analytic techniques that can model different patterns and cycles over time (e.g., weekend effect; Cranford et al., 2006, 2010). To address these issues, multilevel modeling (MLM) will be used to analyze the data in accord with recommendations of Bolger, Davis, and Rafaeli (2003) and others (Kenny et al., 2006; Tennen et al., 2000).

MLM has several advantages over other longitudinal data analytic techniques. MLM uses restricted maximum likelihood (REML) estimation and, thus, allows for unbalanced data (e.g., data with unequal spacing between measurement intervals and/or incomplete data from participants at one or more time points). Within-persons parameter estimates from MLM are reliable even with relatively small sample sizes and are estimated from all available data. All parameter estimates in MLM are adjusted for within-person dependencies in the data (H. R. Mehl & Connor, 2012). In addition, multilevel models can also accommodate both time-varying and time-invariant covariates. Incomplete or missing data can be accommodated when assuming that the data are missing at random, as was the case here, $\chi^2(1, N = 1139) = .056, p = .814$ (MAR; Little & Rubin, 2014). MLM can estimate participant-specific effects or model individual change for each participant (allowing for investigation of subject-level factors explaining

variance in individual trends or relationships), in addition to within-person associations between predictor variables and proximal and distal outcomes.

This dissertation examines how adolescents' daily family- and school-related stressful events predicted their wellbeing using longitudinal multilevel models with daily observations (level 1) nested within participants (level 2). The outcomes of interest are same-day depressed, anxious, and positive mood (level 1). Level 1 key predictors include family- or school-related event, speaking to parents, friends, or no one, and the degree students felt confident the stressful event would get resolved. All predictor variables are binary, except for students' confidence, which was group mean centered. Student sex is included as a level 2 predictor. Main effects of stress, communication, and confidence will be tested prior to interactions between stress, communication, and confidence.

CHAPTER III

Results

Preliminary analyses, including comparisons between the sample of students who participated in the After-School Activity Study (ASAS) and the subsample who participated in the Daily Activities Study (DAS) are presented first. Descriptive statistics and correlations from the diary study are presented next. Reliability assessment of daily moods is presented prior to multilevel analyses to answer the research questions. All analyses were conducted using SPSS Version 26.

Preliminary Analyses

Differences in the Sociodemographic Characteristics of ASAS and DAS participants

A series of independent samples *t*-tests were carried out to assess differences between students who participated in the ASAS and the subsample who also participated in the DAS (Table 2). Students' age, family size, economic needs, language preferences, *familismo*, and scores on parent-child communication and parental monitoring (i.e., parental solicitation of information, parental knowledge of children's behaviors, and adolescent disclosures) were compared[1]. Students who only participated in the ASAS (M_{age} = 15.62, *SD* = 1.05) were

[1] Language preferences were measured with two questions about the language students used most often with adults at home and with friends; 1 = *only Spanish*, 2 = *Mostly Spanish/Some English*, 3 = *Mostly English/Some Spanish*, and 4 = *Only English*. *Familismo* was assed using the average of 10 items about the endorsement of *familismo* values developed by Gaines et al. (1997); 1 = *strongly disagree* to 5 = *strongly agree*; Cronbach's alpha = .93. Parent-child communication was assessed using 8 items in the communication subscale from Gullone & Robison (2005) on a scale from 0 = *never true* to 5 = *always true*, Cronbach's alpha = .88. An 18-item parental monitoring scale, with 6 items per subscale, was used to measure how much parents tried to know, really know, or how much

statistically significantly older than DAS participants (M_{age} = 15.28, *SD* = 0.93) when the first wave of survey data was collected, $t(150) = 3.08$, $p = .002$, 95% CI of difference [0.12, 0.54]. Although statistically significant, the difference in students' average age is less than half a year and appears to be of little practical importance.

Both ASAS (*M* = 2.74, *SD* = 1.00) and DAS (*M* = 2.37, *SD* = 0.85) students had average scores between speaking mostly Spanish/some English or mostly English/some Spanish with adults. In other words, students preferred some combination of English and Spanish when speaking to adults at home. Likewise, when asked what language they spoke most frequently with their friends, both ASAS (*M* = 3.33, *SD* = 0.61) and DAS (*M* = 3.16, *SD* = 0.55) students preferred to speak some Spanish/mostly English. Although statistically significant, these differences appear to be of little practical importance. ASAS and DAS participants preferred to speak some combination of Spanish and English at home, while they preferred speaking mostly English and some Spanish with friends. There were no other statistically significant sociodemographic differences between ASAS and DAS participants (Table 2 and Table 3).

Bivariate Correlations

Grand means, standard deviations, and bivariate correlations between variables of interest appear in Table 4. Bivariate correlations are presented to inspect the data and flag any statistically significant linear associations. Formal tests of associations for the focal variables in relation to the study research questions appear later. Most statistically significant correlations were very weak or weak in magnitude (*r*s < .04). Depressed and anxious mood were strongly

students tell their parents about their behaviors and whereabouts; on 0 = *don't try/know/tell* to 2 = *try/know/tell a lot.* Cronbach's alpha for each parental monitoring subscale ranged from .86 to .88.

positively correlated ($r = .76$, $p < .001$). Not talking to anyone was negatively correlated with talking to a friend ($r = -.51$, $p < .001$).

Moods

Descriptives. Average depressed, anxious, and positive moods for each participant across all diary days appear in Figure 3 and Appendices G, H, and I. On average, students reported higher positive mood compared to depressed and anxious moods. All average daily moods were below a score of 3.5, or the scores corresponding to 3 = *moderately* and 4 = *quite a bit*. For anxious and depressed moods, average scores were not above 2, or the score corresponding to *a little*. There were many different trajectories of daily depressed, anxious, and positive moods between students. Matrices of scatterplots for each participants' daily scores for depressed, anxious, and positive moods appear in Appendices J, K, and L respectively. As evidenced by these appendices, students' trajectories varied from day to day, even among students with mood scores close to the sample average.

There were weak non-significant negative correlations between study day and students' *daily* depressed ($r = -.03$, $p = .337$) and anxious moods ($r = -.04$, $p = .151$). Students' *average* depressed ($r = -.11$, $p = < .001$) and anxious moods ($r = -.13$, $p = < .001$) were statistically significantly and negatively correlated with diary day, suggesting that as the study progressed, students' average daily depressed and anxious moods decreased. Diary day was not statistically significantly correlated with daily or average positive mood ($r = .04$, $p = .236$ and $r = -.02$, $p = .523$, respectively).

Reliability. The procedures described in Cranford et al. (2006) were used to estimate the different variance components of the depressed, anxious, and positive mood ratings and the reliability of the adapted POMS scale. First, the variances associated with each of the terms in

Cranford et al.'s Equation 1 were estimated using the VARSTOCASES and VARCOMP commands in SPSS 26 (Appendix P).

Similar to Cranford et al. (2006), the between-person, person by day, and error components accounted for the most variation among the sample. The between-person variation refers to students' tendency to have higher or lower levels of reported mood irrespective of day or items. The person by day component points to different mood trajectories over time among students during the study period. These preliminary findings are in line with prior research that suggests moods are trait-like and somewhat stable during middle adolescence (Maciejewski et al., 2015). Finally, and in line with other published daily diary studies, the error component also accounted for a substantial portion of the variation (Cranford et al., 2006). The impact of the error component is reduced in practice by averaging the three or more items in all subscales (Cranford et al., 2006).

Among the students in this sample, between-person differences accounted for the largest percentage of variation across all moods, except for anxious (error). Students also exhibited different trajectories of mood as indicated by the person by day component. The item component was small for depressed mood, but larger for anxious and positive moods. Anxious mood had the highest percentage of variation explained by the item component when compared to other moods. The day by item component for anxious mood, however, only explained a very small percentage of the variation. In other words, students did not respond to the items differently over the study period, but some items in the anxious mood subscale may have been systematically highly endorsed. This is further evidenced by the higher person by item component for anxious mood relative to depressed or positive moods. In sum, there were considerable individual

differences that explained a large portion of the variation in daily moods and these between-person differences were also related to the day-to-day changes.

The estimates of variance components (Appendix O) were used to calculate the generalizability coefficients for the reliability of the adapted POMS-15 measure in our sample. Similar ranges of acceptability to Cronbach's alpha are used to describe these coefficients (Cranford et al., 2006; Shrout & Lane, 2012). The coefficients for change across all moods ranged from .74 to .75, suggesting an adequate ability of these scales to capture systematic mood changes of persons over days (Appendix P).

Multilevel Models

The analysis dataset consisted of 93 participants who completed at least one daily diary describing a stressful event. Participants completed an average of 13 diaries (65%) over the 4-week study period (weekends excluded; M = 12.84; SD =7.71; Appendix Q). Students described 1,139 stressful events. Of the 93 participants, 60 reported at least one family-related event and 88 at least one school-related event. Therefore, 33 and five students could not contribute to the estimation of within-subject reactivity to daily family- or school-related events, respectively, nor to the resolvability of the event in this within-subject relation. Following the recommendations of Bolger and Laurenceau (2013), a version of time centered around the middle point of the study (Day 13) was included in all the models as a fixed effect.

Descriptives

Stressful events could be related to more than one category (Appendix C). On average, daily stressful events were related to a single category per participant across all study days (M = 1.18, SD = 0.26). Events related to family (n = 197) and school (n = 680) were reported at higher rates than any other categories (i.e., financial issues, friends, other, and romantic issues). As

expected, the Latino adolescents in this sample reported considerably more events related to school (Appendix C). Family related events were described in 17% of all valid diaries and school related events in 60%. For events that were related to a single category (n = 854; 75%), family- (n = 93; 11%) and school-related events (n =548; 64%) accounted for 75% of all stressful events related to a single category or source. In other words, focusing on family- and school-related events will shed light on most of the stressful events reported by students across the study period.

Different characteristics of family- and school-related events appear in Table 5. Only 16% of the family-related events were perceived by students as the most stressful thing they had ever experienced, and the same percentage also reported not being confident at all that it would get resolved. Around 57% of family-related events were described as *a good deal* or *extremely* stressful. Students had experienced most family-related events before (71%). Only 51% of the family-related events involved parents. Students spoke to someone about 73% of the family-related events they experienced, with 44% events discussed with parents, 27% with friends, and 6% with both parents and friends. In 28% of the events discussed with parents, students reported that talking made them feel a good deal better. Although fewer students spoke to friends about family-related events, a little over half of those who did, reported feeling a *good deal* (24%) or *extremely better* (28%).

School-related events accounted for a large portion of the stressful events in this sample, but only 9% were rated as the most stressful ever experienced by students (Table 5). Over 80% of students felt that the event was at least somewhat stressful or more and almost a fifth (18%) reported that the event was extremely stressful. Three quarters of the events had been experienced before and in 15% students reported that they were *not at all* confident the event would get resolved (the event's resolvability). Interestingly, 6% of the school-related events

involved parents and 6% were related to both school and family. Students spoke to someone about most school-related events (68%), including 44% to friends and 19% to parents. For events that students spoke to their parents about (n =130), students reported feeling *not at all* (9%), *a little* (20%), *somewhat* (26%), *a good deal* (25%), or *extremely* (15%) better. When it comes to speaking to friends (n = 300), students reported feeling *not at all* (23%), *a little* (21%), *somewhat* (17%), *a good deal* (18%), and *extremely* (16%) better in almost equal proportions (Table 5).

In summary, students in this sample reported more school- than family-related events (Table 5). Most students had experienced both family- and school-related events before. Family-related events, however, were described more often as the most stressful event the student had ever experienced. Average levels of subjective stressfulness were similar for both types of events [$t(616) = 1.21$, $p = .227$]. In approximately 15% of events in both categories students felt *not at all* confident that the event would get resolved. On average, students talked slightly more about family-related events to someone than about school-related events. Students talked more to parents than to friends about family-related events, but the opposite was true for school-related events. In a quarter or more of the family- and school-related events the students did not speak to anyone about them. Average scores of feeling better after talking about family-or school-related events were similar [$t(607) = 0.54$, $p = .545$].

Model Specifications

Scatterplots of the variables of interest were examined for each participant to assess any trends in the data (Bolger & Laurenceau, 2013), followed by separate multilevel models with daily depressed, anxious, and positive moods as outcomes. The matrices of scatterplots for each students' trajectory of daily depressed, anxious, and positives moods across study days appear in Appendices J, K, and L.

Unconditional means models and three multilevel models for each dependent variable—depressed, anxious, and positive moods—were estimated separately using the MIXED command in SPSS Version 26 with an unstructured (UN) covariance structure for the random effects and restricted maximum likelihood (REML) methods (Table 6, Table 7, and Table 8). A first-order autoregressive covariance structure (AR1) was specified for the repeated measures to account for correlations of adjacent residuals (Bolger & Laurenceau, 2013; West, 2009).

Information from the unconditional means models was used to calculate the intraclass correlation coefficients (ICC). These unconditional means, or empty models, can be expressed with the following level-1 and level-2 equations:

$$\text{Level 1: } Y_{ti} = \beta_{0i} + \varepsilon_{ti} \quad (1)$$

$$\text{Level 2: } \beta_{0i} = \gamma_{00} + u_{0i}. \quad (2)$$

The unconditional means models specify the i^{th} student's mood score on the i^{th} diary day as a function of a students' average scores across all diary days (β_{0i}) plus that score's deviation from the students' average (ε_{ti}). The Level 2 model describes the average mood scores for a given student (β_{0i}) as a function of the grand mean (γ_{00}) plus the deviation of student *i* from the grand mean (u_{0i}). There are no explanatory variables or covariates in these models.

The ICCs for each mood were calculated as a function of the between-persons variance (τ_{00}) divided by the sum of the between-persons variance and the within-persons variance (σ^2). Depressed mood had an ICC of .65, anxious mood of .60, and positive mood of .46. In other words, between 46% and 65% of the total variance in moods can be explained by differences between students (the level-2 units).

Research Question 1: Do daily reports of family- or school-related stressful events differentially impact Latino adolescents' moods?

Model 1 is used to answer this research question. Model 1 includes three level-1, or daily, variables: time (β_{1i}) centered around the middle point of the study, family-related event (β_{2i}), and school-related event (β_{3i}). It can be represented mathematically as:

Level 1: $Y_{ti} = \beta_{oi} + \beta_{1i}(Time_{ti}) + \beta_{2i}(Family_{ti}) + \beta_{3i}(School_{ti}) + \varepsilon_{ti}$ (3)

Level 2: $\beta_{oi} = \gamma_{00} + u_{0i}$. (4)

Family- and school-related events were coded as 1 = *yes* and 0 = *no*.

Depressed Mood

Results for Model 1 predicting depressed mood appear in Table 6. There was a statistically significant negative linear trend in depressed mood over time (*Est.* = -0.01, *SE* = 0.002, $p < .001$). In other words, students experienced a 0.01 decrease in daily depressed mood for every day they were in the study. This appears to be a very small effect but, since students could submit up to 20 daily diaries, their average decrease in depressed mood over the study period could be close to a fifth of a point on a scale from 1 to 5.

Daily family- (*Est.* = 0.08, *SE* = 0.06, $p = .147$) or school-related events (*Est.* = -0.05, *SE* = 0.04, $p = .246$) were not statistically significantly associated with adolescents' same-day depressed mood. There was evidence of statistically significant within-person variances of depressed mood not accounted for in this model (*Est.* = 0.64, *SE* = 0.10, $p < .001$). Since this is true for all moods and models, it will not be discussed in detail in the sections below.

Anxious Mood

Results for Model 1 for anxious mood appear in Table 7. Like depressed mood, there was a statistically significant and negative linear trend in students' anxious mood over time (*Est.* = -

0.01, *SE* = .002, $p < .001$). Experiencing a family-related event was statistically significantly and positively associated with same-day anxious mood (*Est.* = 0.12, *SE* = 0.05, $p = .025$). In other words, students' anxious mood increased by 0.12 on days in which they experienced a family-related event. Experiencing a school-related event was not statistically significantly associated with same-day anxious mood.

Positive Mood

Results for Model 1 for positive mood appear in Table 8. Unlike depressed and anxious moods, positive mood was not significantly associated with linear trends in time (*Est.* = -0.01, *SE* = 0.003, $p = .080$). Experiencing a family- or school-related stressful event was not statistically significantly associated with same-day positive mood.

Research Question 2: What effect does talking about daily family- or school-related stressful events have on Latino adolescents' daily moods?

Model 2 was used to address this research question. Model 2 includes seven level-1, or daily, variables: time (β_{1i}) centered around the middle point of the study, family-related event (β_{2i}), school-related event (β_{3i}), speaking to parents (β_{4i}) or friends (β_{5i}) about the stressful event, not speaking to anyone about the stressful event (β_{6i}), and the event's resolvability (β_{7i}). Model 2 can be represented mathematically:

$$\text{Level 1: } Y_{ti} = \beta_{oi} + \beta_{1i}(Time_{ti}) + \beta_{2i}(Family_{ti}) + \beta_{3i}(School_{ti}) + \beta_{4i}(Parents_{ti}) + \beta_{5i}(Friends_{ti}) + \beta_{6i}(No\ one_{ti}) + \beta_{7i}(Resolution_{ti}) + \varepsilon_{ti} \quad (5)$$

$$\text{Level 2: } \beta_{oi} = \gamma_{00} + u_{0i}. \quad (6)$$

The level-1 covariate, the event's resolvability (β_{7i})—the student's confidence that the stressful event would get resolved—was added to the model. This variable was grand mean

centered and, therefore, represents students' average deviation from the resolvability of an event of the sample.

Depressed Mood

Results for Model 2 for depressed mood appear in Table 6. The negative linear trend for depressed mood over time is still negative and statistically significant after controlling for all other variables in the model. Daily communication with parents (*Est.* = -0.10, *SE* = 0.05, *p* = .057) or friends (*Est.* = 0.03, *SE* = 0.05, *p* = .627), or not speaking to anyone (*Est.* = -0.08, *SE* = 0.06, *p* = .166) about a stressful event were not significantly associated with same-day depressed mood, after controlling for all other variables in the model. A unit-increase in in the resolvability of an event was associated with a statistically significant reduction of a tenth of a point in that day's depressed mood (*Est.* = -0.10, *SE* = 0.03, *p* < .001).

Anxious Mood

Model 2 in Table 7 shows the estimates for anxious mood. As with depressed mood, there was a negative linear association between anxious mood and the study period. Daily communication with parents (*Est.* = -0.06, *SE* = 0.05, *p* = .293), or friends (*Est.* = 0.03, *SE* = 0.05, *p* = .623), or not speaking to anyone (*Est.* = -0.11, *SE* = 0.06, *p* = .057) about a stressful event were not significantly associated with same-day anxious mood, after controlling for all other variables in the model.

On days in which students experienced a family-related event their same-day anxious mood statistically significantly increased by 0.14 (*Est.* = 0.14, *SE* = 0.06, *p* = .012), after controlling for all variables in the model. A unit-increase in the event's resolvability was associated with a statistically significant reduction in that day's depressed mood (*Est* = -0.06, *SE* = 0.03, *p* = .028).

Positive Mood

Results for Model 2 appear in Table 8. After controlling for all variables in the model, only students' assessment of the resolvability of the stressful event was statistically significantly associated with same-day increases in positive mood (*Est.* = 0.07, *SE* = 0.03, *p* = .029).

Research Question 3: Do the relations between daily stressful events, communication, and moods among Latino adolescents vary by gender?

Model 3 was used to answer this research question. Model 3 adds cross-level interactions between focal variables and gender and can be represented mathematically:

$$\text{Level 1: } Y_{ti} = \beta_{oi} + \beta_{1i}(Time_{ti}) + \beta_{2i}(Family_{ti}) + \beta_{3i}(School_{ti}) + \beta_{4i}(Parents_{ti}) + \beta_{5i}(Friends_{ti}) + \beta_{6i}(No\ one_{ti}) + \beta_{7i}(Resolution_{ti}) + \varepsilon_{ti} \quad (7)$$

$$\text{Level 2: } \beta_{oi} = \gamma_{00} + \gamma_{01}(Gender_i) + u_{0i} \quad (8)$$

$$\text{Level 2: } \beta_{2i} = \gamma_{20} + \gamma_{21}(Gender_i) + u_{2i} \quad (9)$$

$$\text{Level 2: } \beta_{3i} = \gamma_{30} + \gamma_{31}(Gender_i) + u_{3i} \quad (10)$$

$$\text{Level 2: } \beta_{4i} = \gamma_{40} + \gamma_{41}(Gender_i) + u_{4i} \quad (11)$$

$$\text{Level 2: } \beta_{5i} = \gamma_{50} + \gamma_{51}(Gender_i) + u_{5i} \quad (12)$$

$$\text{Level 2: } \beta_{6i} = \gamma_{60} + \gamma_{61}(Gender_i) + u_{6i} \quad (13)$$

$$\text{Level 2: } \beta_{7i} = \gamma_{70} + \gamma_{71}(Gender_i) + u_{7i} \quad (14)$$

In this model, β_{2i} to β_{7i} represent the within-person main effects of family-related event, school-related event, talking to parents, friends or none, and the event's resolvability, respectively. The estimated difference between girls and boys for each within-person association, or the cross-level interactions, are represented by γ_{21} to γ_{71}. Finally, u_{2i} to u_{7i} represent any between-person differences in the effect of these daily variables on daily mood not related to

gender. Gender was coded as girls = 1 and boys = 0. Note that the coefficients for girls were obtained by rerunning the analysis models with the 0, 1 coding of gender reversed.

Depressed Mood

Parameter estimates for Model 3 appear in Table 6. There were two statistically significant cross-level interactions. The magnitude of the association between experiencing a family-related event and depressed mood varied by student gender (*Est.* = -0.14, *SE* = 0.05, *p* = .010), indicating that the association between family-related events and depressed mood was .14 units stronger for girls compared to boys. As gender was coded 1 = girls, the parameter estimate for family in Table 6 corresponds to the main effect of family-related stressful events for boys. For boys, experiencing a family-related event was associated with a 0.07 (*SE* = 0.10, *p* = .480) reduction in same-day depressed mood after controlling for all variables in the model, but this association was not statistically significant. As noted above, the coefficient for girls was obtained by rerunning the analysis models with the 0, 1 coding of gender reversed. For girls, experiencing a family-related event was associated with a statistically significant increase of 0.21 in same-day depressed mood (*SE* = 0.07, *p* = .003), after controlling for the other variables in the model.

In addition to the statistically significant family by gender cross-level interaction, a cross-level interaction between event resolvability and gender was tested. Results showed that this interaction was statistically significant (*Est.* = -0.14, *SE* = 0.05, *p* = 0.010), indicating that the association between resolvability and depressed mood was .14 units stronger for girls compared to boys. Simple main effects showed that, for boys, a one-unit increase in same-day event resolvability was not statistically associated with a reduction in that day's depressed mood (*Est* =

-0.02, *SE* = 0.04, *p* = .569), while for girls it was associated with a statistically significant reduction (*Est.* = -0.17, *SE* = 0.03, *p* < .001), after controlling for other variables in the model.

Finally, and contrary to expectations, experiencing a school-related event was associated with a statistically significant 0.15 reduction in students' same-day depressed mood (*SE* = 0.06, *p* = .022) after controlling for all other variables in the model, but the magnitude of this association did not statistically significantly vary as a function of student gender (*Est*. = 0.15, *SE* = 0.08, *p* = .069).

Anxious Mood

Results for anxious mood appear in Table 7. There was only one statistically significant cross-level interaction in Model 3. The magnitude of the association between event resolvability and same-day anxious mood varied as a function of gender (*Est*. = -0.19, *SE* = 0.05, *p* = .001) such that the association between resolvability and anxious mood was .19 units stronger for girls compared to boys. As with depressed mood, the coefficient for resolution in Table 7 corresponds to boys and the coefficient for girls was obtained by rerunning the analysis models with the 0, 1 coding of gender reversed. For boys, a one-unit increase in the daily resolvability of the event was not statistically significantly associated with an increase in anxious mood (*Est*. = 0.06, *SE* = 0.04, *p* = .197), while for girls it resulted in a statistically significant decrease (*Est*. = -0.13, *SE* = 0.03, *p* < .001). There were no statistically significant main effects of experiencing a family- or school-related event, speaking to parents, friends or to no one about daily stressful events, or adolescent gender.

Positive Mood

The results for Model 3 for positive mood appear in Table 8. There were no statistically significant cross-level interactions or main effects for positive mood.

Across all moods and in all models the first-order autoregressive covariance structure (AR1 rho) was statistically significant which indicates that mood measurements adjacent in time are more strongly correlated than those further apart (Bolger & Laurenceau, 2013). Additionally, there was evidence across all models and moods of statistically significant within-person variation that were associated with students' daily moods, but not accounted for in Models 1, 2, or 3.

CHAPTER IV

Discussion

This dissertation used daily diary data from 93 Latino adolescents attending charter schools in Detroit and Chicago to investigate the relation between experiencing daily family- and school-related stressful events and adolescents' daily depressed, anxious, and positive moods. The relations between speaking to parents, friends, or not speaking to anyone about daily stressful events and adolescent moods were also examined. Finally, gender was examined as a potential moderator in the relations between stressful events, communication about stressful events, and daily moods. The Latino adolescents in this sample completed 1,139 daily diaries. Almost 80% of these diaries described stressful events related to family or school. This study, therefore, provides important insight into the most common and salient stressful events the Latino high school students in this study experienced.

The first goal of this study was to examine the relations between daily stressful events and adolescents' moods. Data from the latest Youth Risk Behavior Surveillance System (YRBSS; Kann et al., 2018) showed that Latino high school students report the highest rates of feeling sad or hopeless in the past year compared to their Black or White peers. In another nationally representative sample, Latino adolescents reported higher rates of past-year major depressive episodes (MDE) when compared to their Black peers and comparable rates to White peers, but the lowest rates of depression care (Substance Abuse and Mental Health Services Administration, 2019). Given the prevalence of mental health issues among Latino youths in

these nationally representative samples, I expected the Latino adolescents in this study to report higher average scores of depressed and anxious moods. Average depressed and anxious moods among the high school students in this study, however, were low: above the value corresponding to *very slightly or not at all* but just shy of the value corresponding to *a little*. Isasi, Rastogi, and Molina (2016) note that there has been a paucity of psychiatric epidemiological surveys to estimate the prevalence rates of mental health disorders among Latino youths and, of those focused on racial/ethnic minority adolescents more generally, most were conducted more than five years ago. Given the paucity of information about Latino high school's students mental health, it is difficult to draw overarching conclusions about the discrepancies between the rates of depressed and anxious moods among this sample of Latino high school students and mental health issues found in nationally representative samples.

In both Santiago et al. (2017) and Papadakis et al. (2018), two daily diaries studies of Latino adolescent's stressful events and moods, negative affect was not divided into depressed or anxious mood, but similar items like "sad" or "nervous" were used to measure negative affect. Average negative mood for the middle school students in these studies were similar to student's average depressed and anxious in this sample. Average positive mood was slightly higher for the middle school children in Santiago et al. (2017) and Papadakis et al. (2018), but lower among the Latino high school students in this study. Therefore, there appears to be some consistency in the lower negative mood scores across these samples of Latino early- and middle-adolescents. Perhaps daily moods are not directly correlated with diagnosable symptomology.

Reliability estimates for depressed, anxious, and positive mood were all adequate to examine within-person changes in the daily moods of the adolescents in this sample (Cranford et al., 2006). Research supports the existence of two relatively independent affective states:

negative and positive affect (Peeters et al., 2003; D. Watson & Vaidya, 2013). Alternative models in which depressed, anxious, sad, and angry moods are combined into a measure of negative affect could provide additional insight. For example, adolescents that exhibit a cluster of negative moods may have higher reactivity to daily stressful events and, thus, be at greater risks of developing later mental health issues (Schneiders et al., 2006).

The low rates of average depressed and anxious mood among the students in this sample could be influenced by their enrollment in charter schools. These charter schools may provide challenging, but positive and supportive environments for students (Kaplan et al., 2005; O'Malley et al., 2015). It is important to note that school or data collection period were not sources of statistically significant differences in daily depressed or anxious moods. The influence of attending charter schools would appear to be the same for all students, irrespective of which school they attended or when the data were collected. Since both charter schools had majority Latino student populations, negative school experiences related to discrimination or racial tensions may have been reduced across the sample (Cervantes & Cordova, 2011; Torres & DeCarlo Santiago, 2017). In other words, students may have reported low average depressed and anxious moods, in part, because the stress associated with a major contributor to adolescent stress (American Psychological Association, 2014), was counterbalanced by positive and supportive school environments.

Many students in this sample may have also had supportive and stable family lives. Since the students attended charter schools, parents had, at the very least, taken the time and gone through the effort of enrolling their children in these schools. To better understand the relations between the school and family environments and daily moods, answers from surveys completed by the students could be used future analyses. Statistically significant within-person differences

not measured in this study may stem from these school, parent or family characteristics. Furthermore, examining the descriptions of stressful events can further shed light on the complex environments in which Latino high school students develop. Low average scores of daily depressed and anxious moods, then, may point to the resilience of these Latino high school students if between-person characteristics point to living in difficult circumstances or being exposed to risks (Wray-Lake et al., 2018).

Family-Related Stressors

For many Latino adolescents, family life is of the utmost importance. Latino families routinely endorse the cultural value of *familismo* that focuses on a sense of obligation to take care of the family, provide emotional and instrumental support to family members, and take family into consideration when making decisions (Valdivieso-Mora et al., 2016). This strong sense of *familismo* coupled with the greater social context of anti-Latino policies that have severely disrupted many families, may help to explain why family, but not school-related stressful events, were associated with adolescent depressed and anxious moods.

Family-related stressful events were associated with higher same-day depressed mood for girls, but not boys. On days in which girls experienced a family-related event, they exhibited an increase of 0.21 units in their depressed mood scores. Depressed mood was measured on a scale from 1 to 5. This 0.21 increase may be substantial if it pushes girls scores from, for example, *moderately* to *quite a bit*. The fact that this association was present for girls and not boys is in line with nationally representative samples and empirical studies that report higher rates of internalizing problems among Latina girls (Kann et al., 2018; Kuhlberg et al., 2010). In a cross-sectional study of adolescent Latinas, Kuhlberg, Peña, and Zayas (2010) found that *familismo* was positively associated with internalizing behaviors and internalizing behaviors, in turn, were

positively associated with suicide attempts. The Latina girls in this sample may respond to family-related events by turning inward thereby increasing their depressed mood (Kuhlberg et al., 2010).

It is also possible that cultural expectations and demands differ for girls and boys in this sample. Some research suggests that Latina girls are expected to participate in more activities inside the home and boys are given more freedom to explore activities outside the home (Blocklin et al., 2011; Guilamo-Ramos et al., 2007). Furthermore, if girls are more involved in family-oriented activities, such as completing chores or taking care of siblings or elderly family members, they may be more affected by family-related stressful events, especially if they refrain from discussing them to avoid family conflict. Kuhlberg, Peña, and Zayas (2010) found that as Latina adolescents' endorsement of attitudinal *familismo* increased, their levels of parent-child conflict decreased but their internalizing behaviors increased. Latino boys in this sample could be less aware of family-related events or they may be responding to family-related stressful events

Students, irrespective of their gender, exhibited higher scores of anxious moods on days in which they experienced a family-related stressful event. Since students may have less control over family-related stressful events, it makes sense that they would respond to these events with increases in anxious mood. Recall that anxious mood was measured with the items anxious, uneasy, nervous, scared, or terrified. In a study of Latinx adolescents under the Trump presidency, many youth spoke unprompted about immigration concerns and reported feeling anxious or afraid of what will happen to their families (Wray-Lake et al., 2018). The data for this dissertation were collected in the weeks leading up to the election and during the first years of the Trump presidency. They may reflect heightened feelings of anxiety related to the family

context in response to the national political environment, but without a qualitative analysis of students' descriptions of family-related stressful events, this is purely speculative.

It is important to note that no moderation tests were carried out to assess whether the relation between daily family- or school-related events and moods varied as a function of whom students talked to about these events. Conducting these tests will be important in ascertaining whether speaking to parents or friends, or not speaking to anyone, affects these relations. Although purely speculative, it is reasonable to expect that speaking to parents about family-related stressful events could moderate the relation between the event and same-day moods. Speaking about these stressful situations with parents can help adjust parents' expectations about their children's behaviors or provide prompt additional or better support in the face of family issues or challenges. Parent-adolescent communication may also be an indication of strong, high quality parent-child relationships (Young, 2016). On the other hand, higher endorsement of attitudinal *familismo* can also mean that students refrain from speaking to parents about family-related stressful events as a way of showing deference and respect to parents and avoiding conflict (Kuhlberg et al., 2010). Given that there were gender differences in the relation between family-related events and daily depressed mood, it is also possible that the moderating role of communication varies as a function of gender.

In a qualitative study of Latino mental health stressors, adolescent boys and mothers described Latino culture as not promoting communication and parents not teaching children how to talk about their feelings (Garcia & Lindgren, 2009). Most students in this sample, however, reported speaking to someone about family-related events and to parents more often. There are two exciting avenues to further unpack these findings. The first is to look at the interactions between daily family-related stressful events, speaking to parents or friends, and to what degree

talking about the stressful event made the student feel better. The second is to examine the reasons students gave for not speaking to anyone about family-related stressful events to uncover any within- or between-person differences.

School-Related Stressors

School-related events accounted for most of the stressful events students experienced during the study period. The relations between experiencing a school-related stressful event and daily depressed and anxious moods were not statistically significant nor did these relations vary as a function of adolescent gender. The non-significant associations between school-related events and moods found in this study are in contrast with the findings from a recent study of Latino middle school students that found that academic stress was associated with same-day negative affect (Papadakis et al., 2018). Papadakis, Fuller, Brewer, Silton, and DeCarlo Santiago (2018) measured academic stress using 8 items from the Multicultural Events Schedule for Adolescents (MESA). In the current study, Latino high school students could describe the stressful events in their own words and assigned it as related to family or school, among others. The differences in how stress related to school were measured may account for the contrasting results. It may also be that school-related stressful events are more difficult to manage and elicit more negative moods when Latino children are in middle school compared to when they are in high school. This would be in line with prior research documenting increases in emotional stability as children move from early to middle adolescence (Larson et al., 2002) and the middle school transition as a period of heightened stress (Goldstein et al., 2015).

As mentioned before, students in this sample were enrolled in charter schools where there was a strong emphasis on academic achievement and attending college. These schools also had majority Latino student populations and strict conduct expectations. Taken together, these school

characteristics may also help to explain why students' daily moods were not associated with school-related events. These findings are similar to Arsenio and Lora (2014) in that negative or positive moods were not statistically significant predictors of high school students' academic stress when academic affect and primary positive coping were taken into account. Academic affect in the study by Arsenio and Lora's (2014) study focused on students' abilities to organize and synthesize information, classroom participation, test performance, and teacher evaluation. The charter schools the students attended may have elicited positive academic affect, for example, and this could explain the non-significant findings in this study. The significant within-person variances in all models predicting depressed and anxious mood further strengthens the notion that there were unmeasured variables that may help to explain the results.

Another potential explanation for these non-statistically significant associations may be the product of school-related stressful events that pushed students towards better outcomes (Reddy et al., 2017). Even experiences categorized as "negative" can have hidden benefits such as enhancing or promoting meaning in life (Vohs et al., 2019; Wilson & Gilbert, 2008). This may be especially so in this sample since most of the school-related events were not rated as extremely stressful. It is of the utmost importance to conduct a qualitative analysis of the description that students in this sample gave for school-related events to put the results in context. This rich and nuanced description of daily school-related events can also shape future measures of Latino adolescents' daily stressful experiences.

In addition, the moderating role that talking about daily school-related events may have on the relation between experiencing a school-related event and daily moods was not tested. The high school students in this sample reported speaking to someone about 68% of the school-related events they described during the study period. Almost half of the school-related events

(44%) were discussed with friends, while only about a fifth (19%) were discussed with parents. Most importantly, almost 30% of the events were not discussed with anyone. Perhaps the association between daily moods and school-related events vary as a function of whom students communicate with about these events.

Event Resolvability

The degree to which students' were confident a stressful event would get resolved—the events' resolvability—was included in the models as a control. Event resolvability was statistically significantly associated with depressed and anxious mood and this association varied as a function of student gender. For girls' increases in event resolvability were associated with statistically significant decreases in same-day depressed and anxious moods. To unpack these results, an interaction between event resolvability and family- or school-related events can be examined in the future. These interactions would help to disentangle the effect of resolvability by stressful event type and provide more information on the statistically significant associations between daily family-related stressful events and depressed mood for Latina girls.

Event resolvability may be linked to the emotional reactions, explanations, and adaptations as posited in the AREA model (Wilson & Gilbert, 2008). If the Latino families in this study endorsed cultural values that place greater emphasis in family responsibilities or more activities in the home for girls, when compared to boys, then family-related events may be more salient for the girls in this sample. However, family-related events may elicit a weaker affective reaction from girls when these events are accompanied with a higher degree of confidence that they will get resolved. The events' resolvability suggests a broader understanding of the event, its causes, implications, and, ultimately, its resolution (Wilson & Gilbert, 2008). Girls' lower degree of confidence in the events' resolvability may create uncertainty and prolong affective

reactions. To better understand what makes an event more or less resolvable, it is important to conduct qualitative analyses of the types of events girls and boys described and identify any patterns that may emerge from the descriptions. This information may provide answers as to why event resolvability was related to decreases in negative affect for girls but not boys.

Adolescent Stress Models

Stress models, such as the diathesis-stress and differential susceptibly models (Assary & Pluess, 2017), provide important information about the interactions between individual characteristics and environments and their relation to adolescent development. The biological and evolutionary perspectives often embedded in these stress models (e.g., diathesis–stress or differential susceptibility; Rioux et al., 2016), however, ignore the greater cultural context in which adolescents develop. Individual characteristics and environments are interpreted within a cultural system (Vélez-Agosto et al., 2017). Ignoring the cultural contexts that affect the relations between individual characteristics and the environment provides an incomplete picture of adolescent development. This is especially true for adolescents from ethnically or racially minoritized groups as most research about individual differences in environmental sensitivity has been conducted with European and American samples of mostly White, middle-class children and adolescents (Assary & Pluess, 2017).

The stress process theory from sociological research is better suited to study the way that social, economic, and political events influence adolescents' lives and exposes youth to stressors (Pearlin & Bierman). In this sense, the stress process theory is in line with Vélez-Agosto, Soto-Crespo, Vizcarrondo-Oppenheimer, Vega-Molina, and García Coll's (2017) revision of Bronfenbrenner's bioecological model within a cultural framework of daily practices and sets culture in the microsystems.

One of the challenges of models attempting to explain stress processes in general, but especially during adolescence, is that the same stressor can evoke different responses in different people and these responses change over time. In this sense, stressors are a constantly moving target. Since adolescents often have little control over many of the contexts in which they develop (e.g., family or school), even a daily diary study such as this one can only provide a snapshot of the stressors they face at any given time. This is further complicated because there is no consensus as to what makes an event bad or negative. Primary stressors also give rise to secondary stressors and this stress proliferation, along with its spillover—the spread of stressful problems across roles—are difficult to model. The stress process theory also recognizes that the causal chains between stress and well-being can stretch over substantial spans of time (Pearlin & Bierman, 2013), adding to the costs and complexities of designing research studies to capture them. Focusing on stressors one-by-one, on the other hand, runs the risk of misspecification or misleading findings (Wheaton et al., 2013). These challenges make evident the need for theoretically driven studies of adolescent stress but stress research about ethnically or racially minoritized youths is lacking.

Finally, there is limited understanding of the relation between distress and disorder (Pearlin & Bierman, 2013). Emotional distress in response to primary or secondary stressors could be a precursor to mental health disorders but may also be a normative response. This can lead to viewing emotional responses as diseases, thereby "medicalizing human suffering and obfuscating its social origins" (Pearlin & Bierman, 2013, p. 335). In other words, stress research during adolescence should focus on discovering whether something is stressful (Wheaton et al., 2013) and not assuming the stressful events of adulthood will be the same as in adolescence. Furthermore, adolescent stress researchers should also aim to discover what is stressful within a

group of adolescents based on their intersecting identities. In this study, students were able to describe the stressful events in their own words and assign them to several sources. This is an important step towards better understanding the sources of adolescent stress and broadening its definition.

Limitations and Future Directions

One limitation that may help to explain the results that were not statistically significant is that the causal lag between stressful events and moods was incorrect. That is, that there was not enough time between the stressful event and the measurement of mood for changes to unfold. There was some support for this approach, however, given that moods were a retrospection at the end of the day of events that happened earlier (Bolger & Laurenceau, 2013). Furthermore, family-related events were related to same-day depressed moods for girls, but not for boys, suggesting that the causal lag was appropriate.

While the associations in this study were, for the most part, in the expected direction, there were very few that were statistically significant. It may be that models with more power to detect these associations are needed. It is important to note, however, that there were statistically significant results for moods that did not vary, or bounce around much, within participants and using data from a study that was not specifically designed or collected to assess adolescents' daily stressful events. These statistically significant results are an important springboard to conduct additional analyses and to further investigate these relations.

As mentioned earlier, the results may not be generalizable to other Latino students. The students in this sample attended charter schools with majority Latino student populations and a strong emphasis on academic achievement. Future studies should gather daily diary data with Latino high school students enrolled in other types of school such as public, private, or

vocational schools. Replicating these results with other student populations can aid in better understanding the role that these different educational environments have on the relations between daily stressful events and adolescent moods. Moreover, nationally representative samples of Latino adolescent and their mental health are needed in order to properly put into the context the results from studies such as this one (Isasi et al., 2016).

An important future direction is to test the lagged effects that family- and school-related stress has on Latino adolescents' moods. Testing the lagged effects can address one of the limitations of this study and test the cumulative effects that adolescent stress may have on moods. The purpose of the primary study from which the data were drawn was to examine the relation between after-school activities and community violence exposure. Because community violence exposure is often a sporadic occurrence, the data collection period was 4-weeks—longer than most daily diary studies with adolescents. Daily diary studies require a delicate balancing act between including enough questions to capture the phenomena of interest, having a study period that will allow these phenomena to unfold, and minimizing participant burden (Bolger et al., 2003; Gunthert & Wenze, 2014). Therefore, students were not asked to complete diaries during the weekends. Lagged-effects analyses with the current sample would yield a lot of missing data, decreasing the power to detect effects. For example, Monday diaries for all students would have missing data since the previous two days (Saturday and Sunday) contain no information. However, other methods will be used to conduct these lagged-effects analyses in the future.

In addition to testing lagged-effects, between-person differences in daily or average moods may stem from the cumulative effect of stressful events. Perhaps students who have experienced more stressful life events have little personal resources left to cope and exhibit more

negative affect (Almeida, 2005). It is also possible that experiencing more stressful life events leads to better coping strategies or a lower affective reactivity as students become habituated to stressful situations (Luhmann et al., 2012; Wilson & Gilbert, 2008). Students in this study answered questions about major life events in a related longitudinal study so it will be possible in the future to assess the relations between major life events, daily stressful events, and daily moods.

A necessary next step is to conduct a qualitative analysis of the descriptions provided by students for daily family- and school-related stressful events. The findings reported here provide tantalizing clues as to the rich and nuanced understanding that can be gained from conducting this qualitative analysis. For example, what characteristics of daily school-related events would make it so boys experience reductions, instead of increases, in daily depressed mood? Are there qualitative differences between the family-related stressful events described by boys and girls? Do these differences help explain the gender differences in the relations between daily stress depressed mood?

To further unpack the relation between family-related stressful events and cultural values such as *familismo*, daily descriptions of after-school activities can be examined. Stein et al. (2014) identify attitudinal and behavioral components to *familismo*; the former being the actual values and beliefs and the latter its behavioral manifestations (Calzada et al., 2013). Although *familismo* was first studied with Latino adults, in recent years it has become fertile ground for the study of culturally relevant factors that promote or hinder Latino youth's psychological and behavioral development (Stein et al., 2014, 2015). Such an investigation could answer questions such as, do Latina girls engage in more after-school activities that reflect behavioral *familismo* when compared to boys? Are there differences in daily positive or negative moods among Latino

adolescents who engage in family-oriented activities in the after-school hours? Do the associations between family-related stressful events and depressed mood among girls hold after accounting for after-school hours spent doing family-oriented activities? Still another possibility would be to include level-2, or person-level, scores on measures of *familismo* collected as part of the survey study. These are all exciting research questions that can be answered using the rich daily diary and survey data collected from these participants.

Future studies would also benefit from including measures not only of negative or stressful events, but also of the characteristics of positive events. Statistically significant variances suggest that there were within-person differences that were not captured by the models tested in this study. Given the low average scores of daily depressed and anxious moods, unpacking the sources that affect positive mood can further our understanding of Latino adolescents' resilience.

More Than Data Collection

Finally, it is important to note that across all models for depressed and anxious mood, there was a statistically significant negative linear trend between mood and time. In other words, students' daily depressed and anxious mood decreased during the study period. Studies of measurement reactivity in daily diary methodology have yielded mixed findings, mostly of modest evidence of diary-related measurement reactivity (Barta et al., 2012). To help reduce measurement reactivity and participant fatigue, an overwhelming majority of students completed the diary on low cost tablets that were password protected and had no other capabilities. Students spent on average 15 minutes completing the diary. Because responses were completed on a daily basis on these tablets, students were not able to see their previous answers. Students did not have to worry about someone else seeing their answers and no identifying information was collected

during the study period. All these measures were taken to increase the validity of the study and participant compliance.

Despite the steps taken to reduce measurement reactivity and bias, participating in the study may have affected students daily depressed and anxious moods. Daily diary methods are, therefore, an opportunity to do more than just collect data. For example, after the pilot of this study was completed, I conducted brief interviews with mostly girls in the eleventh grade who were asked to voluntarily answer questions about the study. Some of their answers point to the potential that daily diary studies, such as this, have intervention-like qualities (Appendix F). For example, some students spoke about the diary study helping them to be more mindful. One girl stated,

> I like that I actually had to think about my emotion's during the day. I never really think about stuff I do during the day or take, like, the time to actually like see everything I do; how I spend my time; how I feel during the day.

Another girl similarly stated,

> Um, it kind of like, showed me how much time I spend on social media. Like, I spend a lot of time…And then how much I slept. I'm doing my homework all the time…I mean I did like doing the logs because it could, like, I don't know. I stayed on track on certain days I stayed on track trying to do my homework and I see how much it takes me to get it actually done. So…To kind of, how do you say it, like, to structure my um timing of doing my homework and actually trying go get it done.

Other students spoke about the study as increasing their emotional awareness. One boy said, "I liked that I could get things that are on my mind off my chest" and that it would help others do the same if they participated in the study. Another girl stated, "Um. I don't know. You

could reflect on your day better and see like, 'Oh I do this a lot.' … Um. Well you get to know yourself more kind of. And, like, all that. Yeah."

Finally, one girl commented on the ways in which participating in the diary study made them feel better about spending more time with family than friends:

> It really, like I didn't really realized the things that I did after school, but doing this really helped me like know that I spend more time with my family than going out with my friends and stuff. It was really nice. I liked it.

Daily diary research is an incredible opportunity for researchers to not only collect data but deliver interventions at the same time. For ethnic and racial minority youth, participating in diary research projects such as this one may be one of the only opportunities they have to reflect on their experiences in an organized manner. A potential next step to assess this is to test an interaction between diary day and student gender. This interaction can help us better understand if girls or boys benefited the most from participating in the study. It behooves us as researchers and social scientists to maximize the opportunities, however active or passive, to give more than we take from the communities we conduct research with.

Conclusion

This dissertation uncovered gender differences in Latino adolescents' daily depressed mood in response to family-related stressful events. Latina girls in this sample were more negatively affected by daily stressful events related to family than boys. However, as girls' confidence in an event getting resolved increased their same-day depressed and anxious mood scores decreased. Students, irrespective of their gender, also exhibited higher anxious mood scores on days in which they experienced a family-related stressful event. These findings provide evidence of the mental health disparities related to depressive moods between Latina girls and

boys. One important future goal stemming from these findings is to conduct a qualitative analysis of adolescents' descriptions of daily stressful events. These descriptions will provide a more nuanced understanding of the relations found in this study and of Latino adolescent life more generally.

TABLES

Table 1

Sociodemographic Characteristics of Survey and Daily Diary Participants at Time 1 of the After-School Activities Study

	DAS [a]				ASAS [b]	
	Detroit		Chicago			
Wave 1 Characteristic	*n*	%	*n*	%	n	%
Sex						
Female	26	27.7	26	27.7	238	53.8
Male	20	21.3	22	23.4	204	46.2
Grade						
9	12	14.9	14	12.8	123	27.8
10	25	27.7	26	26.6	156	35.3
11	9	8.5	8	9.6	163	36.9
Ever repeated grade [c]	4	4.3	5	5.3	46	10.4
Self-reported grades						
Mostly Ds					8	1.8
Mostly Cs and Ds	4	4.3	1	1.1	18	4.1
Mostly Cs	2	2.2	1	1.1	10	2.3
Mostly Cs and Bs	11	11.8	11	11.8	86	19.5
Mostly Bs	5	5.4	3	3.2	51	11.5
Mostly Bs and As	11	11.8	19	20.4	187	42.3
Mostly As	12	12.9	13	14	74	16.7
Race/Ethnicity [d, e]						
Latino	46	48.9	48	51.1	429	97.1
African American			5	5.3	102	23.1
Asian American			2	2.1	19	4.3
European American	1	1.1	2	2.1	13	2.9
Other [e]	1	1.1	3	3.2	20	4.5

Table 1

Sociodemographic Characteristics of Survey and Daily Diary Participants at Wave 1 of the After-School Activities Study (Cont.)

	DAS [a]				ASAS [b]	
	Detroit		Chicago			
Wave 1 Characteristic	*n*	%	*n*	%	n	%
Ethnic origin [d]						
Brazilian					2	0.5
Colombian	1	1.1			3	0.7
Cuban					2	0.5
Dominican					8	1.8
Guatemalan	2	2.2			5	1.1
Honduran	1	1.1			6	1.3
Mexican	34	36.6	40	43.0	288	65.2
Nicaraguan					3	0.7
Puerto Rican	7	7.5	8	8.6	38	8.6
Salvadoran	2	2.2	1	1.1	3	0.7
Venezuelan	1	1.1				
Other [f]	5	5.4	4	4.3	109	4.3
Student born in the U.S.						
Yes	38	40.9	47	50.5	371	83.9
No	7	7.5	1	1.1	71	16.1
Mother born in the U.S.						
Yes	11	11.7	17	18.1	170	38.5
No	35	37.2	31	33.0	272	61.5
Father born in the U.S.						
Yes	8	8.5	19	20.2	160	36.2
No	38	40.4	29	30.9	279	63.1
Language spoken at home [g]						
Only Spanish	8	8.5	4	4.3	50	11.3
Mostly Spanish/some English	25	26.6	22	23.4	137	31.0
Mostly English/some Spanish	11	11.7	14	14.9	124	28.1
Only English	2	2.1	8	8.5	124	28.1
Language spoken with friends						
Only Spanish					4	0.9
Mostly Spanish/some English	4	4.3	4	4.3	20	4.5
Mostly English/some Spanish	32	34	32	34	240	54.3
Only English	10	10.6	12	12.8	174	39.4

Table 1

Sociodemographic Characteristics of Survey and Daily Diary Participants at Wave 1 of the After-School Activities Study (Cont.)

	DAS [a]				ASAS [b]	
	Detroit		Chicago			
Wave 1 characteristic	*n*	%	*n*	%	n	%
Ever translated for parents	35	37.2	28	29.8	229	51.8
Mother education						
Grammar school (grades 1-8)	19	20.2	7	7.4	79	17.9
Some high school (grades 9-12)	7	7.4	10	10.6	85	19.2
High school degree or GED	3	3.2	7	7.4	73	16.5
Some college	6	6.4	7	7.4	40	9.0
College degree	1	1.1	7	7.4	55	12.4
Graduate/professional degree	1	1.1	1	1.1	18	4.1
Don't know	9	9.6	9	9.6	89	20.1
Father education						
Grammar school (grades 1-8)	16	17	5	5.3	81	18.3
Some high school (grades 9-12)	6	6.4	9	9.6	71	16.1
High school degree or GED	3	3.2	13	13.8	70	15.8
Some college	3	3.2	3	3.2	34	7.7
College degree	1	1.1	4	4.3	32	7.2
Graduate/professional degree			2	2.1	19	4.3
Don't know	17	18.1	12	12.8	133	30.1
Eligible for free or reduced lunch	41	45.1	35	38.5	364	82.4

Note. Total $N = 537$. DAS = Daily Activity Study. ASAS = After-School Activities Studies. There were 204 students from Detroit and 333 students from Chicago who participated in the first wave of ASAS data collection. Percentages are within column (DAS or ASAS). Cells are empty if no student checked that option.

[a] DAS students from Detroit ($n = 46$) and Chicago ($n = 48$). [b] Students who participated in the ASAS, but not in the DAS ($n = 442$). [c] Students who answered "yes" to this question. [d] Percentages do not add up to 100 because participants could select more than one race or ethnicity. [e] One DAS Detroit student reported Polish as other race. Two DAS Chicago students reported other race as Native American and one as White. Three ASAS students reported other race as American, two as Asian, and one each African American/Puerto Rican, African (Black), Arab, Black (African-British), French and Indian, Hawaiian, many races, born and raised in China/just Asian, Indian, Italian and Indian, and White. [f] DAS Detroit students reported other ethnicities as: African American, American, Caucasian, German, Italian, Jordanian, and White, one each. One student each in the DAS Chicago reported ethnicity as American, Cuban/Pakistani, and Mexican American. Twenty ASAS students reported other ethnicity as Black, 15 as American, 13 as African American, 12 as Chinese, four as African, two each Ghanaian and Italian, and one each African-British, Caucasian, Chinese and Japanese, Ecuadorian and Indian, Ethiopian, German, Haitian/Togolese, Hong Kong, Irish, Jamaican, Jordanian, Korean, Lithuanian, Native, Native American, USA, very mixed, and White.

Table 2

Independent Samples t-Tests Between ASAS and DAS Participants

Variable	ASAS *M* (*SD*)	DAS *M* (*SD*)	95% CI difference	*t* (df)	*p*
Age [a]	15.62 (1.05)	15.28 (0.93)	[0.12, 0.54]	3.08 (150)	.002
Adults in home	2.51 (1.15)	2.39 (0.99)	[-0.13, 0.37]	0.94 (535)	.346
Kids in home	2.74 (1.37)	2.77 (1.34)	[-0.33, 0.28]	-0.18 (533)	.860
Economic needs	14.51 (4.81)	14.26 (4.23)	[-0.80, 1.30]	0.51 (534)	.640
Language home [a]	2.74 (1.00)	2.37 (0.85)	[0.18, 0.57]	3.73 (156)	<.001
Language friends [a]	3.33 (0.61)	3.16 (0.55)	[0.05, 0.30]	2.76 (148)	.007
Familismo [a]	4.10 (0.77)	4.06 (0.89)	[-0.16, 0.23]	0.38 (127)	.706
Parent-child communication	3.43 (0.79)	3.40 (0.88)	[0.15, 0.21]	0.30 (533)	.762
Parent solicitation	1.57 (0.46)	1.53 (0.50)	[-0.06, 0.15]	0.91 (526)	.365
Parent knowledge	1.44 (0.52)	1.47 (0.49)	[-0.15, 0.08]	-0.53 (525)	.595
Adolescent disclosure	1.37 (0.53)	1.40 (0.55)	[-0.15, 0.09]	-0.48 (526)	.632

Note. ASAS = After-School Activities Study (survey). DAS = Daily Activity Study (diary). All information collected during the first wave of ASAS. [a] Welch *t*-test. Homogeneity of variances violated as assessed by Levene's test for equality of variances.

Table 3

Frequencies and Chi-Squared Results for Demographic Characteristics of ASAS and DAS Participants

Sociodemographic variable	ASAS	DAS			
	n (%)	*n* (%)	χ^2 (df)	φ	*p*
Female [a]	238 (53.8)	52 (54.7)	0.025 (1)	.007	.874
U.S born [b]	371 (83.9)	86 (91.5)	3.519 (1)	.081	.061
U.S. born mother [b]	170 (38.5)	29 (30.5)	2.111 (1)	-.063	.146
U.S. born father [b]	160 (35.4)	28 (29.5)	1.665 (1)	-.056	.197

Note. ASAS = After-School Activities Study (survey). DAS = Daily Activity Study (diary).
[a] 1 = female. 0 = male. [b] Reflects the number and participants answering "yes" to this question.

Table 4

Descriptive Statistics and Correlations for Study Variables

						Source of Stress		Communication				Moods		
	n	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Diary	1,139	12.84	2.32	-										
2. Gender [a]		0.61	0.49	-.017	-									
3. Family [b]	197	2.47	2.99	-.005	.009	-								
4. School [c]	680	8.68	4.11	-.085**	.052	-.329**	-							
5. Parents [d]	257	3.23	3.46	-.086**	.014	.236**	-.100**	-						
6. Friends [e]	432	5.55	4.28	.042	.102**	-.099**	.155**	-.067*	-					
7. No one [f]	346	4.06	3.68	-.082**	-.098**	-.055	-.061*	-.352**	-.508**	-				
8. Confidence [g]		1.26	0.71	.042	.057	-.026	.015	-.011	-.025	-.032	-			
9. Depressed [h]		1.77	0.82	-.107**	.066*	.088**	-.071*	-.090**	.080**	-.051	-.089**	-		
10. Anxious [i]		1.79	0.70	-.128**	.084**	.127**	-.049	-.011	.042	-.077**	-.071*	.755**	-	
11. Positive [j]		2.52	0.72	-.019	-.037	-.033	.018	.037	.040	-.080**	.011	-.108**	-.014	-

Note. The "*n*" column represents the number of diaries that answered "yes." Means and standard deviations are person means.

[a]1 = girls, n = 52. Girls contributed 695 (61%) daily diaries. [b]Stressful event related to family. [c]Stressful event related to school. [d]Student talked to parent(s) about stressful vent. [e]Student talked to friend(s) about stressful event. [f]Student did not talk to anyone about stressful event. [g]Student's confidence in the matter being resolved measured on a scale of 0 = *not at all* to 2 = *very*. [h]Average of 4 items on a scale from 1 = *very slightly or not at all* to 5 = *extremely*. [i]Average of 5 items on a scale from 1 = *very slightly or not at all* to 5 = *extremely*. [j]Average of 3 items on a scale of 1 = *very slightly or not at all* to 5 = *extremely*.

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

Table 5

Characteristics of Family- and School-Related Events for the Sample and by Participant Gender

Characteristic	Family [a]			School [b]		
	Total	Girls	Boys	Total	Girls	Boys
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
Both categories [c]	48 (24.4)	26 (21.3)	22 (29.3)	48 (7.1)	26 (6.1)	22 (8.8)
Most stressful ever	32 (16.2)	21 (17.2)	11 (14.7)	63 (9.3)	26 (6.1)	18 (7.2)
Confident resolved						
Not at all	32 (16.2)	18 (14.8)	14 (18.7)	101 (14.9)	59 (13.8)	42 (16.7)
Somewhat	77 (39.1)	46 (37.7)	31 (41.3)	302 (44.4)	199 (46.4)	103 (41.0)
Very	82 (41.6)	55 (45.1)	27 (36.0)	268 (39.4)	165 (38.5)	103 (41.0)
Stressed before [d]	139 (70.6)	89 (73.0)	50 (66.7)	525 (77.2)	337 (78.6)	188 (74.9)
Talked to someone	144 (73.1)	92 (75.4)	52 (69.3)	465 (68.4)	310 (72.3)	155 (61.8)
Parent(s)	87 (44.2)	50 (41.0)	37 (49.3)	130 (19.1)	79 (18.4)	51 (20.3)
Friend(s)	54 (27.4)	27 (22.1)	27 (36.0)	300 (44.1)	205 (47.8)	95 (37.8)
No one	49 (24.9)	28 (23.0)	21 (28.0)	191 (28.1)	112 (26.1)	79 (31.5)
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Stressfulness [e]	2.20 (1.08)	2.72 (1.11)	2.23 (1.09)	2.52 (1.02)	2.56 (0.98)	2.44 (1.10)
Talk feel better [f]	2.08 (1.42)	1.86 (1.46)	1.85 (1.40)	1.92 (1.39)	1.85 (1.38)	2.05 (1.40)
Parents [g]	2.14 (1.33)	1.94 (1.38)	2.42 (1.23)	2.17 (1.21)	1.91 (1.33)	2.36 (1.18)
Friends [f]	2.37 (1.47)	1.88 (1.63)	2.85 (1.12)	1.82 (1.42)	1.75 (1.44)	2.18 (1.44)

Note. Percentages are within column and may not add to 100%.

Table 6

Estimates for Multilevel Models of Depressed Mood as a Function of Daily Family- and School-Related Events, Communication, Confidence in Resolution, and Student Gender

	Unconditional Means Model			Model 1			Model 2			Model 3		
Parameter	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*
					Fixed Effects							
Intercept (γ_{00})	1.80	0.09	< .001	1.81	0.09	< .001	1.85	0.10	< .001	1.83	0.15	< .001
Time [a] (β_{1i})				-0.01	0.00	< .001	-0.01	0.00	< .001	-0.01	0.00	< .001
Family [b] (β_{2i})				0.08	0.06	.147	0.09	0.06	.092	-0.07	0.10	.480
School [c] (β_{3i})				-0.05	0.04	.246	-0.07	0.04	.108	-0.15	0.06	.022
Parents [d] (β_{4i})							-0.10	0.05	.057	-0.04	0.10	.669
Friends [e] (β_{5i})							0.03	0.05	.627	0.01	0.09	.923
No one [f] (β_{6i})							-0.08	0.06	.166	-0.08	0.10	.428
Resolution [g] (β_{7i})							-0.10	0.03	< .001	-0.02	0.04	.569
Gender [h] (γ_{01})										0.03	0.20	.876
Family*Gender (γ_{21})										0.28	0.12	.021
School*Gender (γ_{31})										0.15	0.08	.069
Parents*Gender (γ_{41})										-0.09	0.12	.462
Friends*Gender (γ_{51})										0.03	0.11	.769
No one*Gender (γ_{61})										0.02	0.12	.856
Resolution*Gender (γ_{71})										-0.14	0.05	.010
					Random Effects							
Intercept (τ_{00})	0.64	0.10	< .001	0.64	0.10	< .001	0.62	0.10	< .001	0.63	0.10	< .001
Repeated Measures												
AR1 diagonal (σ^2)	0.39	0.02	< .001	0.38	0.02	< .001	0.37	0.02	< .001	0.37	0.02	< .001
AR1 rho	0.31	0.04	< .001	0.29	0.04	< .001	0.28	0.04	< .001	0.29	0.04	< .001

Note. N = 93 students. 1,139 observations. Depressed mood is the average of 4 items on a scale from 1 = *very slightly or not at all* to 5 = *extremely.* Family, school, parents, friends, and no one are dichotomous variables were 1 = *Yes*.

[a] Time is centered around the middle of the study (Day 13). [b] Stressful event related to family. [c] Stressful event related to school. [d] Student talked to parent(s) about stressful event. [e] Student talked to friend(s) about stressful event. [f] Student did not talk to anyone about stressful event. [g] Student's confidence in the event getting resolved measured on a scale of 0 = *not at all* to 2 = *very*. [h] Gender. 1 = girls, n = 52. Girls contributed 695 (61%) daily diaries.

Table 7

Estimates for Multilevel Models of Anxious Mood as a Function of Daily Family- and School-Related Events, Communication, Confidence in Resolution, and Student Gender

	Unconditional Means Model			Model 1			Model 2			Model 3		
Parameter	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*
					Fixed Effects							
Intercept (γ_{00})	1.82	0.08	<.001	1.80	0.08	< .001	1.84	0.09	< .001	1.79	0.14	< .001
Time [a] (β_{1i})				-0.01	0.00	< .001	-0.01	0.00	< .001	-0.01	0.00	< .001
Family [b] (β_{2i})				0.12	0.05	.025	0.14	0.06	.012	0.08	0.10	.402
School [c] (β_{3i})				-0.01	0.04	.884	-0.02	0.04	.675	-0.03	0.06	.595
Parents [d] (β_{4i})							-0.06	0.05	.293	-0.04	0.10	.652
Friends [e] (β_{5i})							0.03	0.05	.623	0.00	0.09	.981
No one [f] (β_{6i})							-0.11	0.06	.057	-0.11	0.10	.243
Resolution [g] (β_{7i})							-0.06	0.03	.028	0.06	0.04	.197
Gender [h] (γ_{01})										0.08	0.18	.665
Family*Gender (γ_{21})										0.12	0.12	.308
School*Gender (γ_{31})										0.04	0.08	.612
Parents*Gender (γ_{41})										-0.02	0.12	.856
Friends*Gender (γ_{51})										0.04	0.11	.730
No one*Gender (γ_{61})										0.03	0.12	.794
Resolution*Gender (γ_{71})										-0.19	0.05	.001
					Random Effects							
Intercept (τ_{00})	0.49	0.08	<.001	0.48	0.08	< .001	0.48	0.08	< .001	0.49	0.08	< .001
Repeated Measures												
AR1 diagonal (σ^2)	0.37	0.02	<.001	0.36	0.02	< .001	0.35	0.02	< .001	0.35	0.02	< .001
AR1 rho	0.25	0.04	<.001	0.28	0.04	< .001	0.21	0.04	< .001	0.21	0.04	< .001

Note. *N* = 93 students. 1,139 observations. Anxious mood is the average of 5 items on a scale from 1 = *very slightly or not at all* to 5 = *extremely.* Family, school, parents, friends, and no one are dichotomous variables were 1 = *Yes*.

[a] Time is centered around the middle of the study (Day 13). [b] Stressful event related to family. [c] Stressful event related to school. [d] Student talked to parent(s) about stressful vent. [e] Student talked to friend(s) about stressful event. [f] Student did not talk to anyone about stressful event. [g] Student's confidence in the event getting resolved measured on a scale of 0 = *not at all* to 2 = *very*. [h] Gender. 1 = girls, n = 52. Girls contributed 695 (61%) daily diaries.

Table 8

Estimates for Multilevel Models of Positive Mood as a Function of Daily Family- and School-Related Events, Communication, Confidence Resolution, and Student Gender

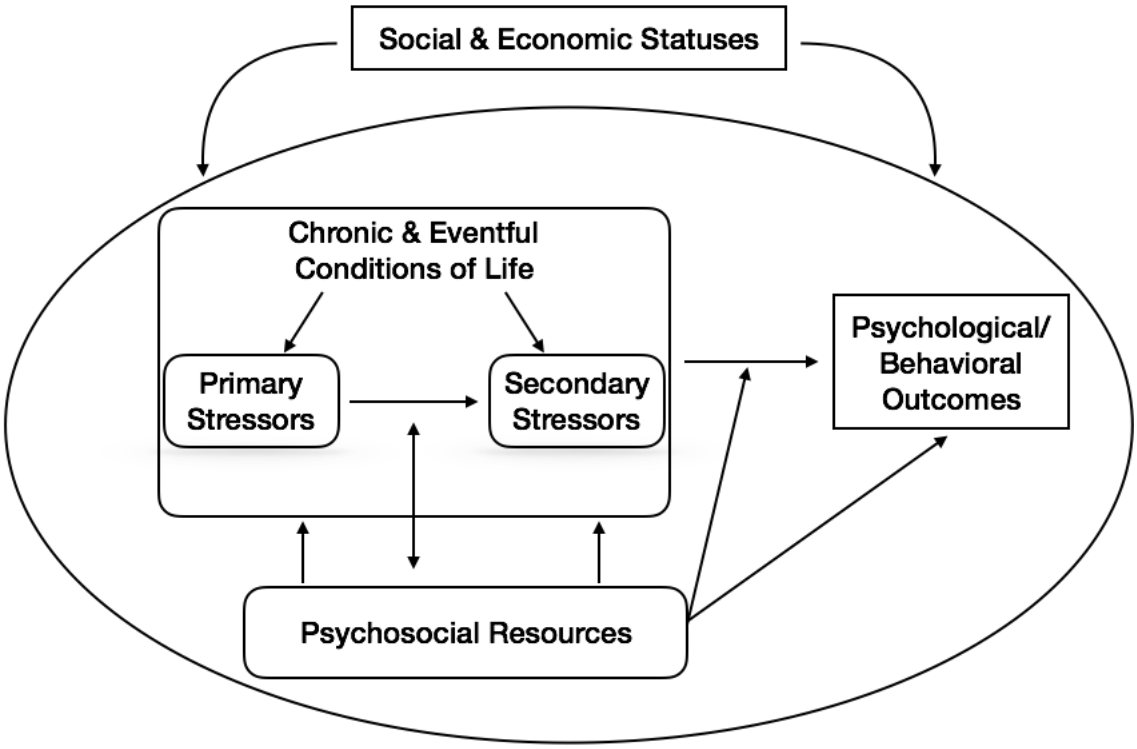
	Unconditional Means Model			Model 1			Model 2			Model 3		
Parameter	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*	*Est.*	*SE*	*p*
					Fixed Effects							
Intercept (γ_{00})	2.52	0.07	<.001	2.53	0.08	< .001	2.47	0.10	< .001	2.54	0.15	< .001
Time [a] (β_{1i})				-0.01	0.00	.080	-0.00	0.00	.163	-0.01	0.00	.146
Family [b] (β_{2i})				-0.03	0.07	.636	-0.01	0.07	.876	-0.05	0.12	.658
School [c] (β_{3i})				-0.02	0.05	.704	-0.02	0.05	.753	-0.01	0.08	.930
Parents [d] (β_{4i})							-0.02	0.07	.778	0.06	0.12	.613
Friends [e] (β_{5i})							0.09	0.06	.147	0.07	0.12	.522
No one [f] (β_{6i})							0.08	0.07	.247	0.01	0.12	.952
Resolution [g] (β_{7i})							0.07	0.03	.029	0.04	0.05	.495
Gender [h] (γ_{01})										-0.13	0.20	.526
Family*Gender (γ_{21})										0.06	0.15	.687
School*Gender (γ_{31})										-0.02	0.10	.824
Parents*Gender (γ_{41})										-0.12	0.15	.426
Friends*Gender (γ_{51})										0.04	0.14	.772
No one*Gender (γ_{61})										0.13	0.15	.401
Resolution*Gender (γ_{71})										0.05	0.07	.471
					Random Effects							
Intercept (τ_{00})	0.43	0.07	<.001	0.44	0.08	< .001	0.44	0.08	< .001	0.45	0.08	< .001
Repeated Measures												
AR1 diagonal (σ^2)	0.56	0.03	<.001	0.56	0.03	< .001	0.55	0.03	< .001	0.55	0.03	< .001
AR1 rho	0.22	0.04	<.001	0.22	0.04	< .001	0.21	0.04	< .001	0.21	0.04	< . 001

Note. N = 93 students. 1,139 observations. Positive mood is the average of 3 items on a scale from 1 = *very slightly or not at all* to 5 = *extremely.* Family, school, parents, friends, and no one are dichotomous variables were 1 = *Yes*.

[a] Time is centered around the middle of the study (Day 13). [b] Stressful event related to family. [c] Stressful event related to school. [d] Student talked to parent(s) about stressful vent. [e] Student talked to friend(s) about stressful event. [f] Student did not talk to anyone about stressful event. [g] Student's confidence in the event getting resolved measured on a scale of 0 = *not at all* to 2 = *very*. [h] Gender. 1 = girls, n = 52. Girls contributed 695 (61%) daily diaries.

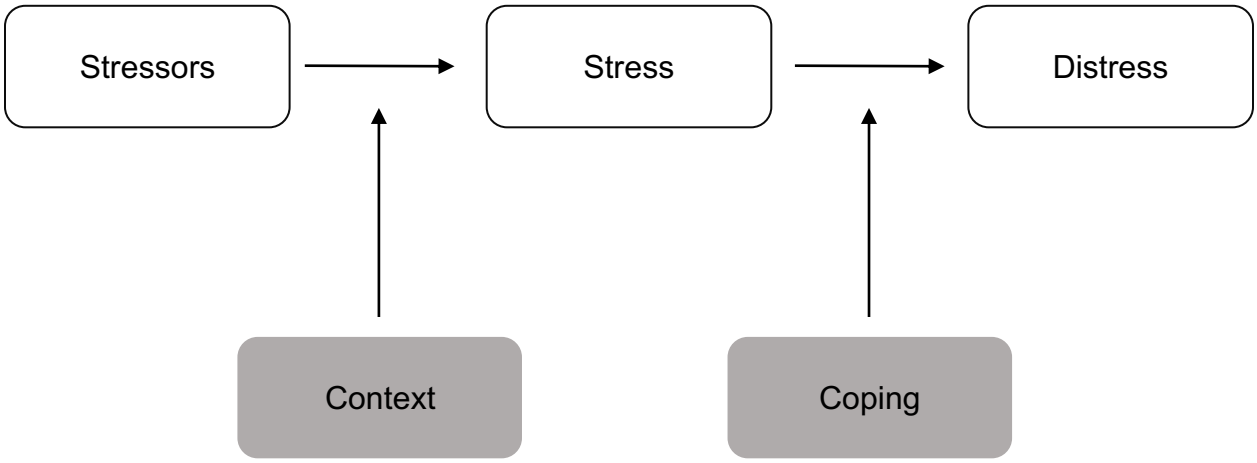
Figure 1

The Stress Process Model



Note. Adapted from "Current Issues and Future Directions in Research Into the Stress Process" by Pearlin, L. I., & Bierman, A., 2013, in C. S. Aneshensel, J. C. Phelan, & A. Bierman (Eds.), Handbook of the Sociology of Mental Health, Second Edition, p. 326.

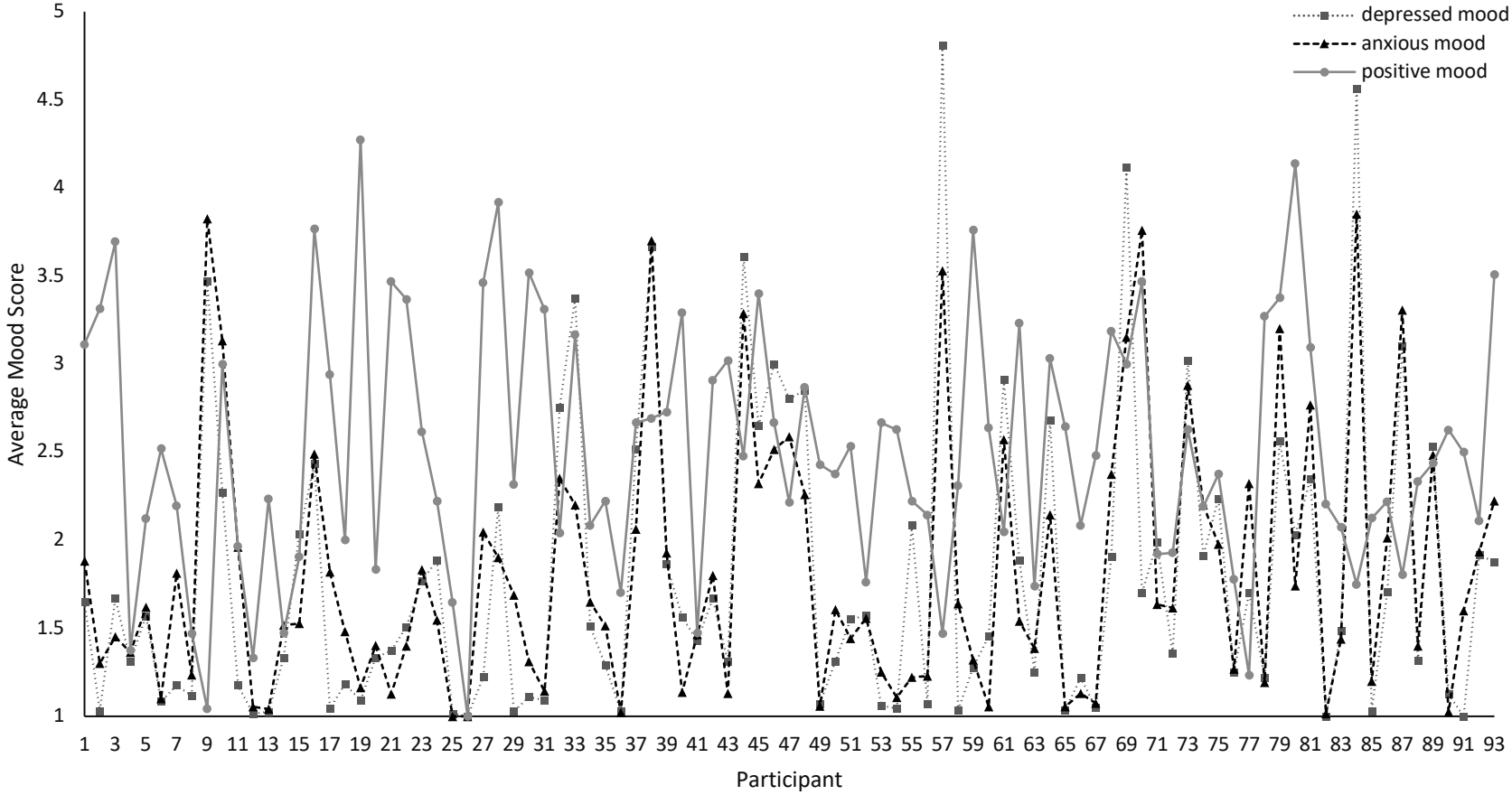
Figure 2
Stressors, Stress, and Distress



Note. Adapted from "Social Stress in the Twenty-First Century" by Wheaton, Young, Montazer, and Stuart-Lahman, 2013, in C. S. Aneshensel, J. C. Phelan, & A. Bierman (Eds.), Handbook of the Sociology of Mental Health, Second Edition, p. 300.

Figure 3

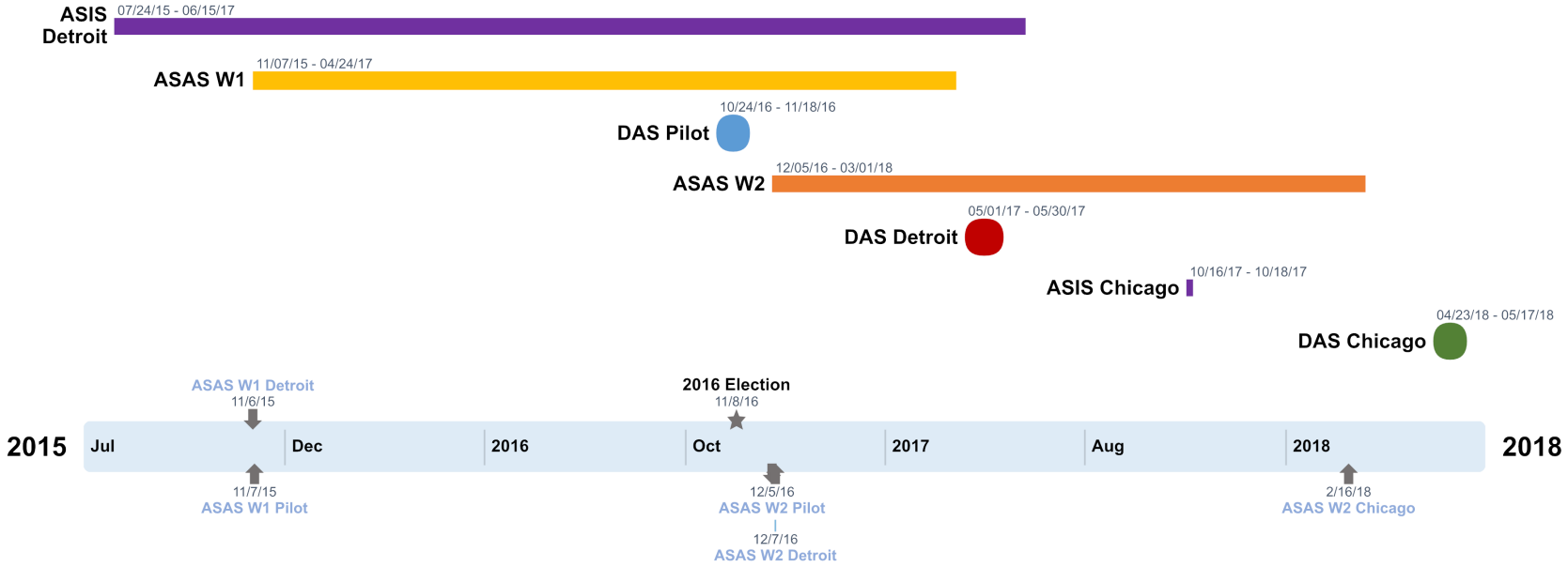
Average Daily Mood Scores Across All Study Days for Each Participant (N = 93)



Note. Students were not asked to complete diaries during weekends (i.e., days 6, 7, 13, 14, 20, 21, 27, and 28). A diary for a student who completed day 6 has been deleted from the sample.

APPENDICES

Appendix A
Study Timeline



Note. ASAS = After-School Activities Study (survey). DAS = Daily Activity Study (diary). W1 = ASAS first wave of data collection. W2 = ASAS second wave of data collection. The yellow bar below the horizontal year axis corresponds to the ASAS W1 data collection period in Detroit and Chicago. The orange bar corresponds to W2 ASAS data collection in Detroit and Chicago. The blue square denotes DAS Pilot data collection in Detroit. The red square corresponds to DAS data collection in Detroit and the green square to DAS data collection in Chicago. Milestones above the horizontal year axis marked with a star (★) correspond to the first day DAS Pilot, Detroit, and Chicago participants participated in Wave 1 and Wave 2 of the ASAS survey. The black triangle (▶) marks the day of the 2016 election.

Appendix B
Daily Diary (Paper Version)

PARTICIPANT ID# ___

Principal Investigator: Rosario Ceballo, Ph.D

The Daily Activities Study

Daily Activities Log

PARTICIPANT ID# ____

DAILY ACTIVITY STUDY (PAPER-AND-PENCIL INSTRUCTIONS)

THANK YOU for taking the time to participate in this important study.

- Please complete a log every night, before you go to bed.
- Completing this daily log should only take about **15 minutes** per day.
- Your responses to these questions will remain strictly **CONFIDENTIAL**.
- Your name will **NEVER** be used in association with this information.
- We will not share these entries with your parents, teachers, or anyone else in your community.
- In this daily activities log, we are interested in all the activities that you did **after school ended TODAY**.
- Please **do NOT use anyone's name** in responding to a question.
- Instead, please refer to other people with initials, like writing, "*My friend, AC, got mugged after school today*." You can also say things like, "*my mom*" or "*my best friend*" or "*my teacher*".
- Remember you can refuse to answer any question for any reason.
- In order to earn your weekly gift card, you must complete daily logs for 4 of the 5 days (Monday - Friday).
- After you are done with this form:

  (1) please place it in its corresponding envelope,

  (2) seal the envelope, and

  (3) stamp the seal with the date/time stamper.
- Please bring all 5 envelopes to school on Monday.
- We will collect the envelopes, give you your gift card, and provide you with another set of weekly logs.
- You cannot continue to participate in this study if you tamper with or lose the date/time stamper.
- At the end of this study, we will collect all date/time stampers.

PARTICIPANT ID# ____

DAILY ACTIVITY STUDY (MOBILE DEVICE INSTRUCTIONS)

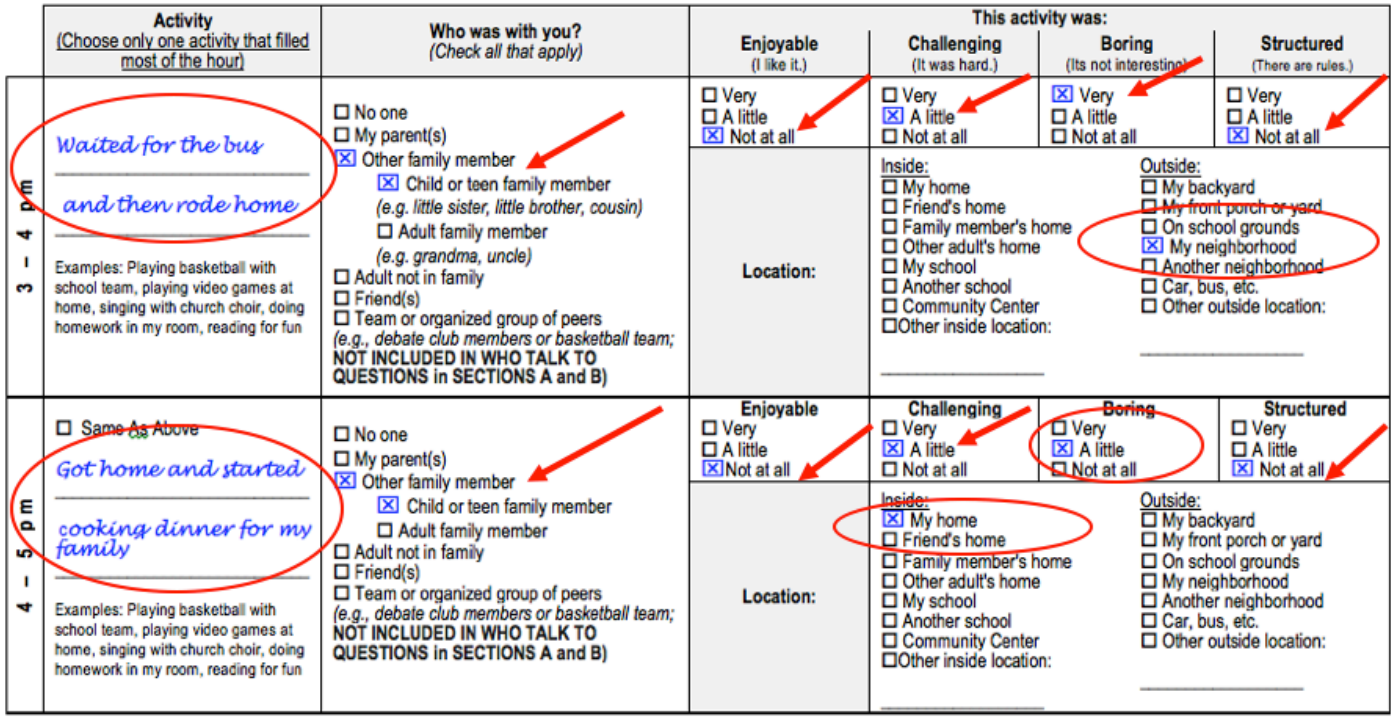
THANK YOU for taking the time to participate in this important study.

- Please complete a log every night, before you go to bed.
- Completing this daily log should only take about **15 minutes** per day.
- Your responses to these questions will remain strictly **CONFIDENTIAL**.
- Your name will **NEVER** be used in association with this information.
- We will not share these entries with your parents, teachers, or anyone else in your community.
- In this daily activities log, we are interested in all the activities that you did **after school ended TODAY**.
- Please **do NOT use anyone's name** in responding to a question.
- Instead, please refer to other people with initials, like writing, "*My friend, AC, got mugged after school today*." You can also say things like, "*my mom*" or "*my best friend*" or "*my teacher*".
- Remember you can refuse to answer any question for any reason.
- In order to earn your weekly gift card, **you must complete daily logs for 4 of the 5 days** (Monday - Friday).
- **Please bring this mobile device to school every Monday.**
- We will upload your data, give you your gift card, and upload another set of weekly logs every Monday.
- **You cannot continue to participate in this study if you tamper with or lose this phone.**
- This phone has no voice, data, or text message capabilities.
- At the end of this study, we will collect all phones and chargers.

PARTICIPANT ID# ____

Daily log: We would like to know how you spent your time **after school TODAY**. Please record your activities accounting for every hour, starting at 3 pm until midnight. If you did more than one activity in any one-hour period, please record the activity that occupied most of the hour. If you spent more than one hour doing an activity, you can check ☐ **Same as above** and you do not have to fill out the rest of the questions for that hour period. When describing activities, try to be as specific as possible. Here is an **EXAMPLE:**

"After school ended today, I rode the bus home with my little brother for an hour and half. Then, when we got home, I got dinner started for my family."
(Even though the bus ride took you from 3 to 4:15 pm, you spent most of the time between 4 and 5 pm cooking for your family.)



	Activity (Choose only one activity that filled most of the hour)	Who was with you? (Check all that apply)	This activity was: Enjoyable (I like it.)	Challenging (It was hard.)	Boring (Its not interesting)	Structured (There are rules.)
3 - 4 pm	Waited for the bus and then rode home Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☒ Other family member ☒ Child or teen family member (e.g. little sister, little brother, cousin) ☐ Adult family member (e.g. grandma, uncle) ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers (e.g., debate club members or basketball team; NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)	☐ Very ☐ A little ☒ Not at all	☐ Very ☒ A little ☐ Not at all	☒ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☒ Not at all
		Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐ Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☒ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____		
4 - 5 pm	☐ Same As Above Got home and started cooking dinner for my family Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☒ Other family member ☒ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers (e.g., debate club members or basketball team; NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)	☐ Very ☐ A little ☒ Not at all	☐ Very ☒ A little ☐ Not at all	☐ Very ☒ A little ☐ Not at all	☐ Very ☐ A little ☒ Not at all
		Location:	Inside: ☒ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐ Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____		

PARTICIPANT ID# ____

	Activity (Choose only one activity that filled most of the hour)	**Who was with you?** *(Check all that apply)*	**This activity was:**			
			Enjoyable (I like it.)	**Challenging** (It was hard.)	**Boring** (Its not interesting)	**Structured** (There are rules.)
3 – 4 pm	_____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
4 – 5 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
5 – 6 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	

PARTICIPANT ID# ____

	Activity (Choose only one activity that filled most of the hour)	Who was with you? *(Check all that apply)*	This activity was: Enjoyable (I like it.)	Challenging (It was hard.)	Boring (Its not interesting)	Structured (There are rules.)
6 – 7 pm	_____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
7 – 8 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)** *)*	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
8 – 9 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	

PARTICIPANT ID# ____

	Activity (Choose only one activity that filled most of the hour)	Who was with you? *(Check all that apply)*	This activity was: Enjoyable (I like it.)	Challenging (It was hard.)	Boring (Its not interesting)	Structured (There are rules.)
9 – 10 pm	_____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all	☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
10 – 11 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	
11 – 12 pm	☐ Same As Above _____ _____ Examples: Playing basketball with school team, playing video games at home, singing with church choir, doing homework in my room, reading for fun	☐ No one ☐ My parent(s) ☐ Other family member ☐ Child or teen family member ☐ Adult family member ☐ Adult not in family ☐ Friend(s) ☐ Team or organized group of peers *(e.g., debate club members or basketball team;* **NOT INCLUDED IN WHO TALK TO QUESTIONS in SECTIONS A and B)**	**Enjoyable** ☐ Very ☐ A little ☐ Not at all	**Challenging** ☐ Very ☐ A little ☐ Not at all	**Boring** ☐ Very ☐ A little ☐ Not at all	**Structured** ☐ Very ☐ A little ☐ Not at all
			Location:	Inside: ☐ My home ☐ Friend's home ☐ Family member's home ☐ Other adult's home ☐ My school ☐ Another school ☐ Community Center ☐Other inside location: _____	Outside: ☐ My backyard ☐ My front porch or yard ☐ On school grounds ☐ My neighborhood ☐ Another neighborhood ☐ Car, bus, etc. ☐ Other outside location: _____	

PARTICIPANT ID# ____

A. Community Violence:

We would like to know if you personally experienced or saw any community violence **TODAY**. We are only interested in things that you, yourself, have seen or experienced in real life—not violence in video games, TV, or movies. We are **not** asking about violence that may happen between people who live inside your home. Examples of community violence include things like being chased by older kids, witnessing a mugging, hearing gunfire, seeing a robbery, being asked to sell drugs, or seeing someone attacked with a knife or gun.

If you did **NOT** experience any community violence today, **PLEASE SKIP TO SECTION B (PAGE 8)**.

Please describe any community violence that you experienced or witnessed TODAY. Example: "Older kids threatened me and chased me home" or "I worried about being mugged as I walked home today."

_____

_____

*Remember **NOT** to use anyone's name or specific locations (e.g. street names).*

How scared were you as it was happening?

☐ Extremely
☐ A good deal
☐ Somewhat
☐ A little
☐ Not at all

Is this the worst violent event you have ever experienced? ☐ Yes ☐ No

This happened: ☐ In or around your school ☐ In your neighborhood ☐ In another neighborhood		
Was anyone with you?	☐ Yes	☐ No
Was a family member with you?	☐ Yes	☐ No
Was an adult with you?	☐ Yes	☐ No
Was a friend with you?	☐ Yes	☐ No

Were you a witness to the event?	☐ Yes	☐ No
Were you personally involved or hurt?	☐ Yes	☐ No
Did anyone else get seriously hurt?	☐ Yes	☐ No
Were the police involved?	☐ Yes	☐ No
Did you know the people involved?	☐ Yes ☐ Victim(s) ☐ Offender(s)	☐ No

Did you talk to someone about this event?	**Who did you talk to?**	**Did talking about it make you feel better?**	**Do you plan to talk to someone in the future?**	**Who do you think you will talk to in the future?**	**Do you think talking about it will make you feel better?**
☐ Yes ☐ No Why not?	☐ No one ☐ My parent(s) ☐ Adult family member ☐ Non-adult family member ☐ Non-family adult ☐ Friend(s)	☐ Extremely better ☐ A good deal better ☐ Somewhat better ☐ A little better ☐ Not at all better ☐ Not Applicable	☐ Yes ☐ No ☐ Not sure	☐ No one ☐ My parent(s) ☐ Adult family member ☐ Non-adult family member ☐ Non-family adult ☐ Friend(s)	☐ Extremely better ☐ A good deal better ☐ Somewhat better ☐ A little better ☐ Not at all better ☐ Not Applicable

PLEASE SKIP TO SECTION C (PAGE 9)

PARTICIPANT ID# ____

B. Stressful Daily Event: We would like to know about the most stressful event that happened to you **TODAY**. It can be anything from arguing with your best friend to lying to your parents about a bad grade. It can also be things that you worried about, witnessed or experienced, but that did not happen to you directly. Examples include things like, "My little brother fell down the stairs and broke his arm" or "I worried about doing well on my English test."

Please describe the most stressful thing that happened to you TODAY. Example: "My little brother fell down the stairs and broke his arm" or "I worried about doing well on my English test."

_____

_____

Remember **NOT** to use anyone's name.

How stressful was this to you?

☐ Extremely
☐ A good deal
☐ Somewhat
☐ A little
☐ Not at all

Is this the most stressful thing you have ever experienced? ☐ Yes ☐ No

Location: ☐ NOT applicable

Inside:
☐ My home
☐ Friend's home
☐ Family member's home
☐ Other adult's home
☐ My school
☐ Another school
☐ Community Center
☐ NOT applicable

Outside:
☐ My backyard
☐ My front porch or yard
☐ On school grounds
☐ My neighborhood
☐ Another neighborhood
☐ Car, bus, etc.
☐ NOT applicable

Were you personally involved?	☐ Yes	☐ No
Have you ever felt stressed about this before?	☐ Yes	☐ No
Was the stressful event related to: (Check all that apply)	☐ Family ☐ Friends ☐ School/Education	☐ Financial Issues ☐ Romantic Issues ☐ Other:
How confident are you that this will get resolved?	☐ Very ☐ Somewhat ☐ Not at all	

Was anyone else involved? ☐ Yes ☐ No

Who? (Check all that apply)

☐ My parent(s)
☐ Adult family member *(e.g. grandma)*
☐ Non- adult family member *(e.g. little sister)*
☐ Non-family adult *(e.g. teacher, pastor, coach, neighbor)*
☐ Team or organized group of peers *(e.g. debate club or basketball team)*
☐ Friend(s)

Did you talk to someone about this event?	Who did you talk to?	Did talking about it make you feel better?	Do you plan to talk to someone about this in the future?	Who do you think you will talk to in the future?	Do you think talking about it will make you feel better?
☐ Yes ☐ No Why not?	☐ No one ☐ My parent(s) ☐ Adult family member ☐ Non-adult family member ☐ Non-family adult ☐ Friend(s)	☐ Extremely better ☐ A good deal better ☐ Somewhat better ☐ A little better ☐ Not at all better ☐ Not Applicable	☐ Yes ☐ No ☐ Not sure	☐ No one ☐ My parent(s) ☐ Adult family member ☐ Non- adult family member ☐ Non-family adult ☐ Friend(s)	☐ Extremely better ☐ A good deal better ☐ Somewhat better ☐ A little better ☐ Not at all better ☐ Not Applicable

C. Feelings Checklist: Below is a list of words that describes different feelings and emotions. Please read each item and then for each one, check the box that indicates to what extent you feel this way **TODAY**.

	Very slightly or not at all (1)	A little (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
Angry	☐	☐	☐	☐	☐
Annoyed	☐	☐	☐	☐	☐
Anxious	☐	☐	☐	☐	☐
Cheerful	☐	☐	☐	☐	☐
Discouraged	☐	☐	☐	☐	☐
Energetic	☐	☐	☐	☐	☐
Exhausted	☐	☐	☐	☐	☐
Happy	☐	☐	☐	☐	☐
Hopeless	☐	☐	☐	☐	☐
Lonely	☐	☐	☐	☐	☐
Nervous	☐	☐	☐	☐	☐
Sad	☐	☐	☐	☐	☐
Scared	☐	☐	☐	☐	☐
Terrified	☐	☐	☐	☐	☐
Tired	☐	☐	☐	☐	☐
Uneasy	☐	☐	☐	☐	☐
Worn out	☐	☐	☐	☐	☐

During the day today, how often did you:	Never (1)	A little (2)	Sometimes (3)	Often (4)	Most of the time (5)
Replay images in your mind about bad things that happened in the past?	☐	☐	☐	☐	☐
Startle easily or feel jumpy and nervous?	☐	☐	☐	☐	☐
Think you will have trouble sleeping tonight?	☐	☐	☐	☐	☐
Have a hard time paying attention?	☐	☐	☐	☐	☐
Not understand something taught in class?	☐	☐	☐	☐	☐
Feel so scared, upset, or sad that you don't really want to know how you feel?	☐	☐	☐	☐	☐
Try to stay away from things that make you remember something bad that happened in the past?	☐	☐	☐	☐	☐
Get tense or upset when something reminded you of something bad that happened in the past?	☐	☐	☐	☐	☐
Feel so scared, upset, or sad that you couldn't even talk or cry?	☐	☐	☐	☐	☐
Have stomach aches, headaches, or other sick feelings?	☐	☐	☐	☐	☐
Do poorly on a test, quiz, or homework?	☐	☐	☐	☐	☐
Have a hard time paying attention in school?	☐	☐	☐	☐	☐

How many hours did you sleep last night? _____

Did you have trouble sleeping last night?
(e.g. trouble falling or staying asleep)

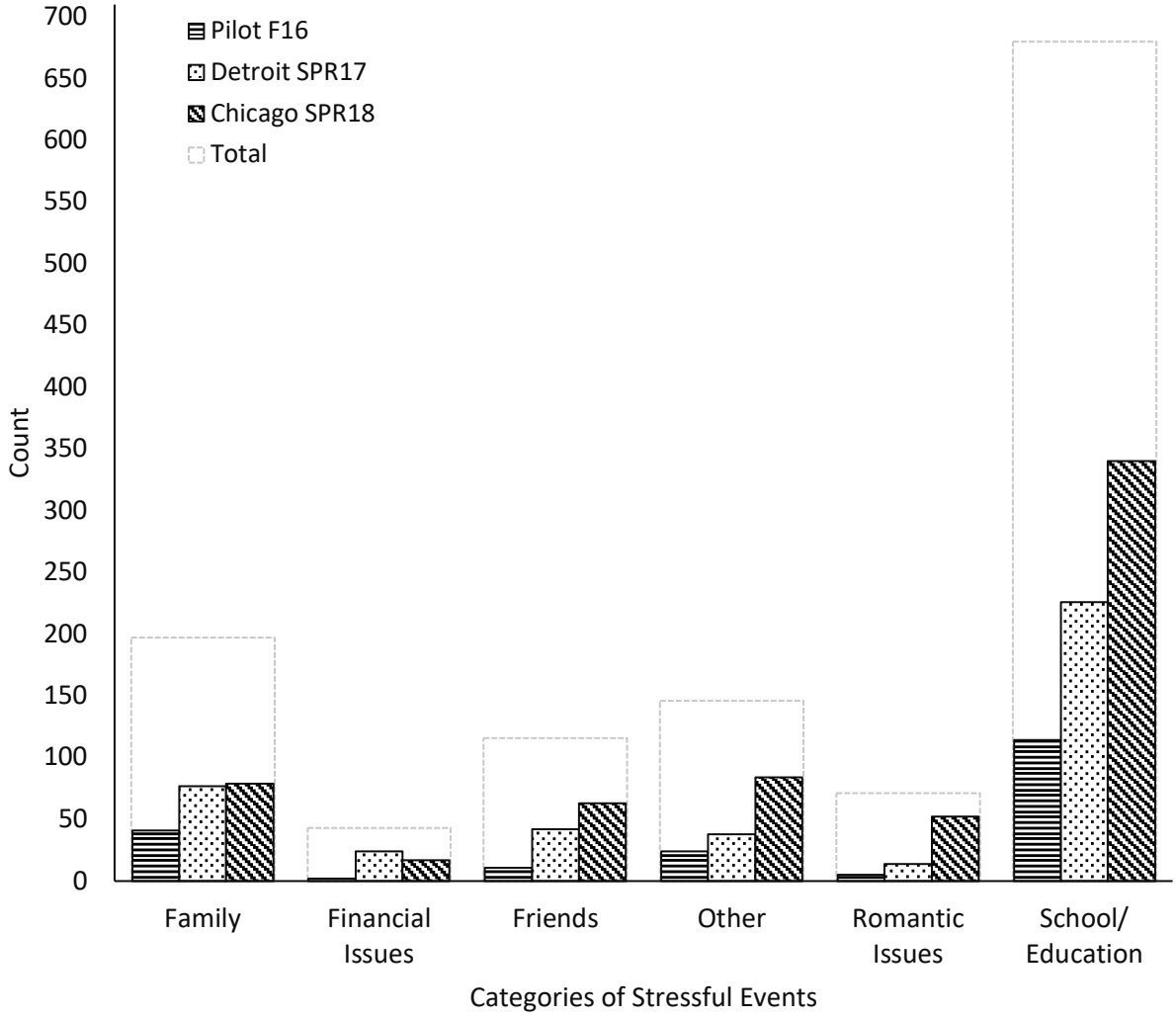
None ☐ A little ☐ A lot ☐

What was the BEST thing that happened to you today? (Example: "I got a 96 on my math test" or "My dad found a job").

_____

Appendix C

Figure C. Stressful Events by Category and Data Collection



Note. Students could select multiple categories of stress for a daily stressful event. The bar with dotted gray lines reflects the total number of events coded as pertaining to that category across all data collection periods and sites. "Pilot F16" refers to diaries collected in Fall 2016 for the pilot study in Detroit (n = 192). "Detroit SPR17" refers to diaries collected in Spring 2017 in Detroit (n = 370). "Chicago SPR18" refers to daily diaries collected in Spring 2018 in Chicago (n = 580).

Appendix D

Table D. Categories of Stressful Events Selected by Students and in Recoded Variables

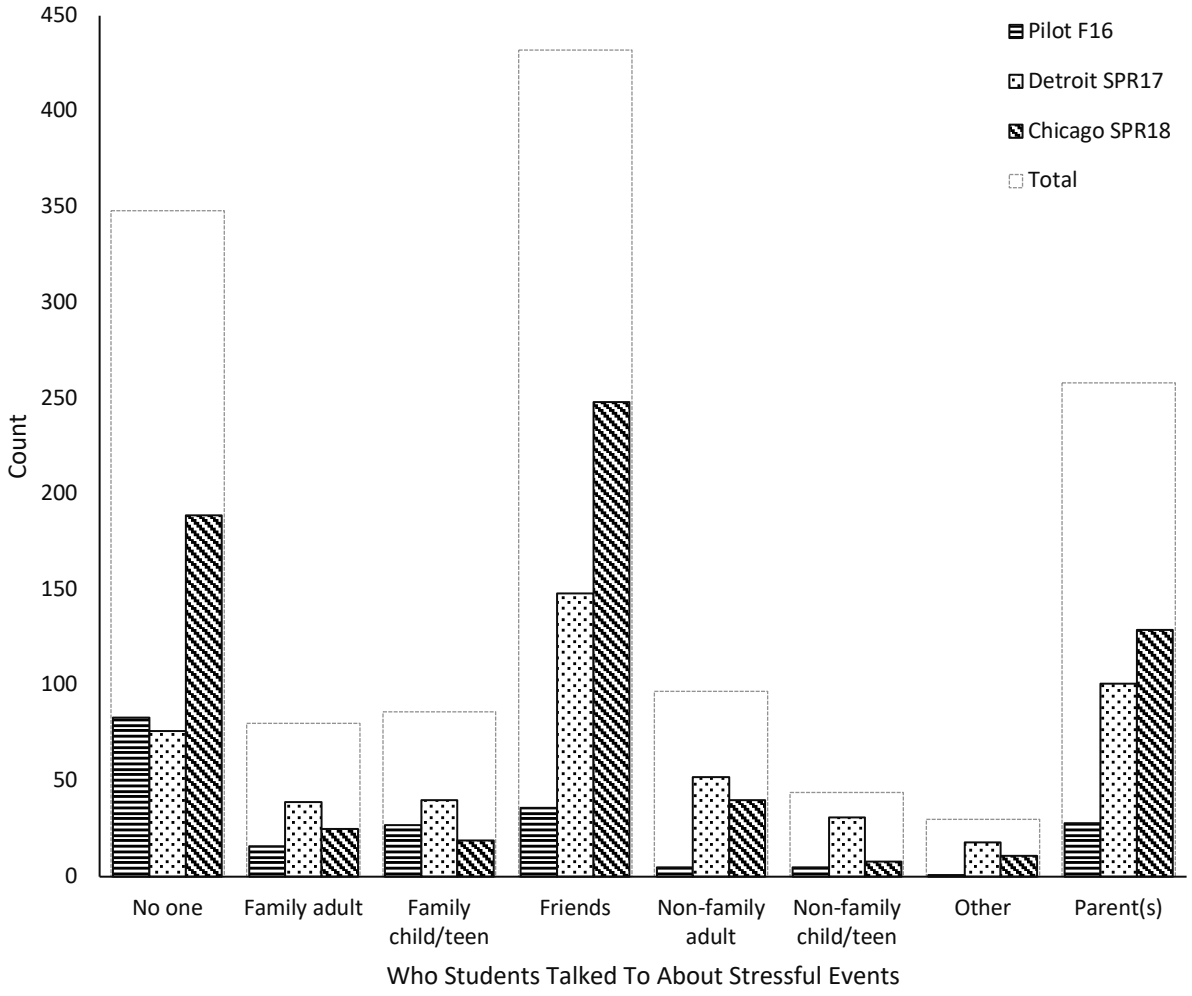
	Original [a]		Recoded [b]	
Category	Count	% [c]	Count	% [c]
Family	167	14.6	198	17.4
Financial issues	35	3.1	43	3.8
Friends	114	10	116	10.2
Other	266	23.3	146	12.8
Romantic issues	62	5.4	71	6.2
School/Education	640	56.1	680	59.6

Note. 1140 diaries described stressful events. In 35 diaries students did not select any category the event was related to. These events were recoded into categories based on their descriptions and are reflected in the Recoded Variable column.

[a] This column represents the categories students selected when asked, "Was the stressful event related to:" [b] This column represents the categories assigned to the events based on their descriptions. All categories that were selected by the students were kept in the recoded variables. [c] This column represents the percentage of events that were related to this category. The percentages will not add to 100% because the events could be related to more than one category.

Appendix E

Figure E. Adolescent Communication About Stressful Events



Note. Students could select multiple people they talked to about daily stressful events. The bars in gray dotted lines are the number of diaries that identified this person(s) across all data collection periods and sites. "Pilot F16" refers to diaries collected in Fall 2016 for the pilot study in Detroit (*n* = 192). "Detroit SPR17" refers to diaries collected in Spring 2017 in Detroit (n = 370). "Chicago SPR18" refers to daily diaries collected in Spring 2018 in Chicago (*n* = 580).

Appendix F
Pilot Interviews Summary

ID	Gender	Version	Time
01	F	Tablet	0:04:11
02	F	Paper	0:04:24
03	M	Tablet	0:04:00
04	F	Paper	0:03:11
05	F	Paper	0:03:29
06	F	Tablet	0:04:07

Question	**Answers**
What are some of the things you liked about this experience?	01: Um, I like that I actually had to think about my emotion's during the day. I never really think about stuff I do during the day or take, like, the time to actually like see everything I do; how I spend my time; how I feel during the day. It was really easy and fun and I enjoyed it. 02: Um, it kind of like, showed me how much time I spend on social media. Like, I spend a lot of time. And then how much I slept. I'm doing my homework all the time. xxx I mean I did like doing the logs because it could, like, I don't know. I stayed on track on certain days I stayed on track trying to do my homework and I see how much it takes me to get it actually done. So. To kind of, how do you say it, like, to structure my um timing of doing my homework and actually trying go get it done. 03: I don't mind taking the surveys. So, I don't really mind, I just enjoy it. At least something to do, at least. 04: Um. I like how quick they were. Um. I liked that I could get things that are on my mind off my chest. 05: It really, like I didn't really realized the things that I did after school, but doing this really helped me like know that I spend more time with my family than going out with my friends and stuff. It was really nice. I liked it. 06: Um. I don't know. You could reflect on your day better and see like, 'Oh I do this a lot.' xxx. Um. Well you get to know yourself more kind of. And, like, all that. Yeah.
What are some of the things you disliked?	01: *[Not asked]* 02: Um. At times I would forget, like, to do it. Like, to finish the last part about my feelings. So I would do it when I get to school.

	03: The paper one seems to be much more easier to do than the doodle one, the electric one. Just. There's some issues with it, like such as, like it might sometimes be like slow or some types of other issues. It's like sometimes. Like, for example, it's asking you what was the most stressful, like, event that you had in your life. Like, in the day, and also, what's, like, what were you most happy about the day. The stressful thing, I didn't like much 'cause it was really difficult to think about, like, what type of stressful event was there, like, today.
	04: Um. Sometimes I forget to do it. 05: Well, not really. At the beginning I did because it was checking and checking and checking, but then after a while, like, I kinda got used to it. So I was like oh, okay. It's okay.
	06: Um. Nothing.
Was it easy or hard to fill out the daily logs?	01: I was easy 'cause it was like the same thing every day so, once you got used to it, it was pretty easy.
	02: Um. At times, but then at times it was hard because I couldn't really describe, like, certain stressful events or, like, describe how I felt at times. Like, I don't know how I felt at times. I don't know. Like, I couldn't really. Like, at certain times, I really didn't have any stressful event, so.
	03: [*Not asked*]
	04: It was pretty easy.
	05: They were easy.
	06: Um, on paper for me it was harder or mostly getting it stamped and all that 'cause I forget. I forget. xxx. Um. At first it was hard, but with time it got easier.
Were the questions easy to understand?	01: They were easy. I think they were easy.
	02: Um, they were easy.
	03: The questions very easy and simple to understand. They weren't too difficult to answer.
	04: They were pretty easy.
	05: There were some that were kinda hard and then there were some that were easy. xxx Like, not the things that I did, but like on the feelings part. It's like 'Uh, what does this really mean? At the beginning, yeah.
	06: They were easy to understand.
Was the time it took you to complete the logs short enough not to be a burden?	01: No.
	02: Yeah. It's a reasonable amount.
	03: No. It was fine. It's not like it's asking me you to write down like an essay or something.

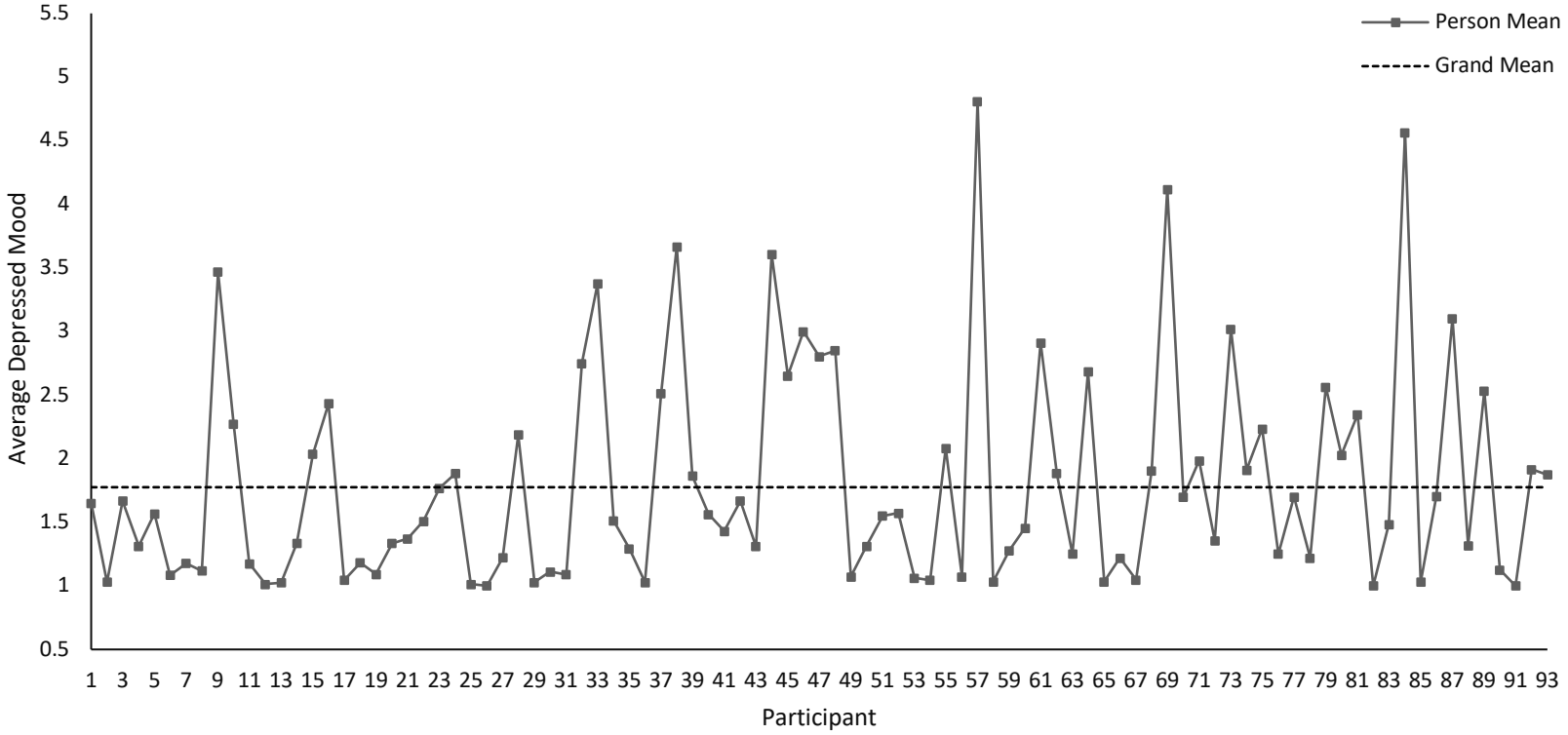
	04: It was pretty reasonable. 05: No. It was really good. 06: It was reasonable.
How much time did it take you to complete the logs?	01: Probably like 10 to 15 minutes. 02: Um, like 10 minutes, probably. 03: Judging by the amount of paperwork or sometimes on the iPad, it will take me simply about 30 minutes or sometimes more. 04: Maybe about 10 or 15 minutes. 05: Like about 5 minutes. 5 to 10 minutes. 06: Um. Like 8 minutes.
Was it easy to remember to do the logs?	01: Yea, well. Yeah it was easy every day before I went to sleep, I just remember to do it. 02: [*Not asked*] 03: [*Not asked*] 04: It was somewhere in the middle. It was pretty easy. 05: It was easy. 06: Um. It was hard.
Were the daily calls/text messages reminders useful?	01: No 'cause I don't have a phone. [No calls/text messages] 02: [*Not asked*] 03: Yes. And they also provide me some assistance also when I needed help with certain problems, like the iPad. 04: Yeah. 05: Yes. 06: Yeah.
Would you recommend participating in this study to your friends?	01: Uhum. I think it's fun and it's easy. 02: Yeah. 03: Um, probably. 04: Yeah 'cause it's not that hard. I mean, it's just takes like 10 or 15 minutes and it'll probably help them get stuff off their chest too. 05: Yeah. 06: Yeah.
Did you enjoy filling out the daily logs in [paper/tablet]?	01: Yeah. It was easy because it was the only thing it had. So every day it was just, log them in and they would save your progress for the next day. 02: Yeah. 03: [*Not asked*] 04: [*Not asked*] 05: Yes. 06: [*Not asked*]
If you could choose, would you prefer to fill out the daily activity logs in [paper/tablet]? Why?	01: I think I was happy with the tablet. 02: The paper was fine. 03: I would have preferred the paper version because I'm not used to using like the iPad as much. 04: I mean, I was okay with the paper version.

	05: Paper. Well I. I mean, even though I was doing it on the paper sometimes I forget until I got your text message and like, on the weekends especially, I wouldn't really do it on Friday. I do it on like Saturday and stuff.
	06: The tablet.
What are some of the advantages of doing the study on [paper/tablet]?	01: Mm. Maybe it was, if something happened to the tablet, then you couldn't do it. But with the paper, you were like, for sure that it was always going to be there.
	02: Um, probably. Because since it's like a tablet people think, "Oh, I'm on my…". Like, and then probably, just, you know? I don't know how to say it, but like. *Do you think people would think it was faster?* 02: Yeah. *Because I see you doing that with your hand, like going through it.* 02: Yeah.
	03: [*Not asked*]
	04: Um, probably doing it a little bit faster [*on tablet*].
	05: I think there are advantages on both because some people don't really have much electronics to use and stuff. And that would be like a really good benefit. And on the paper, as well, because just in case that there are people who are like, um, what do you call it, like people that don't really take good care of stuff it would be better on paper than to have something that you need to take care of. *So you think you would give people the option?* Yeah.
	06: Um. I don't know. [*on paper*] Um, well, it's like easier just to type it out and you don't have to get it stamped or anything. [*on table*]
What are some of the disadvantages?	01: *[Not asked]*
	02: Uh. Not really.
	03: The paper one seems to be much more easier to do than the doodle one, the electric one. Just. There's some issues with it, like such as, like it might sometimes be like slow or some types of other issues.
	04: Probably having to charge it (inaudible).
	05: [*Not asked*]
	06: Um, it discharges and I forget to charge it, so when you try it again is not there. [*on tablet*]
Do you think it was useful to have paper backups?	01: Uhum. I think for, in case of anything, you still can do it.
	02: [*Paper*]
	03: [*Not asked*]
	04: [*Paper*]
	05: [*Paper*]

	06: [*Not asked*]
If you could change this study in any way, what would you do?	01: Mmm. (thinking) I don't know. I think it was, for me, it was all good. So, I don't think. 02: Um. (thinking) I'm not really sure. 03: It's probably to like give people the options of what they wanna take the iPad or the paperwork, instead of just random. 04: Um. I don't know. 05: Um. I think it would be. Well, no, I wouldn't change anything because I thought it was really nice. Including like the examples in the beginning. That was really nice. Yeah. I wouldn't really change anything. It was really nice. 06: Um. I don't know.
Do you think you could do this study in [paper/tablet] for another week? For doing so, you would receive an extra gift card worth $25.	01: Yes (laughs). 02: Yeah. 03: I might. 04: Probably. 05: Uhum. 06: Yeah.
Do you think the election affected your answers?	01: And having. Yeah. Well, I mean, it gave me more things to write about (both laugh). It did change the emotions of the day, like, normal days it's not really like nervous, terrified or scared. And now it was more like, I was more scared, nervous, about to see what was going to happen. So. 02: Yeah. 03: The reflects, it effects, it affects my schedule. Like, such as the hours. But it doesn't affect me as much. 04: Um. It wasn't that much of a big deal. 05: Well. Not really. 06: No.

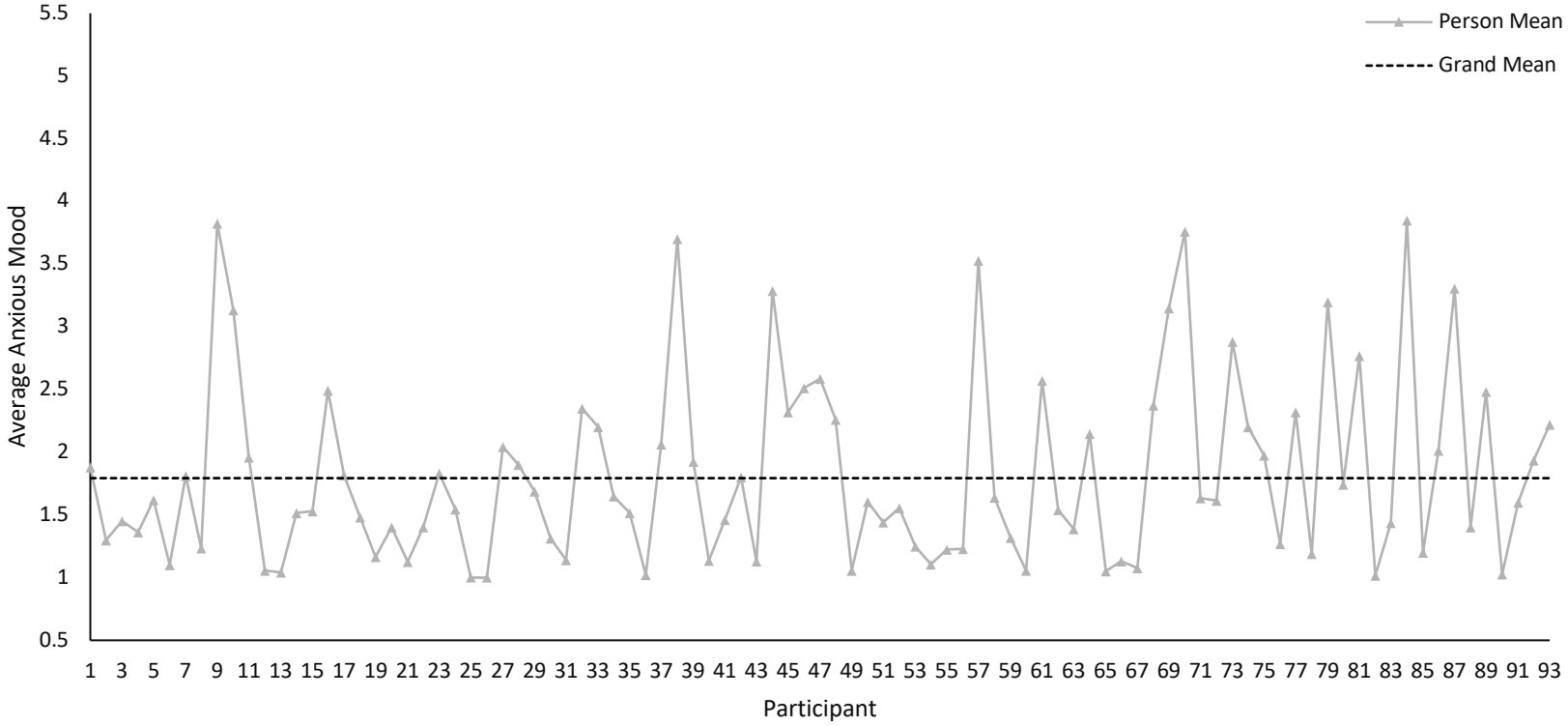
Appendix G

Figure G. Average Depressed Mood by Participant



Note. Depressed mood measured on a scale from 1 = very slightly to not at all to 5 = extremely. Person mean represents students' average depressed mood across all study days. Grand mean represents the average depressed mood across all participants and study days (the mean of the person means).

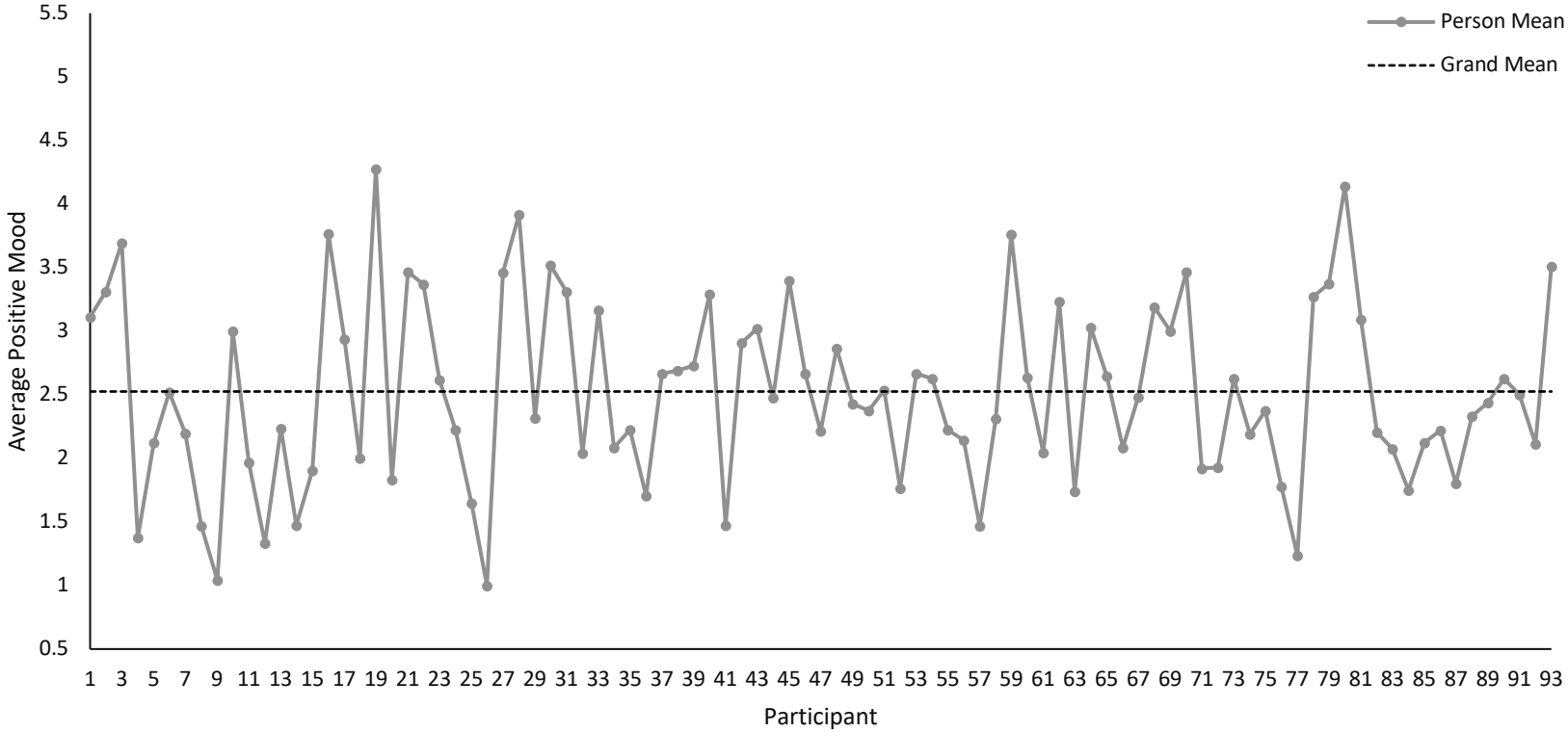
Appendix H.
Figure H. Average Anxious Mood by Participant



Note. Anxious mood measured on a scale from 1 = very slightly to not at all to 5 = extremely. Person mean represents students' average anxious mood across all study days. Grand mean represents the average anxious mood across all participants and study days (the mean of the person means).

Appendix I

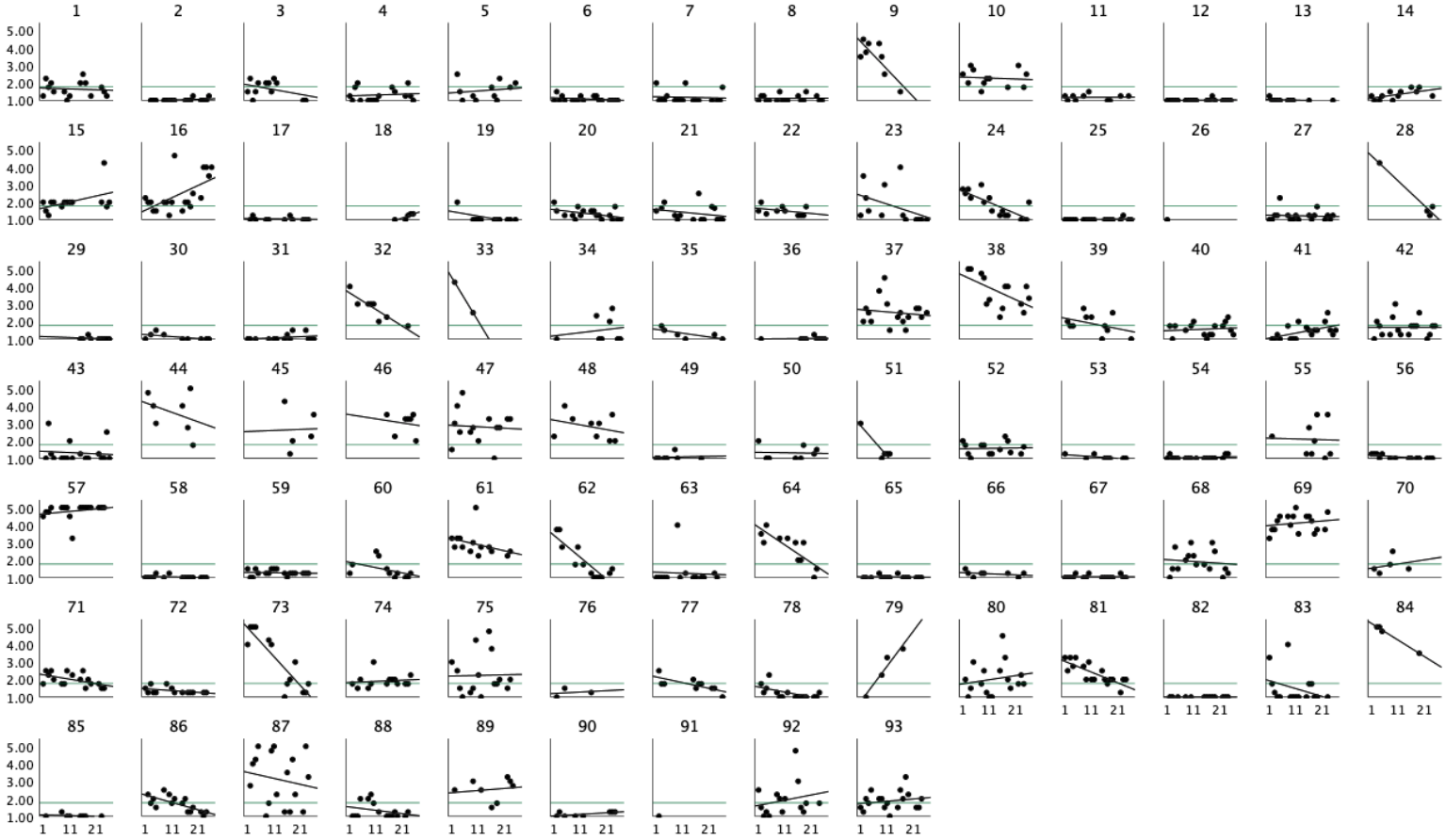
Figure I. Average Positive Mood by Participant



Note. Positive mood measured on a scale from 1 = very slightly to not at all to 5 = extremely. Person mean represents students' average positive mood across all study days. Grand mean represents the average positive mood across all participants and study days (the mean of the person means).

Appendix J

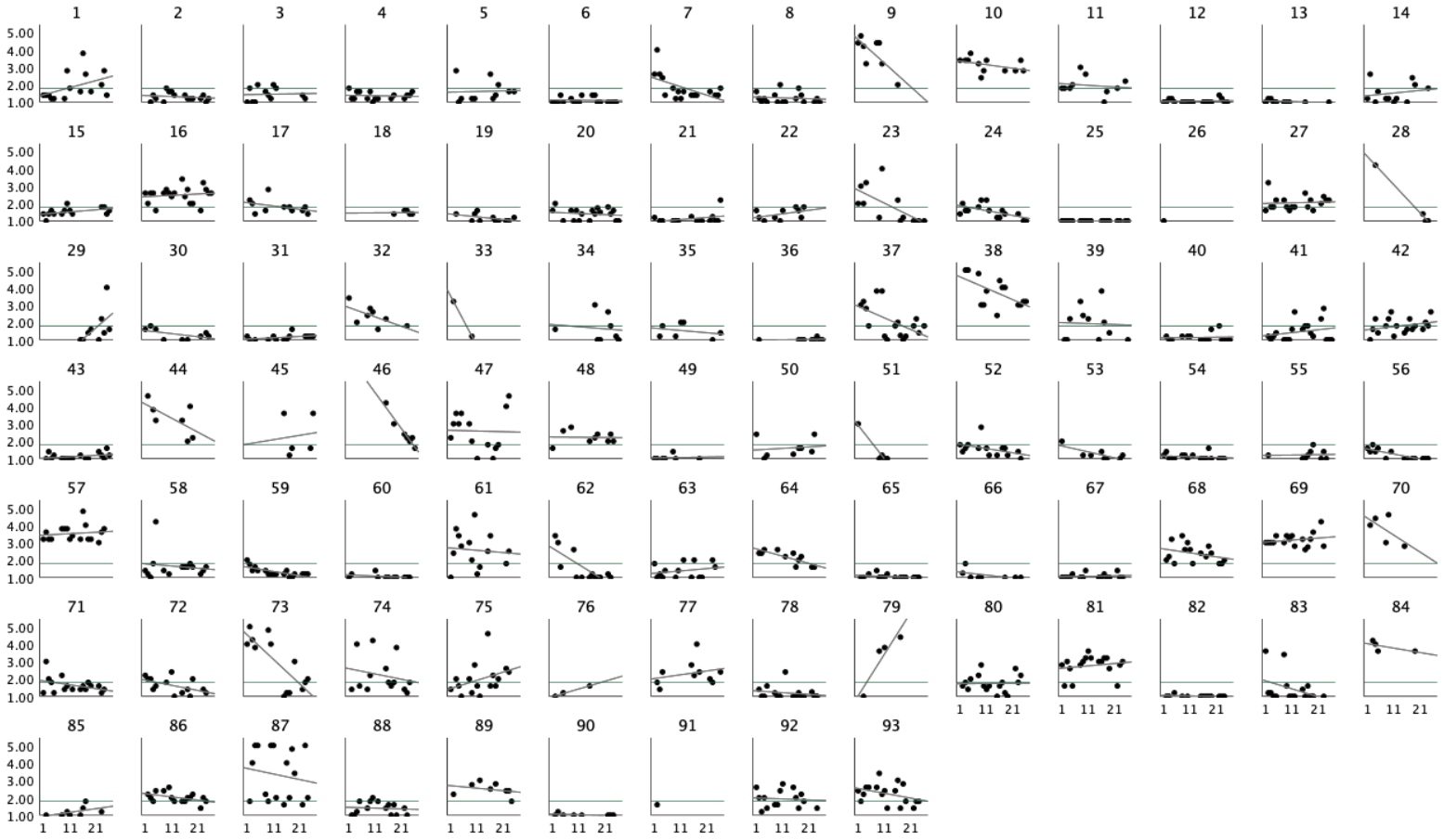
Figure J. Matrix Scatterplots of Students' Depressed Mood Trajectories (Y-Axis) by Day



Note. The y-axis corresponds to daily depressed mood. The x-axis corresponds to the diary day. Markers are the students' daily score on the depressed mood scale. The black lines represent individual fit lines not based on fitted multilevel models. The green line represents the average depressed mood score across all participants and study days.

Appendix K

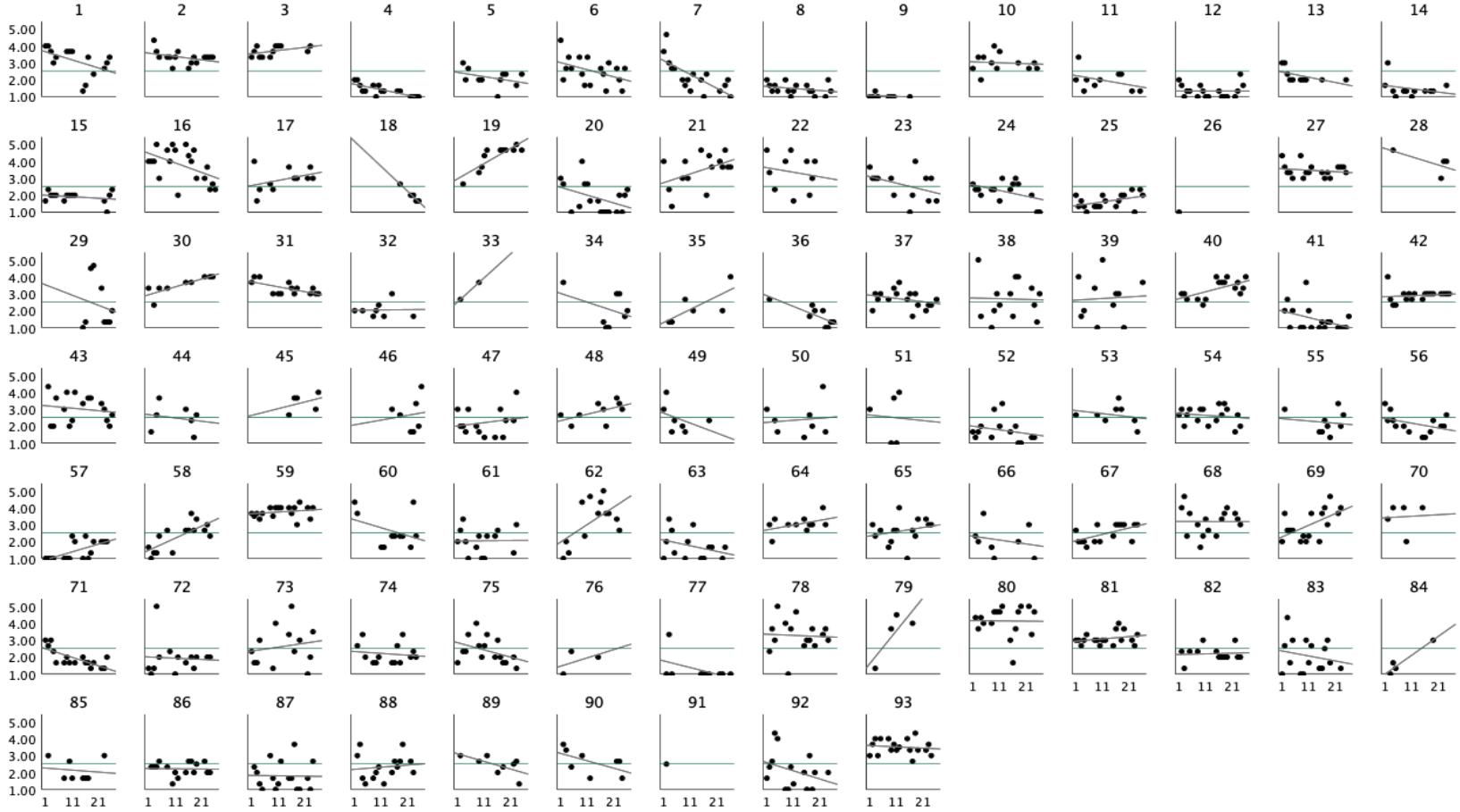
Figure K. Matrix of Scatterplots of Students' Anxious Mood Trajectories (Y-Axis) by Day (X-Axis)



Note. The y-axis corresponds to daily anxious mood. The x-axis corresponds to the diary day. Markers are the students' daily score on the anxious mood scale. The black lines represent individual fit lines not based on fitted multilevel models. The green line represents the average anxious mood score across all participants and study days.

Appendix L

Figure L. Matrix of Scatterplots of Students' Positive Mood Trajectories (Y-Axis) By Day (X-Axis)



Note. The y-axis corresponds to daily positive mood. The x-axis corresponds to the diary day. Markers are the students' daily score on the positive mood scale. The black lines represent individual fit lines not based on fitted multilevel models. The green line represents the average positive mood score across all participants and study days.

Appendix M

Table M. Variance Partitioning of the Adapted POMS-15 Depressed, Anxious, and Positive Moods in the Daily Activity Study and Estimates of Between-Person Reliability and Reliability of Change

Source of Variance	Depressed Mood	%	Anxious Mood	%	Positive Mood	%
$\hat{\sigma}^2_{\text{PERSON}}$	0.622	44.92	0.426	28.84	0.430	29.77
$\hat{\sigma}^2_{\text{DAY}}$	0.008	0.58	0.008	0.54	0.011	0.73
$\hat{\sigma}^2_{\text{ITEM}}$	0.007	0.51	0.109	7.38	0.064	4.42
$\hat{\sigma}^2_{\text{PERSON} * \text{DAY}}$	0.272	19.64	0.256	17.32	0.387	26.78
$\hat{\sigma}^2_{\text{PERSON} * \text{ITEM}}$	0.119	8.59	0.232	15.68	0.142	9.83
$\hat{\sigma}^2_{\text{DAY} * \text{ITEM}}$	0.000	-0.02	0.001	0.07	-0.002	-0.14
$\hat{\sigma}^2_{\text{ERROR}}$	0.357	25.78	0.446	30.17	0.414	28.62
Total	1.385	100.00	1.477	100.00	1.446	100.00

Note. The procedures described in Cranford et al. (2006) were used to determine the variance components. The formula $M_{ijk} = \mu + I_i + P_j + D_k + (IP)_{ij} + (ID)_{ik} + (PD)_{jk} + (IPD)_{ijk} + e_{ijk}$ was used. The variance is based on a three-way, crossed, analysis of variance model (person by day by item) were person *j*, responds to item *i* on day *k*. The overall mean for all mood ratings is μ; I_i is the tendency for each item *i* to have higher or lower scores across all days and persons; P_j is the tendency for person *j* to have higher or lower scores irrespective of day or item; and D_k the tendency for day *k* to have higher or lower scores across all items and persons. $(IP)_{ij}$, $(ID)_{ik}$, and $(PD)_{jk}$ are specific effects for item *i* and person *j,* item *i* and day *k*, and person *j* and day *k* over all days, persons, and items, respectively. $(IPD)_{ijk}$ describes the specific effect of item *i* for person *j* on day *k*—a systematic effect. e_{ijk} is the random error that is indistinguishable from $(IPD)_{ijk}$ in Cranford et al.'s design.

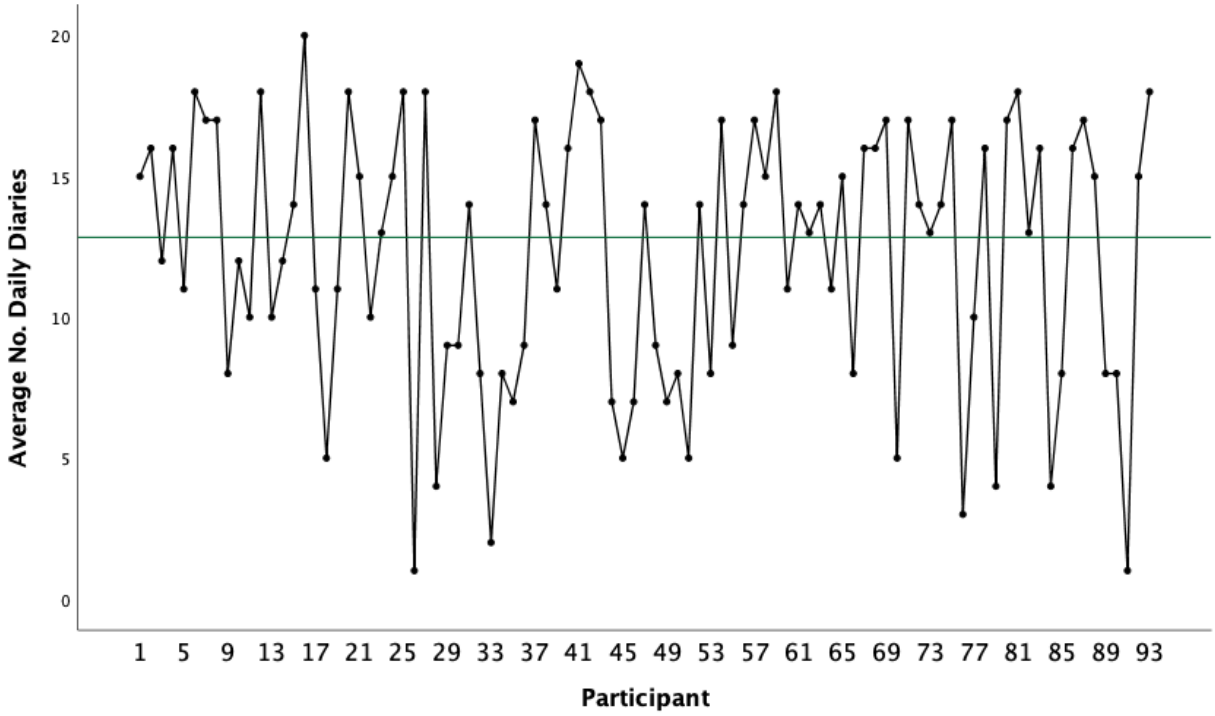
Appendix N

Table N. Generalizability Coefficients Computed from Variance Component Estimates

	R_{1F} (Between) Equation 2	R_{1R} (Between) Equation 3	R_C (Change) Equation 4
Interpretation	Reliability (between persons) of measures taken on the same fixed day	Reliability (between persons) of measures taken on different days	Reliability of change (within person)
Depressed mood	0.88	0.64	0.75
Anxious mood	0.84	0.57	0.74
Positive mood	0.78	0.48	0.74

Note. These generalizability coefficients were calculated using Equations 2, 3, and 5 from Cranford et al. (2006).

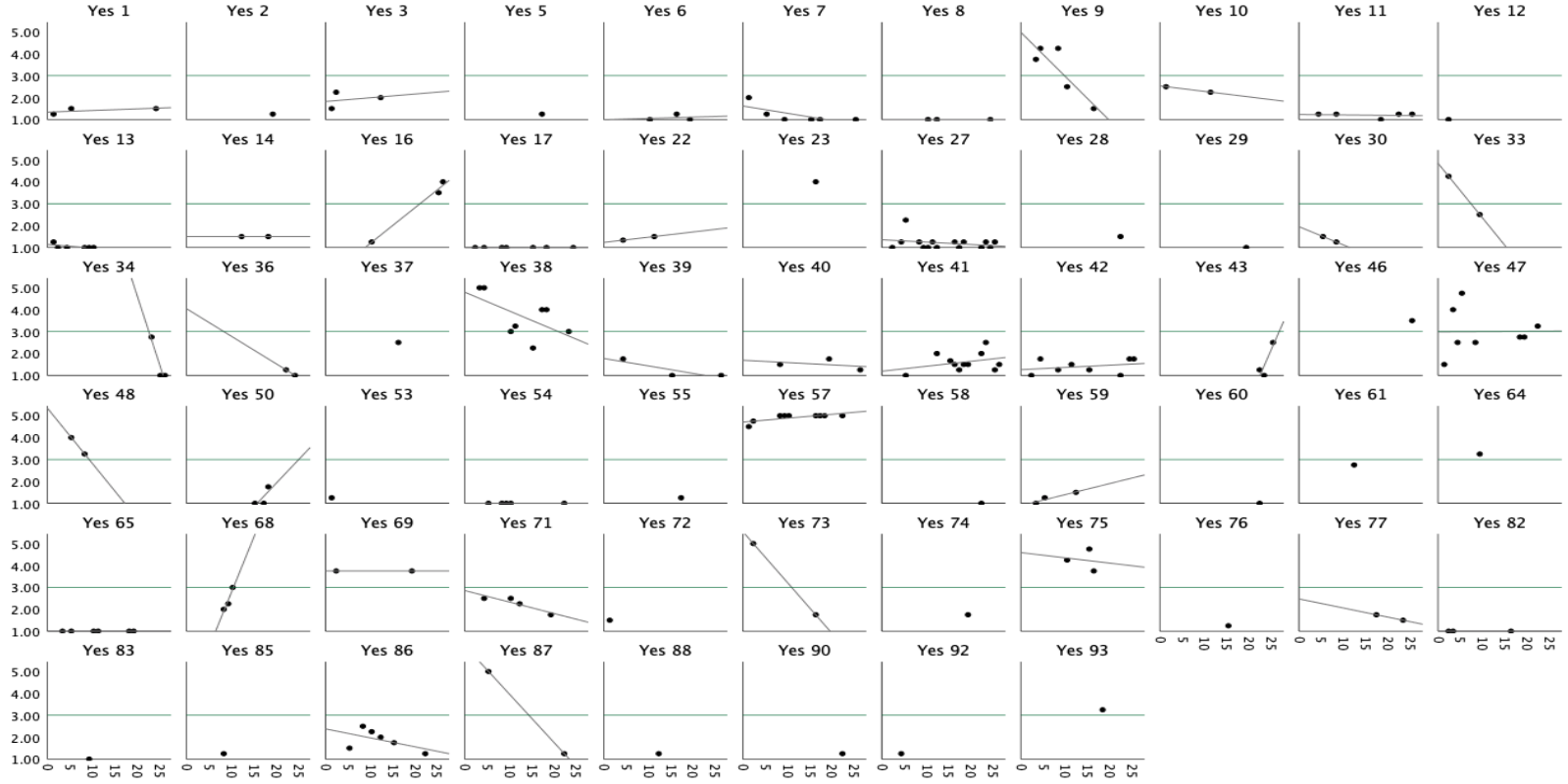
Appendix O
Figure O. Mean Number of Daily Diary Entries by Participant



Note. This figure depicts the average number of daily diaries with stressful events that each participant completed over the study period. Participants could complete up to 20 daily diaries: 5 diaries per week (Monday-Friday) x 4 weeks.

Appendix P

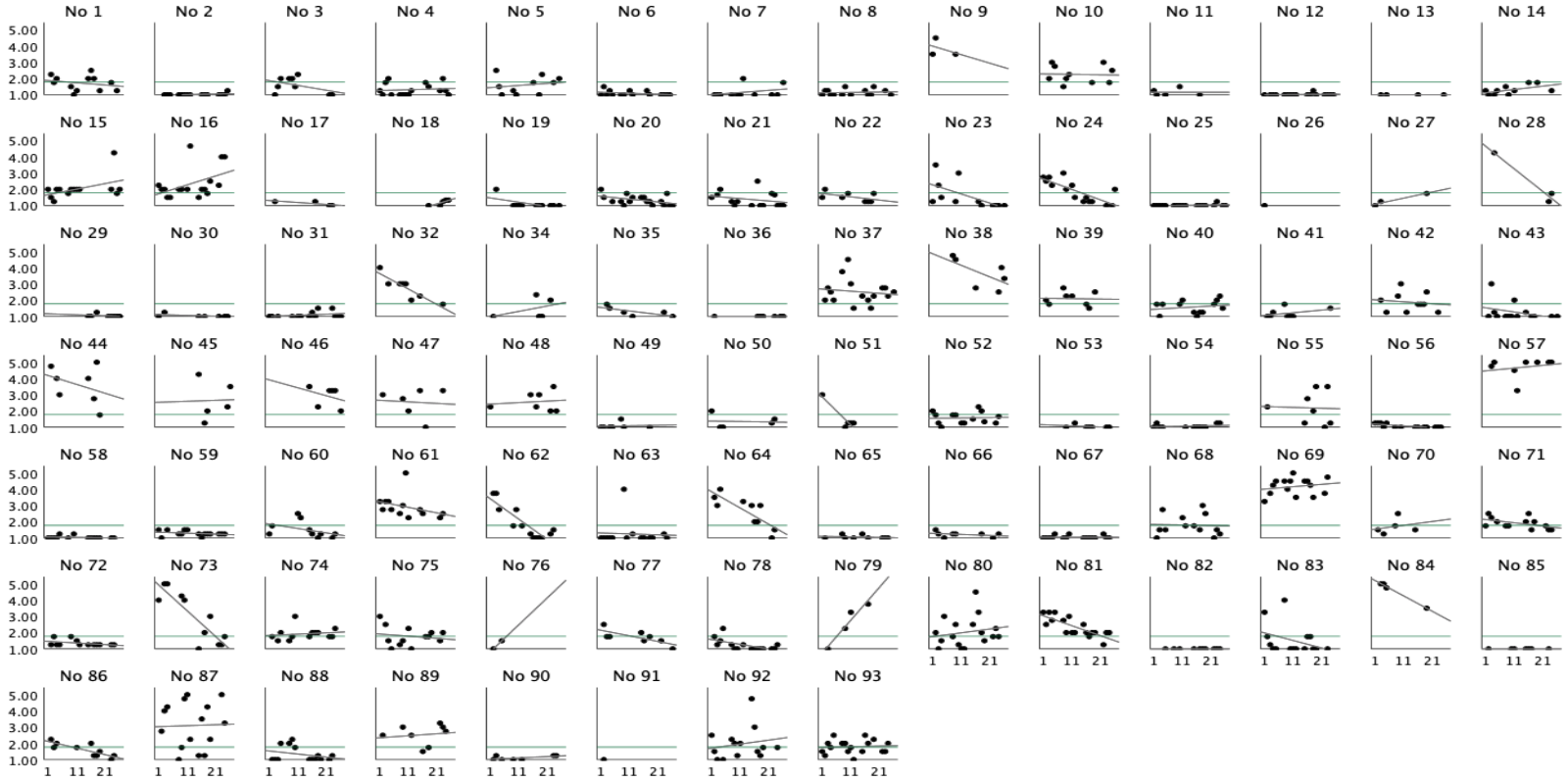
Figure P. Matrix of Scatterplots for Participant's Depressed Mood on Days with Family-Related Events



Note. The y-axis corresponds to daily depressed mood. The x-axis corresponds to the diary day. Markers are reports of family-related stressful events (days without family-related events are presented separately). The black lines represent individual fit lines not based on the fitted multilevel model. The green line represents the average depressed mood score on days in which students reported a family-related event.

Appendix Q

Figure Q. Matrix of Scatterplots for Participant's Depressed Mood on Days without Family-Related Events



Note. The y-axis corresponds to daily depressed mood. The x-axis corresponds to the diary day. Markers are reports of family-related stressful events (days without family-related events are presented separately). The black lines represent individual fit lines not based on the fitted multilevel model. The green line represents the average depressed mood score on days in which students reported a family-related event.

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