MALADAPTIVE PERFECTIONISM, EXPRESSIVE SUPPRESSION, AND FAMILISM AMONG YOUNG ADULT CHILDREN OF IMMIGRANTS: RISK OR RESILIENCE TO SUICIDE IDEATION?

A Dissertation

Presented to

The Faculty of the Department

of Psychology

University of Houston

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

By

Mary O. Odafe

May 2019

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ABSTRACT

Objectives: Children of immigrants (i.e., born in the U.S. to immigrant parents or foreign-born who migrated to the U.S. during childhood) constitute one quarter of the U.S. population. Ethnic minority individuals across this generational status consistently show greater vulnerability to suicide than their foreign-born parents, suggesting the presence of risk factors that are unique to the social and cultural context of being raised in the U.S. Suicide is a leading cause of death among young adults in the general population, yet little is known about potential risk factors unique to the cultural contexts of young adult children of immigrants. In the current study, maladaptive perfectionism, expressive suppression, and attitudinal familism are examined as culturally-relevant psychosocial predictors of suicide ideation in Asian, African/Black Caribbean, and Hispanic/Latinx young adult children of immigrants. **Method:** University and community-based young adults (1.5 and 2nd generation American; $N = 376$) completed measures of maladaptive perfectionism, expressive suppression, attitudinal familism, suicide ideation, depressive symptoms, and demographic variables. **Results:** Two moderated mediation analyses were initially conducted. Expressive suppression (*M*) was not a significant mediator of maladaptive perfectionism (*X*) and suicide ideation (*Y*). Further, this association did not vary by levels of familism – Familial Honor (W_1) and Subjugation of Self for Family (W_2). However, a third moderated mediation analysis revealed that maladaptive perfectionism, when entered as a mediator (*M*), accounted for the association of expressive suppression (*X*) and suicide ideation (*Y*). Further, this association varied by participant race/ethnicity (*W*) with Asian and African/Black Caribbean participants showing a significantly larger mediation effect than Hispanic/Latinx participants. Predictors remained significant above and beyond the potentially confounding effects of

depressive symptoms, age, gender, and education level. The overall model containing expressive suppression, maladaptive perfectionism, participant race/ethnicity, and covariate variables was significant (R^2=0.263, df = 6, 349, F = 20.733, p <.001) and accounted for 26% of the variance in suicide ideation. **Conclusions:** For young adult children of immigrants who endorse maladaptive perfectionism, suppressive coping strategies may reinforce stringent perfectionist beliefs and ultimately contribute to suicide vulnerability. This association may be strongest for Asian and African/Black Caribbean young adults, relative to Hispanic/Latinx young adults. More research is needed to understand racial/ethnic differences and define cultural protective factors that may promote resilience to suicide and overall psychological well-being among young adult children of immigrants.

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Introduction

The suicide death rate has reached an alarming 30-year high in the United States (Curtin, Warner, & Hedegaard, 2016). Although the state of research examining suicide risk has advanced in recent decades, risk factors unique to ethnic minority groups remain poorly understood (Odafe, Talavera, Cheref, Hong, & Walker, 2016). This relatively nascent state of research is in stark contrast to the fact that 25% of the U.S. population is foreign-born or has at least one foreign-born parent (Trevelyan et al., 2016), the large majority of which are persons of Asian, African, Caribbean, Hispanic, and Latin American ancestry (Camerota & Zeigler, 2016). Despite evidence of intergenerational mobility (i.e., economic advantage over previous generations; Trevelyan et al., 2016), existing research indicates that descendants of ethnic minority immigrants report higher rates of psychopathology than their foreign-born counterparts, including suicidality (Alegria et al., 2004; Borges, Orozco, Rafful, Miller, & Breslau, 2012; Cheng et al., 2010; Fennelly, 2007; Peña et al., 2008; Takeuchi, Alegria, Jackson, & Williams, 2007; Takeuchi, Zane, et al., 2007; Wadsworth & Kubrin, 2007; Wu & Schimmele, 2005). Suicide is the 2nd leading cause of death among individuals in the U.S. age 15-34 years. Coupled with high rates of psychopathology compared with their foreign-born parents, young adult children of immigrants in this age category may be particularly vulnerable to suicidality (Centers for Disease Control and Prevention, 2013).

In the general population, maladaptive perfectionism is cited as a risk factor for suicidality in emerging adults (Blankstein, Lumley, & Crawford, 2007; Hewitt, Caelian, Chen, & Flett, 2014; Hewitt, Flett, & Turnbull-Donovan, 1992; Hewitt, Flett, & Weber, 1994; O'Connor, 2007). Importantly, the association of perfectionism and suicidality may emerge in part from maladaptive forms of coping, such as expressive suppression (Flett,

Besser, Hewitt, & Davis, 2007). Yet, when these personality and coping strategies are considered in immigrant family contexts—achieving the American Dream is an expectation and extreme striving to maintain family honor and meet family goals is expected—such goals may come at the expense of one's own emotional health. Moreover, for members of cultures in which mental illness remains strongly stigmatized, concealing emotional distress may serve as an act of "saving face" in order to avoid bringing shame to the family. However, the act of suppressing emotions may in fact have the opposite effect and serve to increase one's negative emotional experience (Wegner, 1994). The purpose of the current study is to examine the complex interplay of maladaptive perfectionism, expressive suppression, and familial expectations as sociocultural predictors of suicide ideation among Asian, African, Black Caribbean, Hispanic, and Latinx young adult children of immigrants.[1]

For Although *familism* (the importance of the family unit over the individual that is emphasized in collectivist cultures) is traditionally considered as a psychological resource, previous study indicates that perceived familial obligations and expectations may serve to exacerbate stress in young adult children of immigrants (Hernández, Ramírez García, & Flynn, 2010; Zayas & Pilat, 2008).

The Immigrant Paradox: Socioeconomic Mobility at the Expense of Mental Health?

Despite increased access to resources that emerges with longer duration in the U.S., children of immigrants report higher rates of illness than their foreign-born counterparts – a

[1] **Terminology:** In the current study, **first-generation** refers to foreign-born persons who migrated to U.S. during emerging adulthood or later. **One-and-a-half (1.5) generation** refers to immigrants who arrived in the U.S. during childhood (typically before age 12 years) (Rumbaut, 1994; Zhou, 1997). **Second-generation** refers to U.S.-born individuals with at least one foreign-born parent. Throughout the text, **"children of immigrants"** refers to young adult children of immigrants who may either be of 1.5 or 2nd generational status. "Children of immigrants" is also used interchangeably with "**descendants**" of immigrants to describe 1.5 and 2nd generation Americans.

phenomenon described as the *immigrant paradox* (Alegría et al., 2008; Burnam, Hough, Karno, Escobar, & Telles, 1987; Dey & Lucas, 2006; Fennelly, 2007; Lucas, Barr-Anderson, & Kington, 2005; Takeuchi, Alegria, et al., 2007). In previous decades, curiosity surrounding the immigrant paradox motivated in-depth study of the cultural experiences of Asian, Black and Hispanic immigrant groups (e.g., Portes & Zhou, 1993; Zhou, 1997). The current state of research on immigrants and their descendants varies in content and depth according to ethnic group. However, common themes emerge: primarily, the importance of family values and expectations in navigating one's social environment, and perceived familial expectations, which may serve as a unique source of stress to children of immigrants in the U.S. context (e.g., (Yoon & Lau, 2008; Zayas & Pilat, 2008).

The experience of children of immigrants differs from that of U.S. native ethnic minorities in several ways. Namely, children of immigrants share the unique challenge of navigating two or more cultures (e.g., native culture, host culture, and cultural variations within one's own race group) which may exacerbate the trials of adolescence and young adulthood (Persky & Birman, 2005; Schwartz et al., 2011). Scholars assert that the mythology of the "American Dream," or the expectation that one's economic status will surpass that of their parents and grandparents is particularly salient in immigrant families (Trevelyan et al., 2016). Indeed, current research supports the notion of intergenerational mobility (Pew Research Center, 2013; Trevelyan et al., 2016), but has also demonstrated that despite evidence of socioeconomic gain among children of immigrants, the opposite pattern is observed in indices of mental health. Previous research indicates that suicide risk is lowest among first-generation immigrants who migrated to the U.S. during adulthood. However, U.S.-born individuals and individuals who migrated to the U.S. during childhood (i.e., before

age 12) showed similarly higher rates of suicide ideation and attempt (Borges et al., 2009, 2012). Perhaps this general pattern of deteriorating health outcomes (in comparison to the prior generation) emerges in part from the unique sociocultural challenges faced by children of immigrants. In a previous study, children of immigrants endorsed the belief that parents from their country of origin place excessive pressure on children for academic achievement (Lee et al., 2009; Pew Research Center, 2012). Due to the myriad of social and economic challenges that immigrants of color often face upon arriving to the U.S., immigrant parents may prioritize their children's achievement in order to mitigate such challenges for future generations. However, immigrant parents may be unable to relate to the dual demands of navigating cultural expectations and young adulthood in the U.S., further contributing to the stressful experience of young adult children of immigrants.

Despite noted risk for psychopathology and suicide, research pertaining to children of immigrants has slowed within the last decade, a stark contrast to rapid rates of population growth. Utilizing the immigrant paradox as a guiding framework, the current study is intended to investigate specific sociocultural factors contributing to suicide risk in young adult children of immigrants. Specifically, maladaptive perfectionism, expressive suppression, and familism are examined as risk factors for suicide ideation among Asian, African, Black Caribbean, Hispanic, and Latinx children of immigrants.

Maladaptive Perfectionism and Suicide Vulnerability

Maladaptive perfectionism is conceptualized as a set of rigid beliefs and behaviors related to concern over mistakes, high personal standards, doubts about one's own actions, extreme organization and high perceived parental expectations and criticism (Frost, Marten,

Lahart, & Rosenblate, 1990).[2] Scholars have found links between maladaptive perfectionism and depression (Cox & Enns, 2003; Enns et al., 2002; Hewitt & Flett, 1991; Sassaroli et al., 2008), anxiety and related disorders (DiBartolo, Li, & Frost, 2008; Egan, Wade, & Shafran, 2011; Gnilka, Ashby, & Noble, 2012; Kawamura, Hunt, Frost, & DiBartolo, 2001; Santanello & Gardner, 2007; Sassaroli et al., 2008; Weiner & Carton, 2012), and eating disorders (Bardone-Cone et al., 2007; Dakanalis et al., 2014; Sassaroli et al., 2008). Of note, maladaptive perfectionism is also identified as a correlate of suicidality (Blankstein, Lumley, & Crawford, 2007; Hewitt, Caelian, Chen, & Flett, 2014; Paul L. Hewitt, Flett, & Turnbull-Donovan, 1992; Paul L. Hewitt, Flett, & Weber, 1994; O'Connor, 2007). A previous meta-analysis of perfectionism and suicidality yielded 29 studies (from 1987 to 2006) confirming evidence of perfectionism links to suicidality (O'Connor, 2007). It was concluded that the forms of perfectionism rooted in self-critical evaluative concerns were the most lethal contributors to suicide risk. For example, Blankstein and colleagues found that maladaptive perfectionism (conceptualized as the perception of lofty and unrealistic standards imposed by others; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991) was significantly associated with current suicide ideation and hopelessness among university students. Maladaptive perfectionism was also found to predict suicide potential among psychiatric adolescents, even after controlling for hopelessness and depression (Hewitt et al., 2014). Findings from this study echoed that of previous studies (Hewitt et al., 1992, 1994).

[2] Despite historical debate of the conceptualization and underlying factor structure of perfectionism (see Frost, Heimberg, Holt, Mattia, & Neubauer, 1993 for review), theorists generally concede that perfectionism may be adaptive or maladaptive in nature (e.g., (DiBartolo, Li, & Frost, 2008; Enns, Cox, & Clara, 2002; Hamachek, 1978; Hollender, 1965). While adaptive perfectionism (i.e., the setting of high personal standards which may serve as motivation to achieve) is associated with positive outcomes, maladaptive perfectionism (i.e., the setting of and striving for excessively high standards of performance) is associated with a range of psychopathology.

The developmental roots of maladaptive perfectionism are critical to its conceptualization and links to psychopathology. There is a general consensus that perfectionistic beliefs tend to develop in response to certain parenting styles and familial environments (e.g., Asseraf & Vaillancourt, 2014; Blatt & Homann, 1992; Damian, Stoeber, Negru, & Băban, 2013; Flett et al., 2002; Herman, Trotter, Reinke, & Ialongo, 2011; Kawamura, Frost, & Harmatz, 2002; Yoon & Lau, 2008). According to the Social Expectations Model (Flett et al., 2002), when parents set high standards for achievement and approval based upon these standards, children are prone to develop a sense of contingent self-worth in relation to parental approval. Consequently, perfectionist beliefs develop in response to constant striving to meet lofty expectations. Based on Flett et al. (2002)'s conceptualization, the underlying roots of maladaptive perfectionism may be particularly salient for children of immigrants having to navigate cultural and familial expectations during young adulthood. Thus, maladaptive perfectionism may reflect one of the sociocultural challenges that children of immigrants experience.

Maladaptive Perfectionism Among Children of Immigrants

Although the association of maladaptive perfectionism and psychopathology is well-documented, ethnic minorities were largely omitted from perfectionism research prior to the last decade (Castro & Rice, 2003; Chang, 2013; DiBartolo & Rendón, 2012). Yet, findings from available research indicate that ethnic minority young adults endorsed perfectionism at higher rates than their White counterparts (Castro & Rice, 2003; Smith, Chesin, & Jeglic, 2014). However, even fewer studies have explicitly examined the influence of cultural beliefs and practices (such as the emphasis of familial relations and culture-bound coping methods) on the association of perfectionism and suicide risk. Additionally, Castro and Rice (2003)

called for the examination of generational status when evaluating perfectionism and psychological adjustment in future research, as generational status may play a critical role in conceptualization and impact of perfectionism. The need remains for research that examines the negative effects of perfectionism among varying ethnic and generational groups.

The developmental roots of perfectionism may be particularly salient when considering young adult children of immigrants. The importance of family and self-concept is strongly emphasized across ethnic minority groups, particularly among immigrant families (Lui, 2015; Schwartz, 2007; Schwartz et al., 2010). Consistent with the values of *familism*, striving to meet lofty parental expectations may have special cultural significance for children of immigrants. Studies indicate that children of immigrants often feel an obligation to bring honor to the family name through personal and collective achievement, avoid bringing shame to the family through personal failures, and provide financial support to parents and extended family (Lee et al., 2009; Steidel & Contreras, 2003). The pressure to achieve upward mobility may be especially prominent among families who are of low socioeconomic standing upon arrival to the U.S. (Trevelyan et al., 2016). Despite unique vulnerabilities, only one study has examined direct links between perfectionism and suicidality in ethnic minority young adults. For Asian American students, maladaptive perfectionism was a significant predictor of hopelessness and suicide potential (Chang, 1998). One additional study (Wang, & Fu, 2013) conducted with Asian international students revealed links between perfectionism, thwarted belonging, and perceived burdensomeness – two primary predictors of suicide (Joiner, 2005). Remaining studies have focused on associations of perfectionism and potential correlates of suicide including anxiety, depression, and related constructs.

Perfectionism and Suicide Risk in Asian Americans. In recent years, Asian Americans have surpassed Hispanic Americans in rates of immigration to the U.S. (Pew Research Center, 2012). According to recent report, Asian Americans lead the U.S. population in educational attainment and household income. Existing research on perfectionism has primarily focused on Asian Americans. This research emphasis is perhaps related to the "model minority" myth, a socially prescribed stereotype of academic and economic advantage among Asian Americans relative to other ethnic minority groups. The term was first utilized in a 1966 New York Times article, and subsequently became the basis of much controversy in scholarly arenas (e.g., Sue, Sue, Sue, & Takeuchi, 1995). Nonetheless, some authors have sought to examine the underlying assumptions of the myth, providing evidence of its mental health implications. For example, authors propose that internalization of the model minority myth may lead to "unrealistic expectations and pressure to succeed" (Yoo, Burrola, & Steger, 2010. p. 116). These beliefs may be particularly damaging when one perceives that they fail to live up to self- or socially-prescribed expectations (Lee, 1996).

Indeed, research on maladaptive perfectionism in Asian American samples primarily examines links between lofty expectations for achievement stemming from parental pressure, societal expectations, and high personal standards. For example, Castro and Rice (2003) found that Asian American students reported higher tendency to view mistakes as failures, higher perceived parental expectations and criticism, and self-doubt than African American and European American students. Within this sample, the combined effect of maladaptive perfectionism was associated with depressive symptoms only for Asian Americans, suggesting differences in links between maladaptive perfectionism and psychopathology

across ethnic groups (Castro & Rice, 2003). Consistent with Flett et al.'s (2002) proposed developmental roots of perfectionism, Methikalam and colleagues (2015) identified 'Family Recognition Through Achievement' as the core Asian value that distinguished maladaptive perfectionist family types from non-perfectionists. In their study sample of 174 Asian Indians, maladaptive perfectionism was associated with lower self-esteem and higher levels of depressive and anxiety symptoms (Methikalam et al., 2015). Research also suggests that collectivist values such as interdependence can strengthen the association of maladaptive perfectionism and depressive symptoms among Asian American college students (Yoon & Lau, 2008). As a source of added risk for suicidality, Asian Americans are more likely to delay seeking mental health services (due to cultural stigma) until levels of distress become severe (Lee et al., 2009). In sum, the existing studies on maladaptive perfectionism in Asian Americans provide a helpful model for integrating cultural values and beliefs into empirical research. However, further research on associations of maladaptive perfectionism and *direct* indicators of suicide risk (e.g., suicide ideation) will serve to expand the limited literature on suicide in Asian Americans. Consideration of population-specific characteristics (such as generational status) will add further specificity to the extant literature (Smith et al., 2014).

Perfectionism and Suicide Risk in Black Immigrants. Black Immigrants from African and Caribbean nations[3] comprise a relatively small but growing subpopulation in the U.S. However, Black immigrants are largely overlooked as a unique ethnic group in the

[3] African and Black Caribbean descendants are distinct cultural groups, though have overlapping values and sociocultural experiences in the U.S. context. Following the method adopted by Schwartz (2007), the two ethnic groups will be combined for the purposes of statistical analyses. Throughout the text, the terms "African" and "Black Caribbean" are used separately (and interchangeably with "**Black immigrant**") when referring to the ethno-racial groups as they occur within the population. The ethnic label "**African/Black Caribbean**" is used in reference to the combined ethno-racial group in the current sample of 1.5 and 2nd generation Americans.

psychology literature (Takeuchi, Alegria, et al., 2007). Nonetheless, scholars note important cultural values, beliefs, and mental health needs that are specific to Black immigrants and their immediate descendants (e.g., Benson, 2006; Case & Hunter, 2014; Deaux et al., 2007; Joseph & Hunter, 2011; Joseph, Watson, Wang, Case, & Hunter, 2013; Venters et al., 2011; Waters, 1994), suggesting the need to elaborate on within group differences. Although notions of high educational and economic achievement are traditionally associated with Asian Americans, recent reports indicate that African immigrants outperformed the overall foreign-born population in educational attainment, with 41% of African immigrants holding a bachelor's degree or higher (compared to 28% in the overall foreign-born population). When broken down by country of origin, over 61% of Nigerian-born immigrants age 25 years and older hold a bachelor's degree or higher – a statistic more than double that of the total U.S. population (US Census Bureau, 2014, 2017). Experts note that African and Black Caribbean immigrants frequently migrate to the U.S. specifically for the purpose of educational attainment (US Census Bureau, 2014). Thus, strong emphasis on academic achievement may be passed down as a core value to following generations. It is possible that children of Black immigrants may be at similar risk for perceiving high parental standards for achievement that is frequently discussed among Asian American groups. Similarly, long-standing cultural stigma associated with mental illness constitutes a considerable barrier to seeking mental health services (Mantovani, Pizzolati, & Edge, 2017). Interestingly, recent analyses indicate that Black Americans who are highly educated are less likely to utilize mental health services (Broman, 2012).

Despite the dearth of literature among Black immigrants and their immediate descendants, studies on perfectionism in African American samples may provide some

insight into the experiences of 1.5 and 2nd generation Black immigrants given some shared cultural beliefs, attitudes, and mores. Studies indicate that maladaptive perfectionist tendencies such as pervasive self-doubt and tendency to view mistakes as failures were associated with depressive symptoms, while lofty personal standards, self-doubt, and extreme preference for neatness and organization were associated with anxiety symptoms among African American college students (Chang, 2017). These findings are similar to patterns observed in Asian American (Castro & Rice, 2003; Chang, 2013) and Latina students (Chang, Hirsch, Sanna, Jeglic, & Fabian, 2011), suggesting some similarities across ethnic groups. In other study, African American students endorsed higher perceptions of lofty parental expectations, but lower concern over mistakes and perception of parental criticism than White students (Nilsson, Paul, Lupini, & Tatem, 1999). Unique to African Americans, dimensions of perfectionism have also been studied in relation to racial identity (Elion, Wang, Slaney, & French, 2012; Heads & Castillo, 2014). For example, Elion and colleagues (2012) found that dichotomous thinking within the context of race (i.e., polarization of racial groups) was likely to be associated with maladaptive perfectionism. This finding is consistent with the work of previous scholars who suggest dichotomous thinking as a primary characteristic of maladaptive perfectionism (Egan, Piek, Dyck, & Rees, 2007). The research on maladaptive perfectionism in African Americans provide valuable contribution to the literature. However, data on ethnic group membership or generational status of participants was not included. Thus, we cannot conclude whether findings related to perfectionism in African American samples hold true for young adult children of Black immigrants. Additional research is needed to examine the impact of cultural values on perfectionism and subsequent suicide ideation in Black immigrant groups.

Perfectionism and Suicide Risk in Hispanic Americans. Over 41% of the second-generation population traces its heritage to Latin America (Trevelyan et al., 2016). However, Hispanic Americans[4] have received the least attention (relative to other ethnic groups) with regard to maladaptive perfectionism and psychopathology. Research suggests that mental health outcomes for Hispanic immigrants and their subsequent generations may depend on factors such as socioeconomic status and familial environment (e.g., Portes, Fernández-Kelly, & Haller, 2005; Portes & Zhou, 1993; Zhou, 1997). Of note, there is growing concern of persistently high levels of suicide and non-suicidal self-injury in Latina adolescents (Gulbas, Hausmann-Stabile, De Luca, Tyler, & Zayas, 2015), which may extend to increased risk for suicidality in young adulthood (Hooven, Snedker, & Thompson, 2012). Although suicide rates among Hispanic Americans are relatively lower than the general population, there is evidence to suggest that the rates may be higher than what is currently reported, due to suicide misclassification (Rockett, Lian, Stack, Ducatman, & Wang, 2009; Rockett et al., 2010).

Despite notable risk, only four studies (Ansell et al., 2010; Burgess, DiBartolo, & Rendón, 2017; Chang et al., 2011; Ortega, Wang, Slaney, Hayes, & Morales, 2014) to date have examined perfectionism in samples with Hispanic or Latin American origin. Among the first, Ansell et al. (2010) found an association of perfectionism (conceptualized as a dimension of obsessive-compulsive personality disorder), depressive symptoms, and suicidal

[4] The term "Hispanic" refers to individuals from Spanish-speaking nations. Other related ethnic labels (e.g., Latina, Latino, Latinx) are used in reference to nations of Latin America (e.g., Brazil, Portugal) that have primary languages other than Spanish. The terms "**Hispanic**" and "**Hispanic American**" are used throughout the text to reflect the vast majority of extant literature which has primarily focused on immigration patterns from Spanish speaking countries (e.g., Mexico, Puerto Rico). The ethnic label "**Hispanic/Latinx**" is used in reference to the statistically combined ethno-racial group in the current sample of 1.5 and 2nd generation Americans.

thoughts. However, because the study was conducted with an outpatient psychiatric sample of monolingual (Spanish-speaking) participants, the findings have limited generalizability. In another study conducted with Latina college students, perfectionistic self-doubt accounted for unique variance in predicting depressive and anxiety symptoms, shedding light on important characteristics in Latina young adults (Chang et al., 2011). Interestingly, Ortega and colleagues (2014) found that excessively high personal standards was indicative of positive psychological functioning in Latinx students, whereas family standards of perfectionism were unrelated to depression, anxiety, and self-esteem. The authors suggest that the sample of mostly second, third, or later generation Latinxs may place a stronger emphasis on individualism than collectivism, due to the effects of acculturation (Ortega et al., 2014). Finally, a recent study by Burgess and colleagues (2017) provided evidence for Frost's (1990) conceptualization of perfectionism as psychometrically sound for use among Latina college students. Further study is needed to understand the role of culture, perfectionism, and suicide ideation in Hispanic and Latinx communities. Studies utilizing diverse samples (i.e., inclusion of male participants, non-university based individuals) are needed to increase generalizability of extant knowledge.

In sum, there is evidence to suggest that maladaptive perfectionism is a risk factor for psychopathology in racial and ethnic minority persons. Although researchers have documented maladaptive perfectionism as associated with suicide potential in emerging adults (Hewitt, Caelian, Chen, & Flett, 2014; Hewitt et al., 1992, 1994), less is known about the underlying emotional processes that contribute to this association, particularly among racial and ethnic minority groups (Kawamura & Frost, 2004).

Expressive Suppression and Suicide Risk: Ironic Process Theory

According to previous study, individuals with maladaptive perfectionist beliefs may be prone to engage in suppression as an emotion regulation strategy due to evaluative concerns (DiBartolo et al., 2008; Flett et al., 2007; Kawamura & Frost, 2004; Wei, Heppner, Russell, & Young, 2006). However, expressive suppression, or the inhibition of emotion-expressive behavior, is an emotion regulation strategy that is generally considered to have harmful psychological consequences (Gross & John, 2003). According to Ironic Process Theory (Wegner, 1994), active suppression of unwanted thoughts and emotions is said to have the unintended effect of increasing the intensity and frequency of such thoughts, leading to subsequent enhancement of negative emotional experience.

To illustrate, Kawamura and Frost (2004) found evidence for a mediation effect of self-concealment (i.e., the tendency to conceal negative or distressing personal information) on the association of maladaptive perfectionism and psychological distress in a sample of female college students (majority European American). In a two-month longitudinal study conducted with undergraduate students, Wei and colleagues (2006) added further evidence to support the mediation effect of suppression. Specifically, the authors found that maladaptive perfectionism and suppressive coping style influenced each other continuously over time to predict depressive symptoms at Time 2 (Wei et al., 2006). In other study, Flett and colleagues (2007) found evidence of both moderating and partial mediating effects of "silencing the self" on the association of maladaptive perfectionism and depression. Of note, silencing the self (and other suppressive strategies) have distinct conceptual relevance to the cultural practice of engaging self-sacrificing behavior in order to maintain harmony in important interpersonal relationships (Yoon & Lau, 2008). This is consistent with previous

research indicating that ethnic minorities are more likely to engage in expressive suppression than European Americans (Gross & John, 2003). However, the current literature contains no exploration of the links between expressive suppression and cultural values (e.g., coping through emotional suppression to meet familial expectations) within the context of maladaptive perfectionism. Furthermore, the available literature fails to examine the interactive effects of maladaptive perfectionism and suppression on suicide ideation.

Despite this gap, scholars have established direct links between suppression strategies and suicide vulnerability. For example, Pettit et al. (2009) discovered evidence of a robust association of thought suppression and suicide ideation in undergraduates and adolescents. Similarly, thought suppression was found to partially mediate the association of emotional reactivity and suicide ideation in a group of adolescents (Najmi, Wegner, & Nock, 2007). In more recent study, expressive suppression was a mediator of the association of adverse life events and suicide ideation and attempt, above and beyond depression in a sample of adolescents seeking emergency room services (Kaplow, Gipson, Horwitz, Burch, & King, 2014). Scholars have also found associations of elevated thought suppression (Cukrowicz, Ekblad, Cheavens, Rosenthal, & Lynch, 2008) and emotional inhibition (Lynch, Cheavens, Morse, & Rosenthal, 2004) with suicide risk in older adults. However, there is a paucity of research examining this association in young adults and ethnic minority groups.

In sum, there is compelling evidence suggesting the need to examine the interactive effects of maladaptive perfectionism and expressive suppression on suicide vulnerability among young adult children of immigrants. Previous literature has established main effects of maladaptive perfectionism and suppression on suicide risk, independently. The literature provides evidence that the association of maladaptive perfectionism and psychopathology is

mediated by suppression strategies, but this association has not yet been extended to a direct measure of suicide ideation. Additionally, both maladaptive perfectionism and expressive suppression have conceptual relevance to common culture-bound values (e.g., engaging in self-sacrificing behavior to meet familial expectations) among young adult children of immigrants. Inclusion of an explicit indicator of cultural phenomena will increase specificity of analyses.

Family Values: A Source of Suicide Risk or Resilience?

Findings from the aforementioned studies suggest that cultural and familial values are vital to understanding perfectionism and coping strategies in ethnic minorities. Common themes emerge across ethnic groups – in particular, the emphasis of family standards and expectations as central to the conceptualization of perfectionism. Although this finding is not unique to ethnic minority groups, the role of family environment in perfectionism may be especially critical among immigrant groups. Prior research on the mental health of immigrants and their descendants emphasizes the role of family in conceptualization of self, interpersonal relations, coping strategies, and subsequent mental health (e.g., Almeida, Molnar, Kawachi, & Subramanian, 2009; Close et al., 2016; Schwartz et al., 2010; Yoon & Lau, 2008). The primacy of the family unit in ethnic minority groups is summarized in the multidimensional construct of *familism.* As conceptualized by Steidel and Contreras (2003), familism reflects the attitudes and beliefs that the family comes before the individual, one has a duty to honor and uphold the family name, one should keep a strong physical and emotional bond with the family despite independent aspects of personal life, and one should both provide and expect to receive support of any kind from the family. Familism may also describe the emphasis of family as referents for maintaining behaviors that are consistent

with family values and expectations (Sabogal, Marín, Otero-Sabogal, Marín, & Perez-Stable, 1987).

Traditionally, familism is considered as a cultural resource contributing to psychological well-being via social support (Campos, Ullman, Aguilera, & Schetter, 2014; Karina Corona, Belinda Campos, & Chuansheng Chen, 2017). However, it is possible that some aspects of familism may constitute a source of stress under certain circumstances . Some authors suggest that the negative implications of familism stem from familial discord (Baumann, Kuhlberg, & Zayas, 2010; Hernández et al., 2010; Kuhlberg, Peña, & Zayas, 2010; Zayas & Pilat, 2008). For example, Zayas and Pilat (2008) posit that clashes between familial obligations (e.g., expectation to remain home until marriage and serve as a caretaker to others) and growing sense of autonomy contributes to suicide risk in Latina adolescents. Similarly, Hernández et al. (2010) concluded that the association of parent-child discord and psychological distress was strengthened at higher levels of familism in a group of Mexican American emerging adults. Discrepancies in the level of familism endorsed among mothers and daughters is also linked to attempted suicide in Latina adolescents (Baumann et al., 2010).

There is also evidence to suggest that the negative implications of familism may be related to cognitive style, including maladaptive perfectionism. Egan et al. (2007) propose that dichotomous thinking and rigidity are at the core of maladaptive presentations of perfectionism. Further, maladaptive thinking patterns associated with perfectionism tend to become characterological and relatively stable over time (Cox & Enns, 2003; Egan et al., 2007, 2011). Thus, for young adult children of immigrants who endorse maladaptive perfectionism, the values and principles associated with familism may constitute additional

lofty standards or expectations to strive toward (Yoon & Lau, 2008). To illustrate, Methikalam and colleagues (2015) found that family recognition through achievement was associated with maladaptive perfectionism in Asian Indian Americans. In other study, Asian Americans who endorsed high interdependence (i.e., the tendency to define oneself in terms of interpersonal obligations and responsibilities) were more vulnerable to depression associated with maladaptive perfectionist beliefs (Yoon & Lau, 2008).

Specific aspects of familism (such as the duty to honor and submit to the will of the family) may also dictate how one copes with personal problems. For example, a prominent value in Asian cultures is the duty to bring honor to the family name (Yoon & Lau, 2008). Consequently, an individual may be likely to mask distress for the sake of maintaining interpersonal harmony and avoid familial conflict (Wei, Su, Carrera, Lin, & Yi, 2013). Such cultural practices may be magnified for individuals with maladaptive perfectionist beliefs, as disclosing emotional distress may constitute a sign of weakness or personal failure. Furthermore, mental illness remains heavily stigmatized in some cultural communities (e.g., Mantovani, Pizzolati, & Edge, 2017). As such, the disclosure of critical symptoms of mental illness (e.g., suicidal thoughts) may be perceived as shameful to the family (Mantovani et al., 2017). In turn, it is hypothesized that individuals high in familism who endorse maladaptive perfectionist beliefs may regularly utilize suppression strategies to cope with psychological distress, increasing their negative emotional experience and ultimately contributing to suicide vulnerability.

Of note, current studies of familism are predominantly focused on populations of Hispanic and Latinx origin, suggesting an implicit assumption that familism is primarily applicable to person of Hispanic or Latin American descent (Schwartz, 2007). Although

familismo is said to be the core value in Hispanic and Latinx cultures (e.g., Sabogal et al., 1987; Steidel & Contreras, 2003; Valdivieso-Mora et al., 2016), scholars contend that the concept of familism has multicultural relevance, with unique characteristics emerging across ethnocultural groups (Schwartz, 2007; Schwartz et al., 2010; Zayas & Pilat, 2008). Schwartz and colleagues (2007; 2010) suggest that collectivist values in Asian and African origin cultures are conceptually and statistically similar to familism traditionally discussed in Hispanic cultures. Schwartz et al. (2010) found that unique presentations of collectivist values across ethnic groups clustered as a single factor (which the authors referred to as *family primacy*). The factor of family primacy was endorsed similarly across ethno-cultural groups and was indicative of both positive psychological functioning and psychological distress, suggesting adaptive and maladaptive qualities associated with familism across cultures. Across studies, familism is traditionally examined as a unitary construct, despite its multidimensional nature (Steidel & Contreras, 2003). The parsing of various functions of familism in empirical analyses may address inconsistencies in the current literature. Based on extant research (Hernández et al., 2010; Zayas & Pilat, 2008), it is posited that Steidel and Contreras' (2003) dimensions of a) familial honor and b) subjugation of self for family encompasses features of familism that are related to psychological distress.

Summary and Current Study Goals

Available literature indicates an association of maladaptive perfectionism and suicide risk, though this association has scarcely been assessed in immigrant populations. Consistent with the Social Expectations Model (Flett et al., 2002), children of immigrants may be at particular risk for developing maladaptive perfectionism in response to lofty parental expectations for achievement. Such perfectionist tendencies may extend to cultural beliefs

(e.g., subjugation of self for one's family; duty to honor the family name) and culturally congruent coping strategies (i.e., expressive suppression), resulting in extreme striving and subsequent maladaptive coping. Despite several plausible risk factors, sociocultural determinants of suicide risk in young adult children of immigrants remain poorly understood. The existing literature on perfectionism in ethnic minorities is primarily focused on Asian Americans, while studies of familism have primarily been conducted within Hispanic communities. Research with African American samples fail to acknowledge or include Black immigrants as a specific cultural group, despite noted differences in cultural experiences among Black immigrants and persons who identify as African American (e.g., Case & Hunter, 2014).

The current study is the first to examine the implications of the immigrant paradox to mental health concerns in a multi-ethnic sample of young adult children of immigrants. Specifically, I examine the association of perfectionism, expressive suppression, and familism as sociocultural determinants of suicide ideation among Asian, African, Black Caribbean, Hispanic, and Latinx young adult children of immigrants. Existing research is almost exclusively conducted with college student samples, comparing a single ethnic minority group to a White American control group. Such analyses are one-dimensional and fail to reflect the growing and diversifying population of the U.S. The proposed sample for the current study will address concerns of generalizability by incorporating a multiethnic sample of both community- and university-based young adults. The explicit hypotheses for the study are:

1) Expressive suppression (*M*) will partially explain the relation between maladaptive perfectionism (*X*) and suicide ideation (*Y*). Specifically, for individuals who endorse

expressive suppression, reported maladaptive perfectionism will be positively associated with reported suicide ideation.

2) The extent to which expressive suppression (*M*) accounts for the association of maladaptive perfectionism (*X*) and suicide ideation (*Y*) is expected to depend on levels of endorsed familism (*W;* first-stage moderator). Specifically, high maladaptive perfectionism will be indirectly associated with high reported suicide ideation through expressive suppression for individuals who endorse high but not low Familial Honor (W_1) and Subjugation of Self for Family (W_2).

Based on the majority of available literature, expressive suppression is examined as a potential mediator of the association of maladaptive perfectionism and suicide ideation. However, alternative models in which expressive suppression and maladaptive perfectionism may have reciprocal influence have also been shown to predict poor psychological outcomes (Kawamura & Frost, 2004).

Method

Participants

Participants were 376 self-identified male and female (61.2%) young adults age 18-30 years (Mean age = 22 years). Eligible participants were those who indicated at least one immigrant parent of Asian, African, Black Caribbean, Hispanic, or Latin American origin (2nd-generation American) *or* who migrated to the U.S. at age 12 years or younger [5] from Asian, African, Black Caribbean, Hispanic, or Latin American countries (1.5-generation American). Participants self-identified as Asian (33%), non-Hispanic Black (33.8%), and

[5] In previous study, individuals who migrated to the United States as children (12 years and younger) had lifetime rates of mental illness similar to that of U.S. born children of immigrants (Takeuchi et al., 2007) and similar rates of suicidal behavior (Borges et al., 2009; Borges, Orozco, Rafful, Miller, & Breslau, 2012).

Hispanic/Latinx (33.2%); study recruitment was discontinued when target *n* was achieved to obtain relatively equal distribution across ethnic groups. Participants represented 52 countries and primarily identified as 2nd generation American (68.4%). Detailed information on participant country of origin and generational status is included the Appendix, Table 8. Researchers have commented on the importance of studying both university and community-based samples of emerging adults, due to differing cultural experiences (Schwartz et al., 2010; Smith et al., 2014). Thus, participants were recruited through the university SONA research participant pool, university cultural organizations, community-based cultural organizations, and nation-wide listervs for professional organizations. Majority of the sample completed at least some college or higher (81.6%). While the majority of the sample were recruited through a university research participant pool, 35% of participants were community-based.

Procedure

The study was approved by the university Institutional Review Board (IRB) Human Subjects committee. Due to the mixed recruitment settings of university-based student pools and community-based organizations, participants were provided the option to complete a set of questionnaires online via Qualtrics or in-person using paper and pen. Upon consent, online participants were invited to complete the survey in a location of their choosing using a personal computer or mobile device. In-person participants were provided with a packet of questionnaires to be completed in a designated participation area. Upon completion of data collection, participants were entered into a raffle to receive one of 20 $50 Amazon gift cards. Student participants were also eligible to receive SONA research credits in addition to being entered into the raffle.

Measures

The Multidimensional Perfectionism Scale (MPS). The Multidimensional Perfectionism Scale (Frost et al., 1990) is a 35-item instrument used to assess six dimensions of perfectionism. *Concern over Mistakes* is conceptualized as strong, negative reactions to mistakes, the equivocation of mistakes to failure, and the tendency to believe that one's mistakes will result in loss of respect from others (e.g., "If I fail at work/school, I am a failure as a person"). *Personal Standards* is characterized by the setting of excessively high standards, and self-evaluation based on these high standards (e.g., "If I do not set the highest standards for myself, I am likely to end up a second-rate person"). *Parental Expectations* and *Parental Criticism* are characterized by the overarching belief that one's parents tend to set very high standards and are overly critical (e.g., "Only outstanding performance is good enough in my family;" "I never felt like I could meet my parents' expectations"). *Doubts About Actions* is conceptualized as the tendency to feel that one's work is not completed to satisfaction (e.g., "Even when I do something carefully, I often feel that it is not quite right"). Finally, the dimension of *Organization* pertains to one's preference for and emphasis of order (e.g., "Neatness is very important to me"). Previous studies indicate that the Personal Standards dimension is generally associated with positive psychological functioning (DiBartolo et al., 2008; Kawamura & Frost, 2004), and that the Organization dimension has limited statistical value (Burgess et al., 2017). Thus, only the 22 items pertaining to Parental Expectations, Parental Criticism, Concern over Mistakes, and Doubts about Actions were used in the current analyses as representative of maladaptive perfectionism (Kawamura & Frost, 2004). Items are measured on a 5-point Likert scale with response options ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Total scores are calculated by summing

scores on individual items. As a whole, the scale has demonstrated internal consistency with Cronbach's alpha values for the dimensional subscales ranging from $\alpha = 0.77 - 0.93$, and $\alpha = .91$ for the maladaptive perfectionism scale (Kawamura & Frost, 2004). The measure has also been validated in samples of ethnic minority young adults (Burgess et al., 2017; Castro & Rice, 2003; Chang, 2013; Kawamura et al., 2002). The total MPS in the current sample yielded internal consistency similar to previous studies ($\alpha = 0.91$). For the 22 items pertaining to maladaptive perfectionism, $\alpha = 0.92$.

The Emotion Regulation Questionnaire (ERQ). Expressive suppression was measured with the Emotion Regulation Questionnaire (Gross & John, 2003). The 10-item questionnaire is designed to measure two distinct emotion regulation strategies: Cognitive reappraisal and expressive suppression. Cognitive reappraisal involves re-evaluation of one's emotional experience during initial response to a situation. Expressive suppression takes place after an emotional response is fully formed, and involves the inhibition of the behavioral expression of emotion (Ioannidis & Siegling, 2015). While cognitive reappraisal is considered to be an adaptive skill, expressive suppression has harmful psychological effects and is widely considered as a maladaptive emotion regulation style (Gross, 2002, 2002; Gross & John, 2003; Ioannidis & Siegling, 2015; John & Gross, 2004). For the purpose of the current study, only items pertaining to expressive suppression (ES) were included in the analyses. The ES subscale is comprised of four items describing suppressive behaviors in response to positive or negative emotions (e.g., "I control my emotions by not expressing them"). Responses are measured on a 7-item Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The subscale is calculated by summing the four ES items, with high scores indicative of higher ES. The ERQ-ES has demonstrated internal

consistency across four pilot studies with alpha values ranging from (α = 0.68 - 0.76 and is psychometrically sound for use with ethnically diverse samples (Melka, Lancaster, Bryant, & Rodriguez, 2011). In the current study, alpha for the ES subscale was α = 0.76. Alpha for the overall ERQ questionnaire was α = 0.78.

Adult Suicidal Ideation Questionnaire (ASIQ). The Adult Suicidal Ideation Questionnaire (Reynolds, 1991) is a 25-item self-report measure designed to measure suicidal ideation in adults age 18 years and older. Participants were asked to respond on a 7-point scale regarding the frequency of suicidal thoughts (e.g., "I thought that people would be happier if I was not around," "I thought life was not worth living") ranging from 0 (*Never had the thought)* to 6 *(Had the thought almost every day).* A total score is produced by summing the ratings, with higher scores reflecting greater levels of suicidal ideation. Reynolds (1991) reported acceptable reliability (test retest = 0.86, internal consistency = 0.97) and discriminant validity associated with measures of depression and hopelessness in sample of emerging adults. Cukrowicz and colleagues (2011) also validated the measure for use with diverse college students evidencing subclinical symptoms of depression. In the current sample, α = 0.99.

Attitudinal Familism Scale (AFS). The Attitudinal Familism Scale (Steidel & Contreras, 2003) is an 18-item questionnaire designed to measure the multidimensional construct of familism. The scale contains statements indicative of four dimensions of familism including Familial Support, Familial Interconnectedness, Familial honor, and Subjugation of Self for Family. Items are measured on a 10-point Likert scale with responses ranging from 1 (*Strongly Disagree*) to 10 (*Strongly Agree*). The scale was designed to include a wide range of response options to reflect response patterns observed in previous

research with Hispanic groups (Steidel & Contreras, 2003). Of note, the AFS is primarily utilized in samples of Hispanic/Latinx background, as the concept of *familismo* was first introduced as a construct characteristic of Hispanic culture. However, previous study by Schwartz and colleagues suggests that familism, when measured by the AFS, yields the same factor structure across cultures, suggesting the applicability of familism across ethnic groups (Schwartz, 2007; Schwartz et al., 2010). Although familism is generally considered as a protective cultural resource across cultures, studies indicate that particular dimensions of familism (i.e., family obligation) may contribute to psychological distress for young adult children of immigrants (Hernández et al., 2010). Due to the focus of the proposed study, only items pertaining to family obligation, including Familial Honor (e.g., "A person should feel ashamed if he or she dishonors the family name") and Subjugation of Self for Family (e.g., "A person should be a good person for the sake of his or her family") were included in the current analyses. Higher mean scores on the AFS are indicative of stronger commitment to familism. The AFS has demonstrated reliability in diverse samples with alpha values ranging from $\alpha = 0.88 - 0.91$ (Schwartz et al., 2010). In the current sample, the subset of items pertaining to Familial Honor yielded $\alpha = 0.71$. For the subset of items pertaining to Subjugation of Self for Family, $\alpha = 0.73$. The overall scale yielded acceptable internal consistency ($\alpha = 0.90$).

Patient Health Questionnaire – 2 (PHQ-2). The PHQ-2 (Kurt Kroenke, Spitzer, & Williams, 2003) is a brief symptom screener that contains two items to assess hallmark symptoms of depression (depressed mood; anhedonia) that are required for diagnosis of major depressive disorder according to the DSM-5 (American Psychiatric Association & American Psychiatric Association. DSM-5 Task Force, 2013). The PHQ-2 is derived from

the PHQ-9 (Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, Williams, & Group, 1999; Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000) and is validated for use among the general population, typically administered in primary care settings. The two items assess the self-reported frequency of depressed mood and anhedonia over the past two weeks, to which respondents rate in severity ranging from 0 "*Not at all*" to 3 "*Nearly every day*." Scores are summed, with higher scores indicative of more frequent depressive symptoms. In past study, the PHQ-2 was administered to 6,000 primary care patients and was found to be a valid indicator of depressive symptoms across several demographics (e.g., race/ethnicity, age, gender, and geographic location). Although the reliability of a two-item scale must be interpreted with caution, the PHQ-2 yielded acceptable internal consistency in the current sample, ($\alpha = 0.83$). Additionally, responses to the two items were significantly correlated ($r^2 = 0.72$; $p < .001$).

Data Analytic Plan

Hypothesis 1. Simple mediation was conducted using the PROCESS macro for SPSS (Hayes, 2014; Model 4 = simple mediation). The model included maladaptive perfectionism (*X*) as a predictor of suicide ideation (*Y*). Expressive suppression was assessed as a mediator of the association of maladaptive perfectionism and suicide ideation (*M*). All relative indirect effects were subject to bootstrap analyses with 10,000 samples and a 95-percentile confidence interval estimate, an approach considered more powerful than causal steps (Baron & Kenny, 1986) or the Sobel test (Sobel, 1982) given its ability to better control Type I error (Hayes & Matthes, 2009; Hayes & Scharkow, 2013). Bootsrapping also allows for the use of confidence intervals. Confidence intervals that exclude zero provide evidence of significant

indirect effects (Hayes, 2014, 2015; Shrout & Bolger, 2002). Age, gender, education level, and depressive symptoms were entered as covariates for the mediation model.

Hypothesis 2. Two moderated mediation analyses were conducted using PROCESS macro (Hayes, 2014; Model 7 = first-stage moderated mediation). Both models included maladaptive perfectionism as the independent variable (*X*), suicide ideation as the outcome variable (*Y*), expressive suppression as a mediator of this association (*M*), and dimensions of familism as a first-stage moderator (*W*) of the association of maladaptive perfectionism and expressive suppression. The first model included Subjugation of Self for Family (W_1), and the second included Familial Honor (W_2). Age, gender, education level, and depressive symptoms were added as covariates in both models. The moderated mediation analyses was conducted using 10,000 bootstrapped samples. The Index of Moderation Mediation calculated by the PROCESS macro was examined to assess the moderator's impact on the indirect effects of the model. If the upper and lower limit confidence intervals of the Index of Moderated Mediation do *not* contain zero, one can statistically infer that the indirect effect of *X* (maladaptive perfectionism) on *Y* (suicide ideation) via *M* (expressive suppression) is dependent on levels of *W* (familism) (Hayes, 2015).

Sample Size Planning, and Statistical Power

Analyses of statistical power and required sample size were conducted using G* Power statistical software (Faul, Erdfelder, Lang, & Buchner, 2007). The first power analysis was conducted to determine the number of participants needed to conduct bivariate correlation analyses among measured variables. Cohen (1988, 1992) suggested an estimated medium effect size (0.30). Based on this estimate with an alpha = 0.05 and power = 0.80, the projected sample size needed with this effect size was 84 total participants. Thus, power for

the current sample (N = 376) exceeds 0.80. For simple mediation, Cohen (1988; 1992) suggests a medium effect size (f^2 = 0.39). In their in-depth review of required empirical power for mediation analysis, Fritz and MacKinnon suggest a required sample size of 78 participants when alpha = 0.05, power = 0.80, and resampling techniques (i.e., bootstrapping) are employed. For moderated mediation, Preacher, Rucker, and Hayes, (2007) suggest a sample size ranging from 50 to 100 participants for a medium (f^2 = 0.39) effect when alpha = 0.05, power = 0.80, and resampling techniques are employed. The current sample (N = 376) exceeds the suggested sample size for 0.80 power (n > 100).

Results

Data Cleaning Procedures

Data were screened for missingness and outliers prior to conducting study analyses. Of the 411 participants who began the study, 15 were eliminated if they did not complete at least one scale in the survey battery. An additional 20 participants were excluded from the analyses if they were over the age of 30 years (n = 3), indicated that they were of mixed race or selected "other," (n = 3), or selected 3rd generational status or "I don't know" (n = 14). A missing variables analysis indicated that the expressive suppression subscale of the Emotion Regulation Questionnaire (ERQ) had six cases with missing data (1.6%). The Adult Suicide Ideation Questionnaire (ASIQ) had 7 cases with missing data (1.9%). Additionally, the PHQ-2 had 17 cases with missing data (4.5%). Further analysis was conducted to probe the data for patterns of missingness. Little's MCAR test revealed that data were missing completely at random (MCAR) across study variables, as evidenced by a non-significant statistic (Chi-Square 27.56, df = 33, sig. = 0.735). Thus, listwise deletion (employed as an automatic step in PROCESS Macro; Hayes 2012) is an appropriate procedure to address minimal missing

data that is MCAR (King, Honaker, Joseph, & Scheve, 2001). Variables were also tested for normality of distribution. Seven outliers were observed for ASIQ scores, which initially ranged from 16 to 143 (M = 16.40; SD = 24.71). Thus, the data were truncated (most extreme value replaced with the next reasonable value) to retain power while reducing the risk of potential bias (Costa, 2014). In previous study with ethnically diverse undergraduate students, mean score for the ASIQ was 13.82 (SD = 23.05; Hong, Talavera, Odafe, Barr, & Walker, 2018). ASIQ total score also displayed some peakedness with a kurtosis value of 7.144 (SD = 0.253). Following a natural log transformation, the variable yielded kurtosis within an acceptable range (-1.328, SD = 0.253).

Descriptive Statistics

Means, standard deviations, and intercorrelations are presented in Table 1. Bivariate correlations revealed a positive association of maladaptive perfectionism and expressive suppression (r = 0.387, r^2 = 0.150, p < .001), Familial Honor (r = 0.151, r^2 = 0.023, p = .003), Subjugation of Self for Family (r = 0.178, r^2 = 0.032, p = .001), suicide ideation (r = 0.219, r^2 = 0.048, p < .001), and depressive symptoms (r = 0.249, r^2 = 0.062, p <.001). Similarly, expressive suppression was positively associated with Familial Honor (r = 0.206, r^2 = 0.042, p < .001) and Subjugation of Self for Family (r = 0.221, r^2 = 0.049, p < .001) though was not significantly associated with suicide ideation or depressive symptoms. Contrary to study hypotheses, dimensions of familism were negatively associated with suicide ideation such that high reported Familial Honor (r = -0.154, r^2 = 0.024, p = .003) and Subjugation of Self for Family (r = -0.151, r^2 = 0.023, p = .004) were each associated with low reported suicide ideation. Participant generational status was unrelated to the primary study variables, thus was not included as a covariate in subsequent analyses.

Next, multivariate analysis of variance (MANOVA) was conducted to determine whether study variables differed by participant demographics (i.e., generational status; race/ethnicity). Results indicated that there was no multivariate effect of generational status across study variables F (9, 348) = 0.481, p = .887; Wilk's Λ = .988, partial η^2 = .012. However, there was a significant multivariate effect for race/ethnicity, F (12, 700) = 2.198, p = .010; Wilk's Λ = .929, partial η^2 = .036. Post-hoc analyses were conducted in order to probe group differences. Asian participants reported significantly higher maladaptive perfectionism scores (M = 71.03, SE = 1.53) than both African/Black Caribbean (M = 65.81, SE = 1.57) and Hispanic/Latinx participants (M = 65.69, SE = 1.52) (Table 2). However, because participants did not significantly vary on any other primary study variables by race/ethnicity, the aggregate sample was retained for subsequent analysis. In lieu of conducting statistical analyses stratified by race/ethnicity (as originally proposed), a post-hoc moderated mediation model was included to further explore the interaction of race/ethnicity, maladaptive perfectionism, expressive suppression, and suicide ideation.

Moderated Mediation Analyses

Hypothesis 1: *Expressive suppression (M) will partially explain the relation between maladaptive perfectionism (X) and suicide ideation (Y). Specifically, for individuals who endorse expressive suppression, reported maladaptive perfectionism will be positively associated with reported suicide ideation.* A simple mediation was conducted using the PROCESS macro for SPSS (Hayes, 2014; Model 4 = simple mediation). Maladaptive perfectionism scores were entered as a predictor (X) of reported suicide ideation (Y). Expressive suppression was assessed as a mediator of the association of maladaptive perfectionism and suicide ideation (M). Age, gender, education level, and depressive

symptoms were entered as covariates for the mediation model. All analyses were subject to 10,000 bootstrap samples and a 95-percentile confidence interval estimate. There was a simple effect of maladaptive perfectionism (*X*) on expressive suppression (*M*) (*a* path; b = .123, t = 7.825, p <.001, 95% CI [.092 – .154]). Additionally, the total effect of maladaptive perfectionism (*X*) on suicide ideation (*Y)* was statistically significant (R^2=.087, df = 5, 317, F = 6.069, p <.001). This effect remained significant with expressive suppression (*M*) and covariates included as predictors of *Y* (*c'* path; b = .327, t = 4.083, p <.001, 95% CI [.170 – .485]). The indirect effect of maladaptive perfectionism (*X*) on suicide ideation (*Y*) through expressive suppression (*M*) was non-significant. Results from the conditional process models are presented in Figure 1. Detailed results of the mediation analysis are included in the Appendix (Table 3).

Hypothesis 2: *The extent to which expressive suppression (M) accounts for the association of maladaptive perfectionism (X) and suicide ideation (Y) is expected to depend on levels of endorsed familism (W; first-stage moderator). Specifically, high maladaptive perfectionism will be indirectly associated with high reported suicide ideation through expressive suppression for individuals who endorse high but not low Familial Honor (W_1) and Subjugation of Self for Family (W_2).* Two moderated mediation analyses were conducted using PROCESS macro (Hayes, 2014; Model 7 = first-stage moderated mediation). Both models included maladaptive perfectionism scores as the independent variable (*X*), suicide ideation as the outcome variable (*Y*), and expressive suppression as a mediator of this association (*M*). In the first model, Familial Honor (W_1) was entered as a first-stage moderator of the association of maladaptive perfectionism and expressive suppression. In the second model, Subjugation of Self for Family (W_2) was considered. Age, gender, education

level, and depressive symptoms were entered as covariates for both moderated mediation models. All analyses were subject to 10,000 bootstrap samples and a 95-percentile confidence interval estimate. Though assessed separately, the two models containing maladaptive perfectionism (*X*), expressive (*M*) suppression, suicide ideation (*Y*), and two dimensions of familism as first-stage moderators (*W*) were significant and yielded identical estimates for the overall model (R^2=.263 , *df* = 6, 349, *F* = 20.733, *p* <.001). Similarly, the direct effect of maladaptive perfectionism (*X*) on suicide ideation (*Y*) was significant and yielded identical estimates in both models (*c*' path; *b* = .012 , *t* = 2.509, *p* =.013, 95% CI [.003 – .021]). In both models, there was no significant indirect effect of maladaptive perfectionism (*X*) on suicide ideation (*Y*) through expressive suppression (*M*). The Index of Moderated Mediation was examined to determine whether the effect of *X* on *Y* through *M* varied by levels of *W*. Lower and upper level 95% confidence intervals for the Index of Moderated Mediation contained zero; thus, there was no effect of moderated mediation in the proposed model. Results from the two moderated mediation models are represented in Figures 1 and 2. Detailed results on the conditional effects can be found in the Appendix (Tables 4 and 5).

Post-Hoc Analyses

In summary, there was a simple effect of maladaptive perfectionism on expressive suppression (*a* path) and a simple effect of maladaptive perfectionism on suicide ideation (*c*' path). However, expressive suppression was not directly associated with suicide ideation (*b* path). Additionally, varying levels of Familial Honor (W_1) and Subjugation of Self for Family (W_2) did not have a significant moderation effect. Previous authors have noted a reciprocal effect of maladaptive perfectionism and expressive suppression, such that the two

variables influenced one another continuously over time (Wei et al., 2006). Thus, it is plausible to examine the reciprocal effect of expressive suppression and maladaptive perfectionism in the prediction of suicide ideation. Consequently, a third moderated mediation was tested to examine whether maladaptive perfectionism might serve as a mediator of the association of expressive suppression and suicide ideation in young adult children of immigrants. Given the significant multivariate effect of race/ethnicity on maladaptive perfectionism, race/ethnicity was proposed as a first-stage moderator of the potential mediation. Based on extant literature and group mean differences in maladaptive perfectionism scores, it was hypothesized that Asian participants would yield the highest mediation effect, followed by African/Black Caribbean and Hispanic/Latinx participants, respectively.

A simple mediation (Figure 3) was first conducted with expressive suppression (*X*) entered as a predictor of suicide ideation (*Y*) and maladaptive perfectionism as a potential mediator (*M*). Age, gender, education level, and depressive symptoms were entered as covariates for the mediation model. All analyses were subject to 10,000 bootstrap samples and a 95-percentile confidence interval estimate. Results indicated a simple effect of expressive suppression on maladaptive perfectionism (*a* path; $b = 1.209$, $t = 7.823$, $p < .001$, 95% CI [.9047 – 1.5122]). Additionally, there was a simple effect of maladaptive perfectionism on suicide ideation (*b* path; $b = .012$, $t = 2.509$, $p = .013$, 95% CI [.0025 – .0207]). Although the direct effect of expressive suppression (*X*) on suicide ideation (*Y*) was non-significant (*c*' path), the indirect effect of expressive suppression (*X*) on suicide ideation (*Y*) through maladaptive perfectionism (*M*) was significant ($b = .014$, 95% CI [.0021 – .0275]). Though traditional causal steps approaches to mediation interpretation (e.g., Baron

& Kenny, 1986) rely on significant p-values for individual pathways without a direct statistical test of the indirect effect, revised models of statistical inference suggest that the significant product of path *a* and path *b* (as estimated by 95% bias-corrected bootstrap confidence intervals) is sufficient to infer at least a partial mediation effect (Hayes, 2014). Because path *c'* (*X* → *Y*) in the current model is non-significant but there is a significant indirect effect of *X* on *Y* through *M*, one can statistically infer that the product of simple effects (*a*b*) fully accounts for the association expressive suppression and suicide ideation. In other words, maladaptive perfectionism is a mediating variable in the association of expressive suppression and suicide ideation in the current sample of young adult children of immigrants (Hayes, 2014). The overall model containing expressive suppression, maladaptive perfectionism, suicide ideation, and covariates was significant (R^2=.250, df = 5, 350, F = 23.269, p <.001) and accounted for 25% of the variance in suicide ideation. Detailed results from the conditional process models are presented in the Appendix (Table 6).

Next, a third moderated mediation analysis (Figure 4) was conducted to evaluate whether the mediation effect varied by participant race/ethnicity. In the current model, expressive suppression was entered as the independent variable (*X*), suicide ideation as the outcome variable (*Y*), maladaptive perfectionism as a mediator (*M*), and race/ethnicity as a first-stage moderator (*W*). PROCESS Version 3.3 allows for the inclusion of multicategorical variables and utilizes indicator coding (*k*-1) to represent groups. Asian participants served as the reference group for the sample (*W*)[6], while African/Black Caribbean participants were coded as (*W1*), and Hispanic/Latinx were coded as (*W2*). Thus, all effects involving

[6] There is a considerable amount of literature on maladaptive perfectionism for Asian Americans relative to African/Black Caribbean and Hispanic/Latinx ethnic groups. Thus, Asian Americans served as the reference group for post-hoc moderated mediation analyses.

race/ethnicity are interpreted relative to the reference group (Asian participants). Additionally, age, gender, education level, and depressive symptoms were entered as covariates for the moderated mediation model. All

analyses were subject to 10,000 bootstrap samples and a 95-percentile confidence interval estimate.

In Step 1 of the moderated mediation analysis, the potential moderation of expressive suppression and maladaptive perfectionism by race/ethnicity is assessed in isolation. Results indicated a significant interaction of expressive suppression and race/ethnicity in predicting maladaptive perfectionism. Results of the interaction effect are interpreted in relation to Asian participants as the reference group. Relative to Asian participants, the association of expressive suppression and maladaptive perfectionism for African/Black Caribbean participants yielded a smaller estimate (as indicated by the negative coefficient; b = -.371, t = -.942, p = .347, 95 % CI [-1.144 – .403]), though this difference was *not* significant (as indicated by the confidence interval containing zero). However, the association of expressive suppression and maladaptive perfectionism was significantly lower for Hispanic/Latinx participants (in relation to Asian and African/Black Caribbean participants) as indicated by the negative coefficient, significant p-value, and 95% confidence interval which does *not* contain zero (b = -1.195, t = -3.279, p = .001, 95% CI [-1.911 – -.478]). Conditional effects of X at values of the moderator (plotted in Figure 5) reveal additional information on the effect of expressive suppression on maladaptive perfectionism across racial/ethnic groups. While the association of expressive suppression and maladaptive perfectionism was positive at all three levels of race/ethnicity (as evidenced by the positive coefficients and significant p-values/confidence intervals across groups), the effect for Hispanic/Latinx participants (b =

.590, $t = 2.527$, $p = .012$, 95% CI [.131 – 1.050]) is significantly smaller relative to other ethnic groups. Both Asian ($b = 1.785$, $t = 6.377$, $p < .001$, 95% CI [1.235 – 2.336]) and African/Black Caribbean ($b = 1.415$, $t = 5.118$, $p < .001$, 95% CI [.871 – 1.959]) participants yielded relatively similar effects in the association of expressive suppression and maladaptive perfectionism. Figure 5 illustrates the interaction of expressive suppression with the 3-level moderator (race/ethnicity) in predicting maladaptive perfectionism scores.

In Step 2 of the analysis, the full moderated mediation is considered. Similar to previous models, the direct effect of expressive suppression (*X*) on suicide ideation (*Y*) (*c*' path) was non-significant. However, there was a simple effect of maladaptive perfectionism (*M*) on suicide ideation (*Y*) (*b* path; $b = .012$, $t = 2.509$, $p = .013$, 95% CI [.003 – .021]). Similar to the mediation model, the indirect effect of expressive suppression (*X*) on suicide ideation (*Y*) through maladaptive perfectionism (*M*) remained significant across groups, suggesting that maladaptive perfectionism accounted for the association of expressive suppression and suicide ideation. The Index of Moderated Mediation (included in the Appendix, Table 7) was examined to determine whether the effect of *X* on *Y* through *M* varied at levels of *W*. For models with a multicategorical moderator (*W*), the index statistic is calculated by subtracting the effect (represented in Table X) from that of the reference group. Lower and upper level 95% confidence intervals provide estimation of whether the difference in effect is statistically different than zero. For African/Black Caribbean (*W1*) participants, a negative index statistic (-.004) is indicative of a smaller mediation effect than Asian participants. However, lower and upper level 95% confidence intervals for the Index of Moderated Mediation contained zero (95% CI [-.017 – .007]); thus, the mediation effect did not statistically differ for Asian and African/Black Caribbean participants. Hispanic/Latinx

participants (*W2*) also had a lower effect of mediation than Asian participants (index statistic = -.014). In contrast to African/Black Caribbean participants, this difference was significant (as evidenced by lower and upper 95% confidence intervals that did not contain zero, 95% CI [-.030 – -.002]). Thus, Hispanic/Latinx participants displayed a significantly smaller effect of mediation than Asian participants. The overall model containing expressive suppression, maladaptive perfectionism, race/ethnicity, and covariate variables was significant (R^2=.263, df = 6, 349, F = 20.733, p <.001) and accounted for 26% of the variance in suicide ideation). Detailed results from the conditional process models are presented in the Appendix, Table 7.

Discussion

According to the immigrant paradox, descendants of immigrants are at higher risk for psychopathology with longer residence in the U.S. The current study presents notable findings in the investigation of maladaptive perfectionism, expressive suppression, familism, and suicide ideation in ethnically diverse young adult children of immigrants. MANOVA revealed that maladaptive perfectionism varied by participant race/ethnicity with Asian participants reporting significantly higher global maladaptive perfectionism than African/Black Caribbean and Hispanic/Latinx participants. Consistent with previous literature (Castro & Rice, 2003; Chang, 1998; Kawamura et al., 2002), Asian participants in the current sample also endorsed higher Concern over Mistakes and Doubts about Actions than other ethnic groups. Though previous authors primarily compared maladaptive perfectionism in Asian American and White American samples, the current study is the first to include comparison of Asian, African/Black Caribbean, and Hispanic/Latinx young adult children of immigrants. Findings suggest that Asian American young adults may be more likely to endorse dimensions of maladaptive perfectionism related to evaluative concerns

(DiBartolo & Rendón, 2012), contributing to overall heightened risk and suicide vulnerability (Blankstein et al., 2007).

As predicted, higher ratings of maladaptive perfectionism were associated with higher ratings of expressive suppression. Additionally, higher ratings of maladaptive perfectionism were associated with higher reported suicide ideation. Authors of previous studies examined links between maladaptive perfectionism and psychopathology across ethnic minority groups. However, the current study is the first to establish an association between maladaptive perfectionism, expressive suppression, and suicide ideation in young adult children of immigrants of diverse racial/ethnic background. In light of previous findings providing evidence of heightened psychopathology among children of immigrants (i.e., the immigrant paradox), it is critical to identify psychosocial risk factors that may increase suicide vulnerability for 1.5 and 2nd generation Americans. Maladaptive perfectionist attitudes, beliefs, and behaviors may be a representation of internalized pressure to achieve that is heightened among ethnically diverse 1.5 and 2nd generation Americans. Consistent with the Social Expectations Model (Flett et al., 2002), familial environments in which achievement is overemphasized may promote heightened evaluative concerns and contingent self-worth. For young adult children of immigrants, maladaptive perfectionism may develop as a sociocultural risk factor and contribute to suicide vulnerability. The association may be stronger for Asian, African, and Black Caribbean children of immigrants. In comparison to later generations, individuals who migrated to the U.S. as children or are born to immigrant parents are more likely to have first-hand experience or knowledge of the hardships and sacrifices required to build a life in the United States. Likewise, young adult children of immigrants who are visible ethnic minorities face unique challenges (such as understanding

and navigating racial stereotypes, perceived discrimination, and systemic oppression) that other children of immigrants (whose cultural and phenotypic characteristics match that of the majority culture) may not encounter. The compound of these apparent societal and familial pressures may constitute a unique source of suicide risk among diverse children of immigrants. This association may be especially prominent for Asian Americans, who reported significantly higher maladaptive perfectionism related to evaluative concerns.

Sociocultural climates that foster maladaptive perfectionistic characteristics may also coincide with coping mechanisms such as expressive suppression. For members of cultures in which mental illness is heavily stigmatized, and the collective unit is valued over the individual, suppressing the outward expression of emotions may engender a seemingly logical response to distress. Despite apparent links to maladaptive perfectionism, expressive suppression (when considered independently) was not directly associated with suicide ideation in the current sample. Further, AFS items related to Familial Honor (e.g., *"A person should feel ashamed something he or she does dishonors the family name"*) and Subjugation of Self for Family (e.g., *"Children should obey their parents without question even if they believe they are wrong")* were associated with low suicide ideation, thus appeared to be adaptive for young adult children of immigrants in the current sample of participants. Taken together, these findings stand in contrast to study hypotheses and extant literature which posit that suppression of emotions and expectations for familial obligation are associated with psychological risk and increased suicide vulnerability (Baumann et al., 2010; Gross, 2002; Gross & John, 2003; Hernandez-Tejada, Lynch, Strom, & Egede, 2012; John & Gross, 2004; Kuhlberg et al., 2010; Zayas & Pilat, 2008). Though Ironic Process Theory (Wegner, 1994) indicates that expressive suppression is traditionally associated with negative outcomes in the

general population, perhaps this form of emotion regulation (when considered independently of other potential risk factors) constitutes a culturally-congruent coping mechanism for members of traditionally collectivist cultures. Among study participants, expressive suppression was positively associated with both dimensions of familism, which were inversely related to suicide ideation – further underscoring the assertion that expressive suppression and obligation to family are culturally cohesive and do not contribute to suicide risk in certain contexts. Patterns of expressive suppression and familial obligation in the current sample appeared to reflect previous authors' assertions that the act of suppressing expression of strong emotions is consistent with a collectivist view of engaging in self-sacrificing behavior in order to maintain interpersonal harmony in important relationships (Yoon & Lau, 2008). Maintaining a positive social network is posited to ameliorate vulnerability to suicide (Van Orden et al., 2010)

Though expressive suppression was not a direct risk factor for suicide ideation, maladaptive perfectionism fully accounted for any potential association of expressive suppression and suicide ideation, and remained significant above and beyond the effect of potential covariates (including depressive symptoms). As noted in the extant literature, maladaptive perfectionism and expressive suppression have unique cultural implications among children of immigrants, who may be prone to extreme striving and masking of emotions (e.g., Yoon & Lau, 2008). Due to the environmental challenges faced by many immigrants upon arriving to the U.S., children of immigrants may be subject to lofty expectations for achievement as part of their sociocultural upbringing. Though these experiences may be somewhat normalized among immigrant families, Flett et al.'s (2002) Social Expectations Model indicates that such norms may be linked to the development of

maladaptive perfectionist beliefs and tendencies (e.g., concern over mistakes, fear of evaluation, contingent sense of self-worth). Maladaptive perfectionism may also promote extreme striving to achieve sociocultural norms, including masking negative emotions (particularly among cultures in which mental illness is heavily stigmatized). The amalgamation of these contextual and emotional experiences may contribute to suicidal ideation among Asian, African/Black Caribbean, and (to a lesser extent), Hispanic/Latinx children of immigrants.

Notably, the mediation of expressive suppression and suicide ideation via maladaptive perfectionism was moderated by participant race/ethnicity. First, there was a significant interaction of expressive suppression and participant race/ethnicity in predicting maladaptive perfectionism scores ($X*W \rightarrow M$). Specifically, Asian and African/Black Caribbean participants demonstrated a significantly larger effect than Hispanic/Latinx participants in the positive association of expressive suppression and maladaptive perfectionism. Additionally, the overall mediation (expressive suppression (X) → maladaptive perfectionism (M) → suicide ideation (Y)) was moderated by participant race/ethnicity such that Hispanic/Latinx participants showed a significantly smaller mediation effect of expressive suppression, maladaptive perfectionism, and suicide ideation than Asian, African/Black Caribbean participants.

Racial/ethnic differences in the current study suggest nuances in the immigrant paradox and overall psychological risk across immigrant ethnic groups. Results from the current analyses suggest that both Asian and African/Black Caribbean children of immigrants may be at elevated risk for suicide ideation associated with maladaptive perfectionist beliefs and the tendency to suppress emotions. This finding may be linked to shared cultural values

in Asian, African, and Black Caribbean immigrant families. For example, noted stigma of mental illness and strong emphasis of collectivism in Asian, African, and Black Caribbean communities may promote the adoption of expressive suppression as an emotion regulation strategy. Perceived expectations for educational achievement as a means of social and economic advancement across Asian, African, and Black Caribbean communities may promote maladaptive perfectionist tendencies, strengthening the indirect association of expressive suppression and suicide ideation. Currently, the vast majority of empirical studies on expressive suppression and maladaptive perfectionism (both separately and collectively) that include an ethnically diverse sample are disproportionately focused on Asian American cultural groups. The current study provides evidence that Black immigrant groups may be at similar risk for excessive striving, masking of emotions, and related distress contributing to suicide ideation. In contrast, Hispanic/Latinx participants demonstrated the smallest interactive effect of expressive suppression and maladaptive perfectionism, as well as the smallest indirect effect of maladaptive perfectionism as a mediator of expressive suppression and suicide ideation. Relative to Asian, African, and Black Caribbean participants, the association of variables may be culturally salient to a lesser degree for Hispanic/Latinx young adult children of immigrants.

Insight into how emotional risk factors may be different for young adult children of immigrants is critical in defining appropriate models of suicide risk. For example, though expressive suppression is widely considered a maladaptive coping response, it may constitute a culturally-congruent method of emotion regulation particularly for those who are high in collectivism and obligation to family. Additionally, dimensions of familism (including those that favor the interest of the family over the individual) are inversely related to suicide

ideation. While such associations may be unexpected in primarily individualistic cultures, they are critical to the development of culturally-salient suicide risk and resilience models for ethnically diverse 1.5 and 2nd generation Americans. In addition to the inclusion of racial/ethnically diverse groups, the current study also expands upon the extant literature to include community-based young adults as a means to promote generalizability of study findings.

Limitations and Future Directions

The current study expands on the available literature examining unique psychological risk factors associated with suicide vulnerability in ethnic minority groups. However, some limitations are noted for interpreting current results. First, the cross-sectional study design limits the ability to interpret causal effects between study variables. Future study utilizing longitudinal study design may optimize the ability to infer causation in the critical association of expressive suppression, maladaptive perfectionism, and suicide ideation in young adult children of immigrants. Though the ethnically diverse sample of young adult children of immigrants (including African and Black Caribbean immigrants, who remain understudied in extant literature) is a strength of the study, within-group heterogeneity across study variables was not assessed. The current study was built upon the relatively nascent literature examining suicide risk factors in children of immigrants. Thus, broad racial/ethnic categorizations were utilized to develop preliminary evidence of psychological risk and resilience to suicide among young adult children of immigrants. Optimistically, findings from the current study will propel further investigations, including the examination of within-group differences on similar psychological and cultural variables. Future researchers may also evaluate the current model's fit across generational groups (e.g., 1st generation and 3rd

and later generation Americans) in order to assess potential differences in cultural risk and resilience factors. Additionally, expansion to include other burgeoning immigrant groups that are largely underrepresented in the psychology literature (e.g., American Arab, Middle Eastern/North African or "MENA;" will promote a more inclusive conceptualization of suicide risk and resilience among racially/ethnically diverse children of immigrants.

The current study was intended to address the dearth of literature examining putative risk factors to suicide in young adult children of immigrants. However, other relevant cultural and psychological factors that were not examined in the current model may contribute to overall risk and resilience to suicide. Future examination of cultural protective factors is critical to the development of resilience models and targeted clinical interventions specific to young adult children of immigrants. For example, previous authors have found religious/spiritual involvement to serve as a potential coping resource to combat suicide vulnerability in some cultural communities (Taylor, Chatters, & Joe, 2011), but may also be a catalyst for mental illness stigma and lack of health seeking behavior in other contexts (Mantovani et al., 2017). Examining the interplay between the current study variables and other endogenous (e.g., ethnic identity, acculturation level) and contextual (e.g., ethnic density, environmental stressors) factors that are salient to the immigrant experience may also yield fruitful contribution to the literature. Such analyses will increase understanding of the underlying mechanisms driving variation between racial/ethnic groups and increase specificity of risk-resilience models.

Study Implications and Conclusions

Findings from the current study provide compelling evidence to develop a preliminary model of suicide risk among young adult children of immigrants to be utilized in research

and clinical practice. In practice, clinicians must consider the unique factors that may influence clinical presentation and ultimately contribute to suicide risk for Asian, African, Black Caribbean, Hispanic, and Latinx young adult children of immigrants. Specifically, clinicians must work to understand and systematically incorporate the sociocultural factors related to growing up in an immigrant household that are often integral to shaping one's contemporary worldview. For example, the current findings suggest that ethnic minority children of immigrants may be more likely to mask negative emotions. This finding is especially important to consider when formulating an accurate assessment of clinical symptoms. Additionally, clinicians must develop a comprehensive constellation of risk factors prior to concluding with treatment plans. It may be particularly useful to evaluate maladaptive perfectionism (e.g., using the FMPS) in order to detect extreme striving tendencies and beliefs that may otherwise be subjectively normalized and/or underreported by the client. Consistent with the current study results, maladaptive perfectionism may be especially detrimental in the presence of poor emotion regulation strategies (particularly for Asian, African, and Black Caribbean, and perhaps to a lesser degree, Hispanic and Latinx children of immigrants).

Whereas traditional Western psychotherapies emphasize independence and emotional expressiveness as adaptive, culturally sensitive approaches to treatment for ethnic minority children of immigrants might acknowledge the possibility that collective worldviews and suppressive emotion regulation strategies may be culturally congruent for the client (despite contributing to psychological risk under certain circumstances). Rather than challenging the client's culture-bound worldviews and coping methods in the initial stages of treatment, working with the client to develop effective problem solving skills and communication

strategies may empower the client to identify alternative approaches to managing sociocultural stressors.

Young adult children of immigrants represent a large and growing subset of the U.S. population and are at increased risk for suicide and related psychopathology. However, psychological risk factors unique to children of immigrants remain poorly understood. Though previous authors have examined maladaptive perfectionism and expressive suppression as predictors of suicidality in the general population, the current study is the first to establish a link between maladaptive perfectionism, expressive suppression, and suicide ideation in Asian, African, Black Caribbean, Hispanic, and Latinx young adults. Findings from the current study suggest that expressive suppression may be indirectly linked to suicide ideation via maladaptive perfectionism. This association may be stronger for Asian, African, and Black Caribbean children of immigrants than Hispanic and Latinx groups (perhaps due to similar cultural values and familial expectations). More research is needed to understand racial/ethnic differences and define cultural protective factors that may promote resilience to suicide and overall psychological well-being among young adult children of immigrants.

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Tables

Table 1
Correlations, Means, and Standard Deviations for Study Variables (N = 376)

Variable	1	2	3	4	5	6	7	8	9	10	11	*M*	*SD*
1. Age	-	-	-	-	-	-	-	-	-	-	-	22.54	3.40
2. Gender[a]	.113*	-	-	-	-	-	-	-	-	-	-	.69	.65
3.Education[b]	.642**	.125*	-	-	-	-	-	-	-	-	-	5.37	1
4. Gen Status	-.098	.103*	-.033	-	-	-	-	-	-	-	-	1.68	.47
5. Race/Ethnicity[c]	-.034	.055	-.074	.041	-	-	-	-	-	-	-	2.34	1.25
6. MPS	-.083	.013	-.032	-.023	-.115*	-	-	-	-	-	-	67.50	16.78
7. AFS-Fam Honor	-.011	.036	-.063	.006	-.068	.151**	-	-	-	-	-	4.84	1.89
8. AFS-Subjugation	-.085	.068	-.089	.069	.022	.178**	.633**	-	-	-	-	5.99	2.01
9. ERQ-ES	-.114*	-.052	-.138**	-.036	-.067	.387**	.206**	.221**	-	-	-	16.61	5.30
10. ASIQ	-.089	.000	-.129*	-.009	.031	.219**	-.154**	-.151**	.054	-	-	1.87	1.152
11. PHQ-2	.017	.028	.006	-.008	.079	.249**	-.054	-.003	.095	.486**	-	3.42	1.57

Note. Gen Status = Generational Status; MPS = Maladaptive Perfectionism Scale; AFS-Fam Honor = Attitudinal Familism Scale-Familial Honor; AFS-Subjugation = Attitudinal Familism Scale-Subjugation of Self for Family; ERQ-ES = Emotion Regulation Questionnaire-Expressive Suppression; ASIQ = Adult Suicide Ideation Questionnaire; PHQ-2 = Patient Health Questionnaire 2-item.
[a] Coded as 0 (male), 1 (female). [b] Coded as 1 (*less than 7th grade*), 2 (*junior high school*), 3 (*some high school*), 4 (*high school graduate*), 5 (*some college or specialized training),* 6 (*college/university graduate*), 7 (*graduate/professional training*). [c] Coded as 1 (Asian), 2 (Black), 4 (Hispanic).
* $p < .05$. ** $p < .01$.

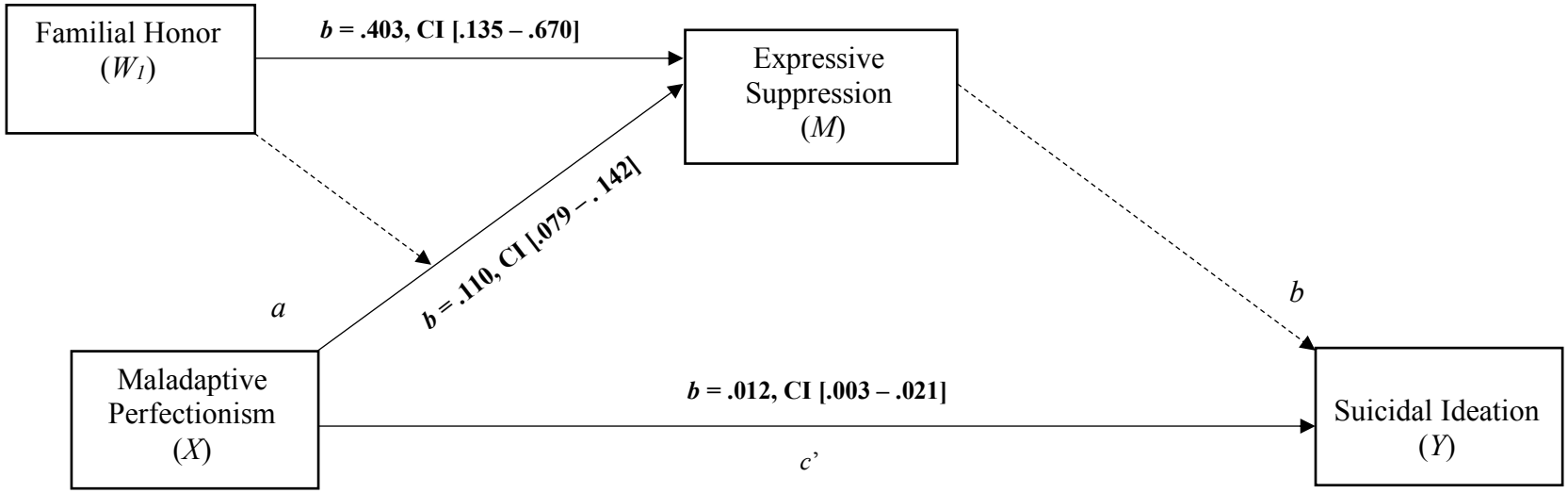
Table 2
Tukey HSD Multiple Comparisons of Participant Race/Ethnicity and Maladaptive Perfectionism

Dependent Variable	Race/Ethnicity (I)	Race/Ethnicity (J)	Mean Difference (I-J)	*SE*	*p*	95% CI
MPS	Asian American	African/Black Caribbean	**5.624**	2.190	0.029*	0.471, 10.778
		Hispanic/Latinx	**5.181**	2.157	0.044*	0.103, 10.260
CM	Asian American	African/Black Caribbean	**3.910**	1.040	0.001**	1.463, 6.357
		Hispanic/Latinx	**2.905**	1.044	0.016*	0.449, 5.362
DA	Asian American	African/Black Caribbean	**1.222**	0.478	0.029*	0.098, 2.346
		Hispanic/Latinx	0.955	0.480	0.116	-0.173, 2.083
PE	Asian American	African/Black Caribbean	-0.780	0.518	0.290	-1.997, 0.439
		Hispanic/Latinx	0.419	0.520	0.700	-0.804, 1.642
PC	Asian American	African/Black Caribbean	1.180	0.548	0.081	-0.109, 2.469
		Hispanic/Latinx	1.178	0.550	0.083	-0.116, 2.472

Note. MPS = Maladaptive Perfectionism Scale; CM = Concern over Mistakes; DA = Doubts about Actions; PE = Parental Expectations; PC = Parental Criticism.
* $p < .05$. ** $p < .01$.

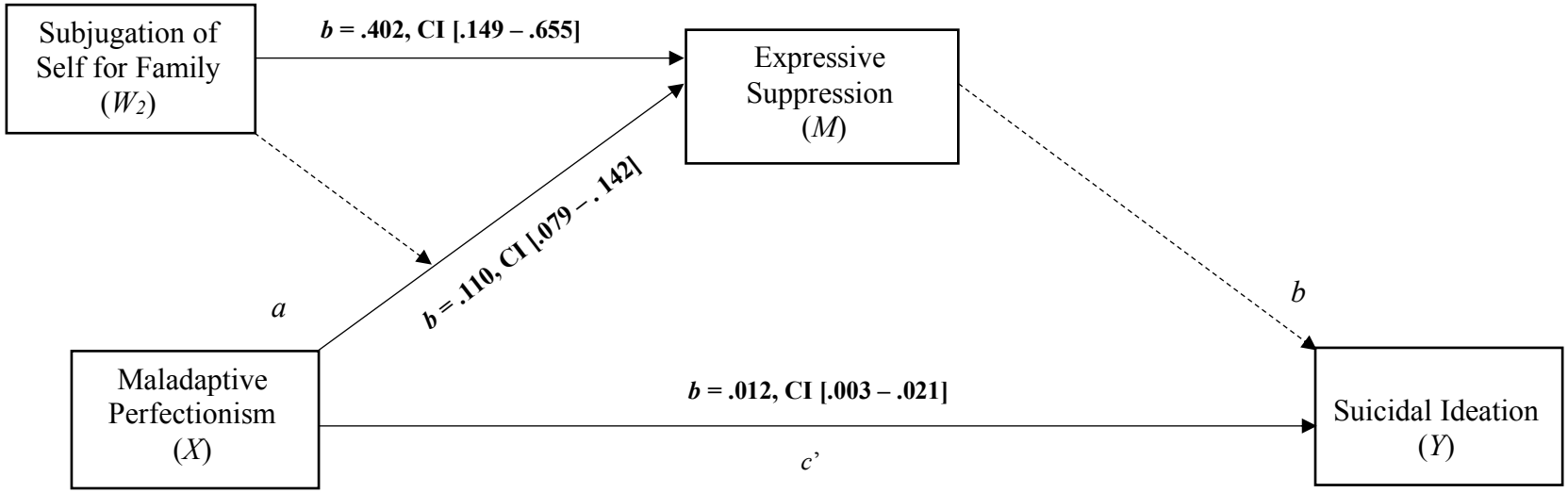
Figures

Figure 1. Test of Indirect Effects of Maladaptive Perfectionism (*X*) on Suicide Ideation (*Y*) through Expressive Suppression (*M*) with Familial Honor as a First-Stage Moderator (W_1)



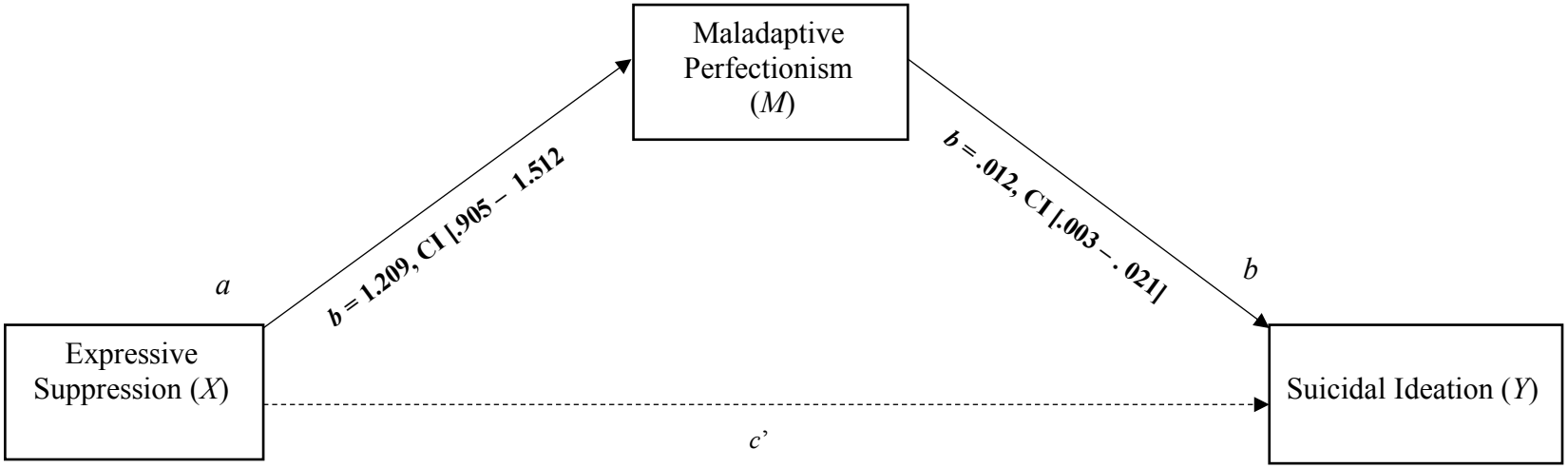
Note. First-stage moderated mediation conducted with PROCESS (Hayes, 2014) Model 7. Covariates not pictured: Age, gender, education level, depressive symptoms.

Figure 2. Test of Indirect Effects of Maladaptive Perfectionism (*X*) on Suicide Ideation (*Y*) through Expressive Suppression (*M*) with Subjugation of Self for Family as a First-Stage Moderator (W_2)



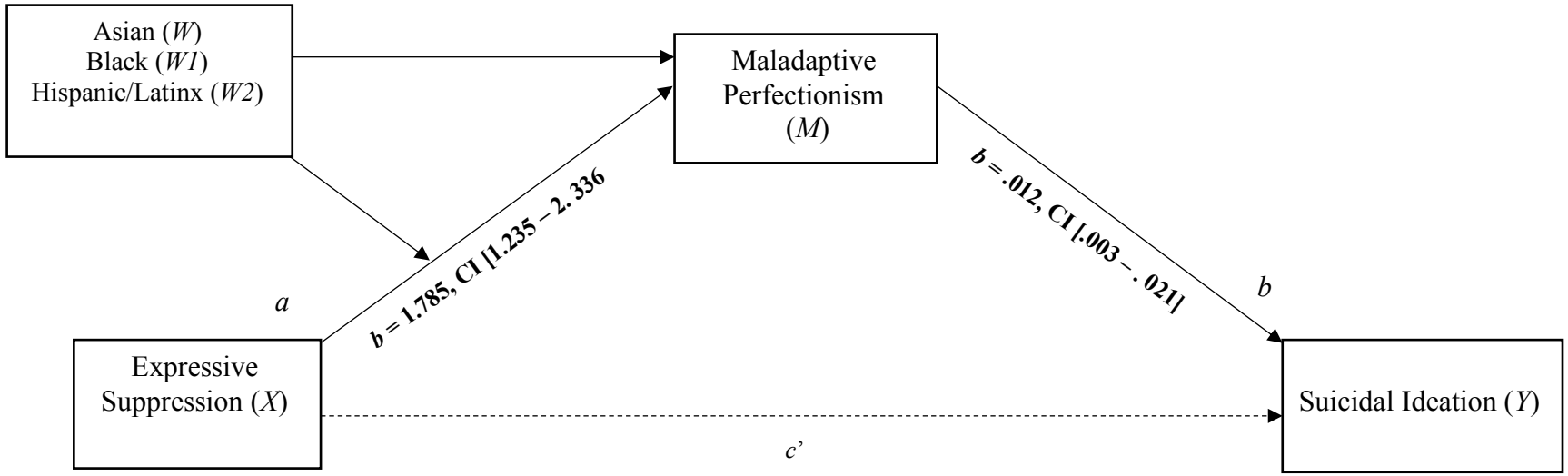
Note. First-stage moderated mediation conducted with PROCESS (Hayes, 2014) Model 7. Covariates not pictured: Age, gender, education level, depressive symptoms.

Figure 3. Test of Indirect Effects of Expressive Suppression (*X*) on Suicide Ideation (*Y*) through Maladaptive Perfectionism (*M*)



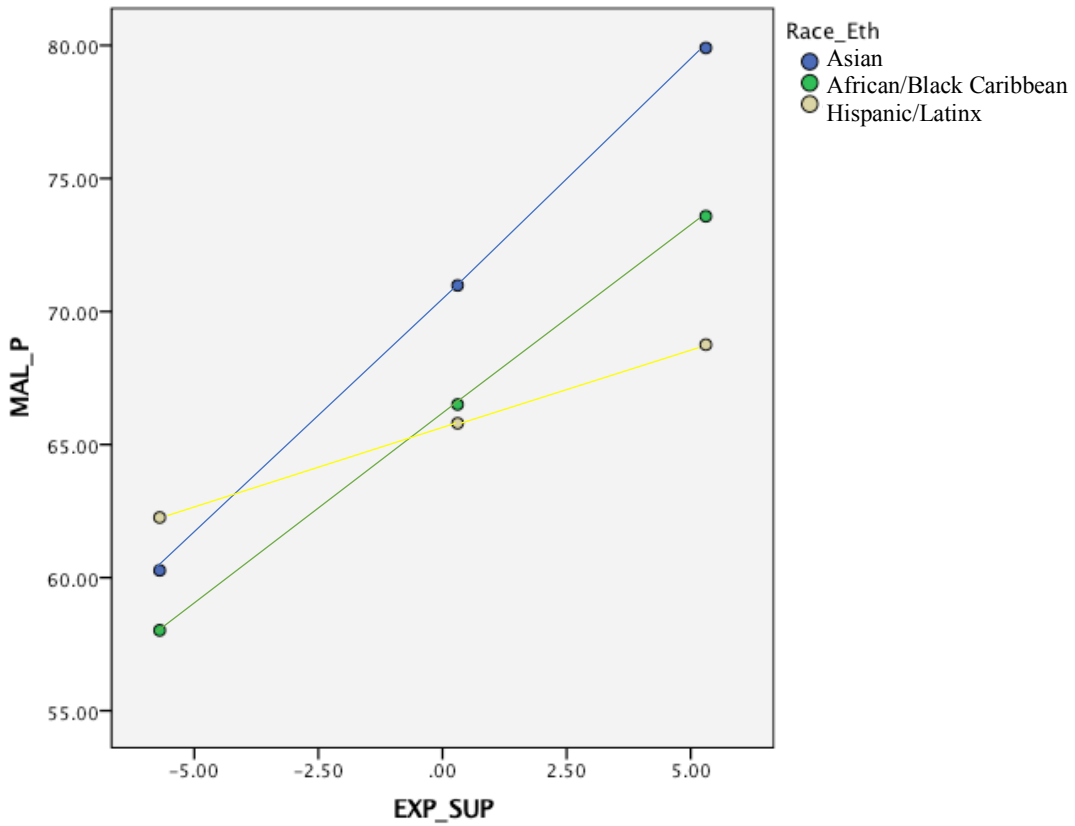
Note. First-stage moderated mediation conducted with PROCESS (Hayes, 2014) Model 7. Covariates not pictured: Age, gender, education level, depressive symptoms.

Figure 4. Test of Indirect Effects of Expressive Suppression (*X*) on Suicide Ideation (*Y*) through Maladaptive Perfectionism (*M*) with Participant Race/Ethnicity as a First-Stage Moderator (*W*)



Note. First-stage moderated mediation conducted with PROCESS (Hayes, 2014) Model 7. Covariates not pictured: Age, gender, education level, depressive symptoms.

Figure 5. Conditional Effects of Expressive Suppression on Maladaptive Perfectionism by Participant Race/Ethnicity



Note. MAL_P = Maladaptive Perfectionism. EXP_SUP = Expressive Suppression. Race_Eth = Race/Ethnicity.

Appendix

Table 3
Test of Mediation Effect of Maladaptive Perfectionism (*X*) on Suicide Ideation (*Y*) through Expressive Suppression (*M*) in Asian, African/Black Caribbean, and Hispanic/Latinx Young Adult Children of Immigrants (*N* = 376).

	Expressive Suppression (*M*)			Suicide Ideation (*Y*)		
	Path	***b (SE)***	**95% CI**	**Path**	***b (SE)***	**95% CI**
Maladaptive Perfectionism (*X*)	*a* →	0.123** (0.016)	0.092, 0.154	*c'*→	0.012* (0.005)	0.003, 0.021
Expressive Suppression (*M*)				*b* →	-0.015 (0.015)	-0.044, 0.013
Age		0.030 (0.100)	0.092, 0.154		-0.001 (0.027)	-0.054, 0.053
Gender		-0.248 (0.396)	-1.026, 0.531		-0.013 (0.107)	-0.224, 0.198
Education Level		-0.705* (0.350)	-1.391, -0.018		-0.158 (0.095)	-0.345, 0.28
Depression Symptoms		0.007 (0.169)	-0.326, 0.341		0.447** (0.046)	0.357, 0.537
Direct Effect of *X* → *Y*				*c'* →	0.012* (0.005)	0.003, 0.021
Indirect Effect of *X* → *Y*				*a*b*	-0.002 (0.002)	-0.005, 0.002
Model Summary		$R^2 = 0.175$ $F = 14.831, p < 0.001$			$R^2 = 0.261$ $F = 24.657, p < 0.001$	

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

Table 4
Test of Moderated Mediation Effect of Maladaptive Perfectionism (*X*) on Suicide Ideation (*Y*) through Expressive Suppression (*M*) with Familial Honor as a First-Stage Moderator (*W*) in Asian, African/Black Caribbean, and Hispanic/Latinx Young Adult Children of Immigrants (*N* = 376).

	Expressive Suppression (*M*)			Suicide Ideation (*Y*)		
	Path	***b (SE)***	**95% CI**	**Path**	***b (SE)***	**95% CI**
Maladaptive Perfectionism (*X*)	*a* →	0.113** (0.016)	0.081, 0.122	*c'*→	0.012* (0.005)	0.003, 0.021
Expressive Suppression (*M*)				*b* →	-0.015 (0.015)	-0.044, 0.013
Familial Honor (*W*)		0.403** (0.136)	0.135, 0.670			
*X*W*		0.005 (0.007)	-0.008, 0.019			
Age		0.017 (0.099)	-0.179, 0.212		-0.001 (0.027)	-0.054, 0.053
Gender		-0.289 (0.393)	-1.062, 0.483		-0.013 (0.107)	-0.224, 0.198
Education Level		-0.633 (0.347)	-1.315, 0.048		-0.158 (0.095)	-0.345, 0.028
Depression Symptoms		0.067 (0.169)	-0.265, 0.399		0.447** (0.046)	0.357, 0.537
Direct Effect of *X* → *Y*				*c'*→	0.012* (0.005)	0.003, 0.021
Indirect Effect of *X* → *Y*				*a*b*	-0.002 (0.002)	-0.005, 0.001
					Index (*SE*)	**95% CI**
Index of Moderated Mediation					-0.001 (0.000)	-0.001, 0.000
Model Summary		$R^2 = 0.198$ $F = 12.237, p < .001$			$R^2 = 0.263$ $F = 20.733, p < .001$	

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

Table 5
Test of Moderated Mediation Effect of Maladaptive Perfectionism (*X*) on Suicide Ideation (*Y*) through Expressive Suppression (*M*) with Subjugation of Self for Family as a First-Stage Moderator (*W*) in Asian, African/Black Caribbean, and Hispanic/Latinx Young Adult Children of Immigrants (*N* = 376).

	Expressive Suppression (*M*)			Suicide Ideation (*Y*)		
	Path	***b (SE)***	**95% CI**	**Path**	***b (SE)***	**95% CI**
Maladaptive Perfectionism (*X*)	*a* →	0.110** (0.016)	0.079, 0.142	*c'* →	0.012* (0.005)	0.003, 0.021
Expressive Suppression (*M*)				*b* →	-0.015 (0.015)	-0.044, 0.013
Subjugation of Self (*W*)		0.402** (0.129)	0.149, 0.655			
*X*W*		0.011 (0.007)	-0.003, 0.024			
Age		0.033 (0.010)	-0.162, 0.227		-0.001(0.027)	-0.054, 0.053
Gender		-0.320 (0.392)	-1.091, 0.452		-0.013 (-0.107)	-0.224, 0.198
Education Level		-0.640 (0.344)	-1.318, 0.037		-0.158 (0.095)	-0.345, 0.028
Depression Symptoms		0.045 (0.167)	-0.284, 0.374		0.447** (0.046)	0.357, 0.537
Direct Effect of *X* → *Y*				*c'* →	0.012* (0.005)	0.003, 0.021
Indirect Effect of *X* → *Y*				*a*b*	-0.002 (0.002)	-0.005, 0.001
					Index (*SE*)	**95% CI**
Index of Moderated Mediation					-0.0002 (0.0002)	-0.001, 0.0002
Model Summary		$R^2 = 0.203$ $F = 12.669, p < .001$			$R^2 = 0.263$ $F = 20.733, p < .001$	

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

Table 6
Test of Mediation Effect of Expressive Suppression (*X*) on Suicide Ideation (*Y*) through Maladaptive Perfectionism (*M*) in Asian, African/Black Caribbean, and Hispanic/Latinx Young Adult Children of Immigrants (*N* = 376).

	Maladaptive Perfectionism (*M*)			Suicide Ideation (*Y*)		
	Path	***b (SE)***	**95% CI**	**Path**	***b (SE)***	**95% CI**
Expressive Suppression (*X*)	*a* →	1.209 ** (0.154)	0.905, 1.512	*c*'→	-0.015 (0.015)	-0.044, 0.013
Maladaptive Perfectionism (*M*)				*b* →	0.012* (0.005)	0.003, 0.021
Age		-0.485 (0.313)	-1.010, 0.130		-0.001 (0.027)	-0.054, 0.053
Gender		0.493 (1.240)	-1.947, 2.932		-0.013 (0.107)	-0.224, 0.198
Education Level		1.117 (1.097)	-1.041, 3.275		-0.158 (0.095)	-0.345, 0.028
Depression Symptoms		2.260** (0.517)	1.244, 3.276		0.447** (0.046)	0.357, 0.537
Direct Effect of *X* → *Y*				*c*' →	-0.015 (0.015)	0.013, -0.010
Indirect Effect of *X* → *Y*				*a*b*	**0.014 (0.006)**	**0.002, 0.027**
Model Summary		$R^2 = 0.208$ $F = 18.382, p < .001$			$R^2 = 0.250$ $F = 23.269, p < .001$	

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

Table 7
Test of Moderated Mediation Effect of Expressive Suppression (*X*) on Suicide Ideation (*Y*) through Maladaptive Perfectionism (*M*) with Participant Race/Ethnicity as a First-Stage Moderator (*W*) in Asian, African/Black Caribbean, and Hispanic/Latinx Young Adult Children of Immigrants (*N* = 376).

Indicator Coding: Participant Race/Ethnicity		
	W1	W2
Asian American	0	0
African/Black Caribbean	1	0
Hispanic/Latinx	0	1

	Maladaptive Perfectionism (*M*)			Suicide Ideation (*Y*)		
	Path	***b (SE)***	**95% CI**	**Path**	***b (SE)***	**95% CI**
Expressive Suppression (*X*)	*a* →	1.785** (0.280)	1.235, 2.336	*c'* →	-0.015 (0.015)	-0.044, 0.013
Maladaptive Perfectionism (*M*)					0.012* (0.005)	0.003, 0.021
AA – A/BC (*W1*)		-4.361* (2.133)	-8.556, -0.166			
AA – H/L (*W2*)		-4.817* (1.934)	-8.620, -1.013			
*X * W1*		-0.371 (0.393)	-1.144, 0.403			
*X * W2*		-1.195** (0.364)	-1.911, -0.478			
Age		-0.361 (0.312)	-0.974, 0.252		-0.001 (0.027)	-0.054, 0.053
Gender		1.033 (1.221)	-1.369, 3.434		-0.013 (0.107)	-0.224, 0.198
Education Level		1.010 (1.105)	-1.073, 3.273		-0.158 (0.095)	-0.345, 0.028
Depression Symptoms		2.357** (0.509)	1.356, 3.357		0.447** (0.046)	0.357, 0.537
Direct Effect of *X* → *Y*				*c'* →	-0.015 (0.015)	-0.044, 0.013
Indirect Effect of *X* → *Y*				*a*b*	**0.021 (0.009)**	**0.004, 0.040**
					Index (*SE*)	**95% CI**
Index of Moderated Mediation				*W1*	-0.004 (0.006)	-0.017, 0.006
				W2	**-0.014 (0.008)**	**-0.001**
Model Summary		$R^2 = 0.252$ $F = 12.915$, $p < .001$			$R^2 = 0.263$ $F = 20.733$, $p < .001$	

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

Table 8
Participant Country of Origin by Generational Status ($N = 376$)

Country of Origin	1.5 Gen	2nd Gen	%
Angola	1	1	0.5%
Antigua and Barbuda		1	0.3%
Argentina		2	0.5%
Bangladesh		2	0.5%
Brazil		1	0.3%
Cambodia	1	1	0.5%
Cameroon	1	4	1.3%
China	2	4	1.6%
Colombia	2	2	1.1%
Congo, Republic of the...	4		1.1%
Cuba	1	2	0.8%
Democratic Republic of the Congo	2		0.5%
Dominican Republic		2	0.5%
Ecuador	1	1	0.5%
El Salvador	4	13	4.5%
Eritrea		6	1.6%
Ethiopia	1	5	1.6%
Ghana	2	5	1.9%
Guatemala		2	0.5%
Guyana	1		0.3%
Haiti	5	2	1.9%
Honduras	4	4	2.1%
Hong Kong (S.A.R.)		3	0.8%
India	6	13	5.1%
Indonesia	2		0.5%
Iran, Islamic Republic of...	1		0.3%

Table 8 Continued

Italy	1		0.3%
Jamaica	1	7	2.1%
Kenya	2		0.5%
Kuwait	1		0.3%
Lao People's Democratic Republic		1	0.3%
Liberia	1	1	0.5%
Malaysia		1	0.3%
Mexico	20	55	19.9%
Nepal	1		0.3%
Nigeria	19	48	17.8%
Pakistan	9	13	5.9%
Panama		1	0.3%
Peru		3	0.8%
Philippines	4	7	2.9%
Rwanda		1	0.3%
Republic of Korea	1		0.3%
Saint Kitts and Nevis		1	0.3%
Sierra Leone		1	0.3%
South Korea	2		0.5%
Thailand	1	1	0.5%
Turkey		1	0.3%
Uruguay		1	0.3%
Uzbekistan		1	0.3%
Venezuela, Bolivarian Republic of...	3		0.8%
Viet Nam	9	37	12.2%
Missing			0.8%
Grand Total	**116**	**257**	100.0%

Note. Gen = Generational Status.