# Examining variability in identity, resilience, and college adjustment among multiracial Hispanic/Latinx and White college students

by

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ABSTRACT

Over 35% of multiracial college students fail to earn a degree, which can have significant economic and health costs over their lifespan. This study aimed to better understand college and psychological adjustment among multiracial college students of Hispanic/Latinx and White non-Hispanic descent by examining students' racial identities and use of resilience resources. Latent profiles of identity were identified to better understand how different aspects of racial identity are clustered in this population. Multiracial college students (N=221) reported on racial identity as measured on multiple dimensions: Hispanic/Latinx identity, Hispanic/Latinx cultural orientation, White identity, identity integration, shifting expressions of identity, and identity malleability. Students also reported on their use of multiple resilience resources (personal mastery, social competence, perspective taking, coping flexibility, familism support values) and both college and psychological adjustment. Through regression and SEM analyses, results indicated that, of the resilience resources, only personal mastery was positively related to both college and psychological adjustment, while social competence was positively related to college adjustment. More shifting expressions of identity was related to poorer college and psychological adjustment, which was partially mediated via personal mastery. Stronger Hispanic/Latinx identity was related to higher perspective taking and coping flexibility, while stronger White identity was related to higher familism support values. Latent profiles of identity indicated a four-class solution, consisting of 1) "low identity", 2) "integrated, low shifting", 3) "integrated, shifting", and 4) "high shifting, low integration". Findings highlight the need for person-centered and

ecological approaches to understanding identity development and resilience among multiracial college students, and can inform prevention and intervention efforts for multiracial college students of Hispanic/Latinx and White non-Hispanic descent. Results also demonstrate the importance of assessing multiracial identity via multiple dimensions including factors such as identity integration, shifting expressions of identity, and identity malleability.

# DEDICATION

I dedicate this work to my amazing husband, whose love and support has been a haven through all the stresses of graduate school and of life. I would not be here without you.

To my parents, who sparked my love of learning and have continued to support me every day since then.

To my grandmother, who has been a lifelong inspiration.

To my extended family, those related to me by genetics and by love, who have helped make me the person I am today.

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TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

# CHAPTER 1

## INTRODUCTION

The multiracial population is growing rapidly; over 9 million individuals in the U.S. report multiple racial backgrounds (U.S. Census, 2010). With increasingly high rates of intermarriage between individuals of different racial/ethnic groups (Pew Research Center, 2012), particularly among Hispanic/Latinx individuals, the multiracial population will only continue to grow over time. In college, multiracial students achieve varying degrees of success - while many multiracial students successfully adjust to the college environment, over 35% of multiracial students fail to earn a college degree (U.S. Department of Education, 2012), representing a dropout rate higher than their monoracial White peers. Particularly for minority students, failure to earn a college degree can have significant economic and health costs over their lifespan (Adler et al., 1994; Greenstone & Looney, 2012), which may contribute to minority health disparities. Work investigating college adjustment among multiracial college students is urgently needed to inform intervention efforts to promote positive college adjustment among multiracial students. Yet, the multiracial population is largely unstudied to date (Edwards & Pedrotti, 2008), with little known about what factors lead multiracial students to excel or struggle in college.

The current paper will focus on multiracial students of Hispanic/Latinx and White descent for several reasons. First, given the emphasis in the literature on the complexity of multiracial identity (e.g. Renn, 2003), it will be useful to focus on a specific population to aid in making specific hypotheses and interpretations. Second, multiracial students

with Hispanic/Latinx heritage are of interest to examine specific cultural resources unique to Hispanic/Latinx populations (e.g. Gallo, Penedo, Espinoza de los Monteros, & Arguelles, 2009). Finally, within the multiracial literature, relatively little attention has been paid to multiracial individuals of Hispanic/Latinx descent, and recent work has called for greater focus on this growing population (e.g. Charmaraman, Woo, Quach, & Erkut, 2014; Woo, Austin, Williams, & Bennett, 2011).

Within the population of multiracial Hispanic/Latinx and White students, there may be significant variability in factors such as *identity*, *resilience resources*, and *adjustment*; examining these factors may help researchers to better capture the variability in pathways towards resilience within this population and inform intervention and prevention efforts which can then be targeted towards different subgroups within the multiracial population.

*Multiracial Identity*

From the monoracial literature, "Racial identity" refers to both how individuals define their identity (e.g. 'Mixed'), as well as the relation of their race to their overall self-identity, their commitment to their ethnic group(s), how much they have explored or participated in their ethnic group(s)'s activities, and their positive feelings and preferences towards their ethnic group(s) (e.g. Bracey, Bamarca, & Umana-Taylor, 2004; Phinney, 1990). Theorists in the multiracial literature have expanded on this conceptualization to refer to "racial identity" as an individual's self-understanding (e.g. Rockquemore, Brunsma, & Delgado, 2009). This is in contrast to one's *racial*

*identification*, or how others understand and categorize the individual, and one's *racial category*, or what racial identities are available to them in a specific context and how they present their racial identity to others (e.g. which box to check on a form).

*Multiracial Identity Development*

Many early theories of racial identity development specific to multiracial individuals were limited and focused on multiracial individuals as "marginal" (e.g. Stonequist, 1937). These theories assumed that multiracial individuals would never be able to achieve healthy racial identities or psychological adjustment due to the uncertainty and ambiguity of existing between two worlds but belonging to neither. As research on multiracial individuals grew, linear models of identity development specific to the multiracial experience were put forth which highlighted potential pathways towards healthy multiracial identity resolution(s).

Poston (1990) outlined a model in which children begin with a *personal identity* free and independent from links to racial reference groups, as their racial identity attitudes have not yet developed. Next, as children begin to feel pressure from others to "pick a side" and make specific racial choices or actions, they have a *choice of group categorization* from among their parent's racial groups. Into adolescence, multiracial individuals may feel *enmeshment/denial* and guilt at having chosen one identity at the expense of the rest of their heritage and culture; Poston noted that parental and community support might be crucial in resolving this guilt and dilemma. Poston theorized that these stages were followed in adulthood by attempts to learn and *appreciate* all

aspects of their backgrounds, followed by a state of *integration* in which an individual values all their identities and has formed a secure, integrated identity.

Criticism of Poston's model (e.g. Renn, 2008) points out that this linear model excludes the possibility that multiracial individuals might arrive at a number of healthy identity outcomes - e.g. that a "healthy" identity outcome might be characterized by identification with one group, many groups, no group, etc. Other models of multiracial identity development identified multiple possible outcomes or resolutions of identity development. Root (1990), for example, proposed four resolutions of identity development, including acceptance of a socially-assigned identity, identification with multiple racial groups (e.g. "I'm part White and part Hispanic"), identification with a single racial group, and identification as belonging to a new racial group or identifying with other mixed race individuals. These resolutions were theorized to be influenced by a variety of outside forces (e.g. sociocultural, political, and familial influences; Root, 1990), and to change across development depending on the needs of the individual. Root (1996) later conceptualized identity resolutions as a choice among "border crossings" which could allow a multiracial individual to resolve their identity in a healthy manner. These resolutions included a) having "both feet in both groups"; b) holding a situational ethnicity and race; c) "sitting on the border" and claiming being multiracial as one's point of reference; and d) and forming a "home base" in one identity with forays into others.

*Racial Identity in Context*

Building upon these models, Renn (2003) explicitly incorporated Bronfenbrenner's Ecology Model to better understand multiracial identity development among college students. This framework highlights identity development as a process taking place within a "complex, dynamic, interactive web of environments" (Renn, 2003). Within this web of environments, identity is formed in part by personal experiences and characteristics (e.g. self-concept, family background, propensity for exploration). Identity is further influenced by the context in which these personal experiences and characteristics take place. This context can be thought of at multiple levels, consisting of frames such as one's friend groups, classes, and families at one level, but also the policy of their academic institutions and the cultural expectations of the greater society at other levels. These contexts provide multiracial students with messages around their identity, developmental challenges to their identity, and resources for addressing those challenges. Thus, two multiracial students with the same heritage might arrive at two very different identities due to their individual backgrounds, their individual contexts, and the interactions between them all and with the student.

Following her ecological model, Renn (2003) identified multiple patterns of identity specific to multiracial college students: 1) holding a solely monoracial identity (e.g. "White", "Hispanic"; 58% of students[1]); 2) holding multiple monoracial identities simultaneously (e.g. "White and Hispanic"; 29% of students); 3) identifying with a

[1] Percentages add up to over 100% because some students identified in more than one pattern

distinct multiracial identity (e.g. “Multiracial”, “Mixed”; 83% of students); 4) identifying with an extra-racial identity (e.g. “human being”; 33% of students); and 5) holding a shifting, flexible, or situational identity (e.g. changing the way they identify in different contexts and at different times; 58% of students).

*The College Environment*

As Renn’s ecological model (2003) suggests, the college environment is rich in opportunities for identity development. Prior qualitative work suggests that some multiracial students arrive at college from families where their racial identities were seldomly discussed (Talbot, 2008), and many report a desire to have learned more about their cultural heritage(s) from their parents (Ingram, Chaudhary, & Jones, 2014). Multiracial students may also have grown up in segregated school and neighborhood environments, which may have limited their identity exploration. Upon arrival in the new social environment of college and with the greater autonomy afforded by emerging adulthood, multiracial college students can engage with different aspects of their cultural and racial backgrounds with a diverse group of peers and mentors (e.g. Miville, Constantine, Baysden, & So-Lloyd, 2005; Talbot, 2008). Qualitative work provides examples of multiracial college students who chose to take courses relevant to their racial identities, sought out diverse peer groups, chose to live in more diverse or accepting neighborhoods, or attended culturally relevant festivals and events (e.g. Jackson, 2009). This exploration may substantially impact the development of multiracial students’ identities. For example, qualitative work by Plaza (2011) found that biracial students who

grew up in primarily White communities felt that they were a part of the majority culture until they arrived at college; as they engaged with others in college, several biracial students who identified as White prior to college began to incorporate their multiple backgrounds into their racial identity.

*Taking a dimensional approach to identity*

As these models suggest, multiracial identity is complex. For multiracial individuals, identity may be best understood by taking a dimensional approach which encompasses numerous facets of identity, many of which might be specific to the multiracial experience. For example, these dimensions might include levels of engagement with and commitment to their multiple different racial identity heritages. Whether one's different racial identities are integrated (e.g. having multiple identities which are perceived as coherent rather than distant or in conflict; Cheng & Lee, 2009) would also be an important piece of understanding a multiracial student's overall identity. As prior work has found that some multiracial individuals shift their identity in different contexts, the degree to which one shifts their identity or has a malleable identity (e.g. Miville et al., 2005; Sanchez, Shih, & Garcia, 2009) might also be important to explore. Finally, an individual's cultural knowledge and orientation to their cultural background(s) (e.g. Poston, 1990) would likely also play a role in their racial identity. The current study will expand on prior research by assessing racial identity both in terms of continuous dimensions, as well as taking a categorical approach by forming latent profiles of these dimensions.

*Multiracial student resilience: Resource approach and equifinality*

As noted above, developmental and ecological models of multiracial identity development suggest that multiracial students form their racial identities through a complex process that involves activities such as learning about their different backgrounds, seeking out new experiences relevant to their racial backgrounds, and taking part in interactions with their social environment at multiple levels (e.g. friends, family, institutions, etc.; Renn, 2003). Given these processes, the degree to which multiracial individuals endorse different dimensions of racial identity may have implications for understanding their resilience and college and psychological adjustment.

*Resilience* refers to mitigating the impact of stress and obtaining good outcomes and/or preventing bad outcomes in the face of stress (Masten, 2001). Researchers have suggested taking a resource approach to resilience, in which it is not just the degree of stress which determines outcome but also whether one holds a sufficient number of resources which can be relied upon or used to mitigate the impact of stress (Masten, 2001; Olsson et al., 2003). In this resource approach, the term 'resilience' can refer to both a positive outcome despite stress, as well as a category of resources which help one obtain a positive outcome. Interventions or efforts to improve outcomes should not only work to reduce stress, but also to help students build greater resources or gain greater access to resources.

Resilience resources have primarily been evaluated among general or monoracial samples; identifying which resilience resources lead to more positive outcomes and how

access to or use of these resources differs within the White and Hispanic/Latinx multiracial student population is key to developing interventions for these students. Resilience resources may differ between multiracial individuals based on their racial identities via the processes through which these identities were formed. Although the types of resilience resources which are available or used may differ between individuals with differences in racial identity, this does not necessarily imply that one identity may always be *better* than another. As noted in prior theory on multiracial identity development (e.g. Root, 1990), multiple identity "resolutions" may be healthy. Multiracial students who score highly on one aspect of racial identity may use certain resilience resources, while multiracial students who score highly on another aspect of racial identity may use a different set of resilience resources, and both could achieve positive adjustment. This follows the idea of *equifinality* (e.g. Curtis & Cicchetti, 2003); that an equal outcome (e.g. positive adjustment to college) can be achieved via multiple different pathways (e.g. via relying on different resilience resources) for different individuals. As such, multiracial students may vary in their access to and use of certain resources to adjust to college based on their racial identity, but all these different resources may help students achieve positive adjustment. Previous empirical work supports equifinality in terms of ethnic identity and adjustment among multiracial college students; for example, there was no difference in self-esteem between mixed race students from a variety of backgrounds who chose monoracial versus multiracial identity labels (Phinney & Alipuria, 1996).

*Resilience: Social Competence*

Multiracial Hispanic/Latinx and White students with varying racial identities may experience greater or less access to certain resilience resources such as social competence. Social competence refers to the ability to engage in effective and satisfying social interactions, and thereby build and maintain social relationships (Holt, 2014). Several aspects of a multiracial college student's identity might impact social competence. For example, among multiracial individuals from a variety of racial backgrounds, having a more *integrated* identity is associated with more diverse cultural exposures (Viki & Williams, 2014). Greater engagement with multiple cultures has in turn been linked to greater sensitivity to cultural cues and comfort in a variety of cultural contexts (Doyle & Kao, 2007; Miville et al., 2005; Shih, Bonam, Sanchez, & Peck, 2007; Suyemoto, 2004), which could boost social competence. Furthermore, as noted above, many mixed-race individuals *shift* how they express their identity in different contexts and learn to display different racialized social behaviors to fit varying social situations and demands (e.g. Jackson et al., 2013; Doyle & Kao, 2007; Harris & Sim, 2002). The process of learning to shift one's identity and behavior has been theorized to improve social competence and social outcomes (e.g. Miville et al., 2005). For multiracial students who shift their identity to a greater degree and/or who have a more integrated identity, improved social competence may serve as a pathway towards better adjustment. Other aspects of identity may be unrelated to social competence.

*Resilience: Perspective Taking*

Multiracial White and Hispanic/Latinx students' racial identities may also be associated with perspective taking. Perspective taking is an aspect of cognitive flexibility which refers to the tendency to adopt the psychological viewpoint of others (Davis, 1983), and has been linked to greater life satisfaction and self-esteem (Chopik, O'Brien, & Konrath, 2017; Lee, 2009). As noted above, having a more *integrated* identity is associated with more diverse cultural exposures among multiracial individuals from a variety of racial backgrounds (Viki & Williams, 2014). More diverse cultural exposures have been theorized to lead to greater appreciation of different viewpoints and greater perspective taking among multiracial individuals (Doyle & Kao, 2007; Miville et al., 2005; Shih et al., 2007; Suyemoto, 2004). Thus, for multiracial students with higher identity integration, perspective taking may serve as a pathway towards better adjustment. Other aspects of identity may be unrelated to perspective taking.

*Resilience: Coping Flexibility*

Racial identity may also be associated with coping flexibility among multiracial Hispanic/Latinx and White students. Coping flexibility refers to the ability to use a variety of diverse coping strategies depending on the needs of the situation (Cheng, Lau, & Chan, 2014). Coping flexibility has been linked to lower depression, anxiety, and distress among general and monoracial samples (Gan, Shang, & Zhang, 2007; Kato, 2012; Kato, 2015). Although no previous research has examined coping flexibility among multiracial samples, use of this resource may vary among multiracial students based on their identity. Again, previous work has found that many mixed-race individuals *shift*

their identity based on the context and learn to display different racialized social behaviors to fit varying social situations and demands (e.g. Jackson et al., 2013; Doyle & Kao, 2007; Harris & Sim, 2002). As applied to the context of coping with a stressor, having practice in altering behavior to match the demands of the environment may serve multiracial students by boosting their ability to flexibly apply coping strategies. Thus, for multiracial students who shift their identity to a greater degree, coping flexibility may serve as a pathway towards better adjustment. Other aspects of identity may be unrelated to coping flexibility.

*Resilience: Personal Mastery*

Identity may also be associated with differences in personal mastery, which refers to the belief that one can personally control, influence, or predict outcomes in their life (Pham, Taylor, & Seeman, 2001). Personal mastery has been linked to fewer psychological symptoms (Folkman, Lazarus, Gruen & DeLongis, 1986), greater optimism about the future (Pham et al., 2001), and greater physiological self-regulation when faced with college stressors (Pham et al., 2001) among general student samples. Personal mastery is generally greater among White than Hispanic/Latinx individuals (Turner, Taylor, & Grundy, 2004), which is theorized to be due to cultural differences. In an independent culture, independence is valued and encouraged. Within a more interdependent culture, personal mastery is less valued and important (e.g. Kitayama, Karasawa, Curhan, Ryff, & Markus, 2010; O'Connor & Shimizu, 2002). Multiracial students who have had greater engagement with Anglo/White culture (considered more

independent) may have stronger racial identities as White and may display and benefit from greater personal mastery in the college environment. Other aspects of identity may be unrelated to personal mastery.

*Resilience: Familism*

Familism may also be a resilience resource which varies among multiracial Hispanic/Latinx and White students based on their identity. Familism refers to Hispanic/Latinx cultural beliefs emphasizing strong attachments and loyalty to immediate and extended family members (Marin & Marin, 1991). Latinx cultural values including familism have been linked to more positive psychological health among Hispanic/Latinx college students (Navarro et al., 2014). Multiracial students who have had greater engagement with Hispanic/Latinx culture and who have stronger racial identities as Hispanic/Latinx may display and benefit from greater familism beliefs in the college environment. Other aspects of identity may be unrelated to familism.

*Low Identity*

As greater levels of different aspects of racial identity may be associated with greater use of certain resilience resources, students with low levels on each of these racial identity dimensions may have fewer resilience resources to rely on in college, and subsequently may experience poorer adjustment. Previous work with multiracial students from a variety of backgrounds including Latino/White has found that lower ethnic identity resolution and affirmation was associated with poorer self-esteem and greater depressive symptoms (Bracey et al., 2004; Brittian et al., 2013).

*The current study*

The current study will examine how racial identity is associated with resilience resources and adjustment among multiracial White and Hispanic/Latinx students navigating the stressors of college, and investigate how dimensions of racial identity co-occur among different groups of multiracial Hispanic/Latinx and White students. In doing so, the current study will fulfill three aims:

First, the study will assess the relation between dimensions of racial identity and the degree to which multiracial students hold different resilience resources. It is hypothesized that a) high White racial identity will be associated with high personal mastery; b) both high Hispanic/Latinx racial identity and high Hispanic/Latinx cultural orientation will be associated with high familism; c) greater identity integration will be associated with higher perspective taking and social competence; d) and both greater shifting expressions of identity and greater identity malleability will be associated with greater coping flexibility and social competence.

Second, the current study will assess the relation between dimensions of racial identity and both college adjustment and psychological adjustment, as mediated by resilience resources. It is hypothesized that both college and psychological adjustment will be significantly associated with each of the racial identity dimensions, with greater scores on the racial identity dimensions associated with healthier college and psychological adjustment. It is also hypothesized that different resilience resources will

mediate the relation between different identity dimensions and college and psychological adjustment, in line with theories of equifinality.

Finally, the current study will attempt to investigate how dimensions of racial identity co-occur by identifying latent profiles of identity. Guided by theory and previous work on multiracial identity patterns (e.g. Renn, 2003), it is hypothesized that 5 identity profiles will emerge, approximately consisting of a) *"Monoracial White",* characterized by high White identity, low Hispanic/Latinx identity, low orientation to Hispanic/Latinx culture, low identity integration, low shifting expressions of identity, and low identity malleability; b) *"Monoracial Latinx"*, characterized by low White identity, high Hispanic/Latinx identity, high orientation to Hispanic/Latinx culture, low identity integration, low shifting expressions of identity, and low identity malleability; c) *"Multiple Monoracial/Multiracial",* characterized by high White identity, high Hispanic/Latinx identity, high orientation to Hispanic/Latinx culture, high identity integration, low shifting expressions of identity, and low identity malleability; d) *"Flexible/Shifting"*, characterized by high White identity, high Hispanic/Latinx identity, high orientation to Hispanic/Latinx culture, low identity integration, high shifting expressions of identity and high identity malleability; and e) *"No/Low Identity"*, characterized by low White and Hispanic/Latinx identity, low orientation to Hispanic/Latinx culture, low identity integration, low shifting expressions of identity, and low identity malleability.

# CHAPTER 2

# METHODS

**Participants and Recruitment:** Participants include 221 multiracial students recruited using the following eligibility criteria: (1) age 18 or older; and (2) of Hispanic/Latinx and Non-Hispanic White descent. Racial descent was determined via participant report of *parental* ethnicity- participants were invited to participate if they reported having one parent of White, non-Hispanic ethnicity (and no other ethnicities) and if they reported their other parent was of Hispanic/Latinx ethnicity (and no other ethnicities). The use of parental ethnicity in determining eligibility is an approach commonly used for participant eligibility and recruitment in the multiracial literature (e.g. Charmaraman et al., 2014). This approach allows for recruitment of students with multiple racial heritages who may not identify as multiracial.

**Procedure:** Data collection took place in multiple cohorts over two years (Fall 2016 through Fall 2018) to support recruitment of an adequate number of participants. Students recruited via the ASU introductory psychology pool (n=215) completed an initial eligibility screener in which they reported their age and parental ethnicities. Based on data from this screener, all participants who met the study's eligibility criteria received an invitation to participate in the current study via email. This email contained a link for students to sign up for this study in the introductory psychology pool system, after which they received the link to complete the study online via Qualtrics. Informed consent was obtained from all participants before they completed the questionnaire. After completion

of the questionnaire, participants received research credit for their introductory psychology course.

Students recruited via the ASU online student portal (n=6) responded to an online posting describing the current study and inviting participation from "students with families of different ethnic or racial backgrounds". Students completed an initial eligibility screener in which they reported their age and parental ethnicities. Based on data from this screener, all participants who met the study's eligibility criteria received an invitation to participate in the current study via email. This email contained a link to complete the current study online via Qualtrics. Informed consent was obtained from all participants before they completed the questionnaire. After completion of the questionnaire, participants received a $10 Amazon gift card. Participants recruited through the online student portal did not differ from participants recruited through the ASU introductory psychology pool on any identity variables, any resilience resources, or on college adjustment or level of anxiety. Students recruited through the online student portal did report significantly higher levels of depression (t=-2.237, p=.026) than students recruited through the ASU introductory psychology pool.

**Measures:**

**Demographics.** Participants reported their age, gender, ability to speak more than one language, family income, and living arrangements (on or off campus; see Table 1). These were considered for use as covariates for primary analyses (see below).

**Identity.**

***Racial Identity.*** The 12-item Multigroup Ethnic Identity Measure (Phinney & Ong, 2007) was given to participants to assess affirmation, belonging, and commitment to Hispanic/Latinx and White identity separately; this approach has been used previously in research on identity with multiracial individuals (e.g. Stepney et al., 2015). Items on each scale were summed; greater scores reflect greater affirmation, belonging, and commitment to Hispanic/Latinx or White identity. Both Hispanic/Latinx and White identity were found to have good reliability in this sample (Chronbach's $\alpha = 0.911$ and 0.880 respectively).

***Cultural Orientation***. The ARSMA-II (Cuellar, Arnold, & Maldonado, 1995) was given to participants to assess orientation towards Hispanic/Latinx culture, with the scale modified to refer to "Hispanic/Latinx" rather than "Mexican" origin (i.e. altering original item "My friends now are of Mexican origin" to read "My friends now are of Hispanic/Latinx origin"). Items were summed, with higher scores reflecting greater orientation towards Hispanic/Latinx culture. This scale has been found to demonstrate good validity and reliability with college student samples (e.g. Cuellar et al., 1995), including those from a mix of Mexican and non-Mexican Hispanic/Latinx backgrounds (e.g. Aguinaga & Gloria, 2015). Hispanic/Latinx cultural orientation had good reliability in this sample (Chronbach's $\alpha = 0.798$).

***Identity integration***. Identity integration was assessed using the 8-item Multiracial Identity Integration (MII) scale (Cheng & Lee, 2009). Items were summed, with greater scores reflecting greater integration of racial identities. This scale has been

found to have good validity and reliability within multiracial samples (Cheng & Lee, 2009). Identity integration was found to have adequate reliability in this sample (Chronbach's $\alpha = 0.700$).

***Shifting Expressions of Identity***. The 5-item Shifting Expressions scale from the Multiracial Experiences Measure (MEM; Yoo, Jackson, Guevarra, Miller, & Harrington, 2015) reflects reported behavioral shifting in expressions of racial identity in response to one's environment (example item "I change how I describe my racial identity in different settings [e.g. work, home, and school]). Items were summed, with greater scores reflecting greater shifting expressions of identity. This scale was found to have good reliability in this sample (Chronbach's $\alpha = 0.908$).

***Identity Malleability.*** The 5 Malleable Racial Identification items developed by Sanchez, Shih, & Garcia (2009), which reflect both reported use of identity shifting behaviors and internal malleability of identity beliefs (example items "depending on the activity, I feel closer to one racial identity than another"; "I feel that I adapt to the situation at hand by identifying as one racial identity or another"), were also completed by participants. Items were summed, with greater scores reflecting a more malleable racial identification. This scale was found to have a good reliability in this sample (Chronbach's $\alpha = 0.906$).

**Resilience Resources.**

***Social competence.*** Social Competence was measured via the 15-item brief form of the Interpersonal Competence Questionnaire (ICQ; Coroiu, Meyer, Gomez-Garibello,

Brahler, Hessel, & Korner, 2015), a self-assessment of an individual's efficacy in their ability to initiate social interactions, provide emotional support to others, make negative assertions, disclose information to others, and manage interpersonal conflict. Items were summed, with greater scores reflecting greater reported social competence. The full version of the ICQ has been used among both general college student samples and among monoracial Latinx adolescents (e.g. Buhrmester, Furman, Wittenberg, & Reis, 1988; Kupermic, Jurkovic, & Casey, 2009), and found to be valid and reliable in those populations. Social competence was found to have a good reliability in this sample (Chronbach's $\alpha = 0.903$).

***Perspective taking.*** Perspective taking was assessed via the 7 items making up the Perspective Taking subscale of the Interpersonal Reactivity Index (Davis, 1983), which has shown good validity and reliability among college students (Davis, 1983). An example item is: "I sometimes try to understand my friends better by imagining how things look from their perspective." Items were summed, with higher scores reflecting greater reported perspective taking. Perspective taking was found to have good reliability in this sample (Chronbach's $\alpha = 0.822$).

***Coping flexibility.*** Coping flexibility was assessed via a count of items on the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000) which participants endorse using "Some" or "A lot". Greater scores reflect use of a wider variety of coping strategies. This method of assessing coping flexibility via a count of coping strategies

used has been done similarly in lab-based assessments of coping flexibility (e.g. Roubinov, Hagan, & Luecken, 2012).

***Personal mastery.*** Personal mastery was assessed via the 7-item Pearlin Mastery Scale (Pearlin & Schooler, 1978; example item: "What happens to me in the future mostly depends on me"). Items were summed; greater scores reflect greater belief in personal mastery. Personal mastery was found to have a good reliability in this sample (Chronbach's $\alpha = 0.788$).

***Familism***. Familism was measured via the 6-item "Family Support" subscale of the Mexican American Cultural Values Scale (Knight et al., 2010), which assesses beliefs regarding appropriate levels of emotional closeness and support (example item: "Family provides a sense of security because they will always be there for you"). Items were summed; greater scores reflect stronger familism beliefs. This scale has shown validity and reliability among Mexican-origin adults and adolescents (Germán, Gonzales, & Dumka, 2009). Familism was found to have a good reliability in this sample (Chronbach's $\alpha = 0.856$).

**Psychosocial adjustment.**

***College adjustment.*** College adjustment was measured using the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1984), a widely used multidimensional measure which includes subscales assessing academic adjustment, social adjustment, emotional adjustment, and institutional attachment. The psychological adjustment subscale was not included, as this would overlap with the measure of

psychological adjustment described below. A mean of items for the full measure and for each subscale (academic adjustment, social adjustment, and institutional attachment) was taken; greater scores reflect better college adjustment. College adjustment was found to have a good reliability in this sample (Chronbach's $\alpha = 0.931$).

***Psychological adjustment.*** Psychological adjustment was measured using depression and anxiety subscales of the short-form of the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). Items were reverse-scored and summed; greater scores reflect better psychological adjustment. Psychological adjustment was found to have a good reliability in this sample (Chronbach's $\alpha = 0.915$).

**Data Analyses**

**Preliminary Analyses.** Data were reduced to scale scores and checked for distribution, normality, reliability, and outliers. Please see Table 2 for an overview of study variables. Four participants were identified to be outliers on age. The mean age of participants was 19.18 (SD=2.50); 91% of participants were age 20 or younger. Following the theoretical focus of the current study on emerging adulthood (Arnett, 2007), 4 participants over the age of 25 (ages 27-45) were removed from the dataset prior to primary analyses. This resulted in N=217 participants included in primary analyses.

**Variable Reduction.** Table 3 contains zero-order correlations between study variables. In general, there were strong correlations among the subscales of psychological adjustment (Depression and Anxiety; see Table 3). For Aim 2, the Anxiety and Depression subscales were used to form a latent variable labeled "Psychological

Adjustment". In forming this latent variable, loadings of the three subscales were fixed to equality, with standardized loadings of .817 for Anxiety and .859 for Depression.

There were also strong correlations among the subscales of college adjustment (Academic Adjustment, Social Adjustment, and Institutional Attachment). For Aim 2, these subscales were used to form another latent variable labeled "College Adjustment". Standardized loadings ranged from .691 to .796.

Overall model fit was generally good according to criteria by Hu and Bentler (2009; CFI=.933; RMSEA=.065 [90% CI .043 .087]; SRMR=.035), except for the RMSEA value.

**Covariates.**

***For Aims 1 and 2***, demographics (age, gender, ability to speak more than one language, family income, religion, living on/off campus) were considered for use as covariates by assessing correlations between demographic variables and *resilience resources*. Gender was significantly related to social competence (t=2.318, p=.022), with male participants reporting higher social competence than female participants. Gender was also significantly related to personal mastery (t=3.364, p<.001), with male participants reporting higher personal mastery than female participants. Gender was included as a covariate in regressions predicting both social competence and personal mastery in Aim 1 as well as in Aim 2.

Living on/off campus was also significantly related to personal mastery (t=-3.257, p=0.001), such that participants living off campus reported greater personal mastery than

participants living on campus. Living arrangements was included as a covariate in regressions predicting personal mastery in Aim 1 as well as in Aim 2.

Ability to speak more than one language was significantly related to perspective taking ($t=2.062$, $p=.041$), with participants who could speak more than one language reporting greater perspective taking than participants who could speak only one language. However, I chose not to include ability to speak more than one language as a covariate for Aim 1 and Aim 2 analyses. Ability to speak more than one language was also significantly related to Hispanic/Latinx Cultural Orientation ($t=4.681$, $p<.001$), such that participants who could speak more than one language reported greater Hispanic/Latinx Cultural Orientation than participants who could speak only one language. Linguistic measures (e.g. language spoken at home) are often used as proxy variables for cultural orientation (e.g. Cruz, Marshall, Bowling, & Villaveces, 2008). This differs from the intention behind assessing demographic variables as potential covariates for Aims 1 and 2, which was meant to identify variables *not* of primary interest which should be adjusted for in analyses predicting the resilience resources.

***For Aim 3,*** demographics (age, gender, ability to speak more than one language, family income, religion, living on/off campus) were also considered for use as covariates. In contrast to Aims 1 and 2, covariates were considered for their usefulness in forming latent profiles by assessing relations between demographic variables and *identity variables*; variables which were significantly related to the identity variables were selected as covariates in the hopes that they would help differentiate latent classes. Male

and female participants were found to differ significantly on Hispanic/Latinx cultural orientation (t=-2.326, p=.027), such that female participants reported greater Hispanic/Latinx cultural orientation than male participants. Male and female participants also differed significantly on identity malleability (t=-2.581, p=.011), such that female participants reported greater malleability in identity than male participants. Ability to speak more than one language was also significantly related to Hispanic/Latinx cultural orientation (t=4.681, p<.001), such that participants who could speak more than one language reported greater Hispanic/Latinx cultural orientation than participants who could speak only one language. Ability to speak more than one language was also significantly related to identity malleability (t=2.450, p=.015), such that participants who could speak more than one language reported greater malleability in their identity than participants who could speak only one language. There were also significant differences in White identity for students reporting different religions (F=2.901, p=0.016). Age, family income, and living on/off campus were found to be unrelated to identity variables. Gender, ability to speak more than one language, and religion were included as covariates for Aim 3.

**Missing Data.** Data were collected across multiple semesters, with some participants taking part in data collection prior to the addition of certain variables to the questionnaire. Thus, some data are missing for earlier cohorts. See table 4 for an overview of missing data for each of the study variables. T-tests compared participants with missing data versus intact data for each study variable on demographics (age,

gender, family income, and living arrangements). Participants with missing data on Hispanic/Latinx identity, White identity, social competence, perspective taking, mastery, and familism were significantly younger than participants with intact data on these variables. These variables were added to the questionnaire mid-way through data collection; further analyses found that participants who took part in the study during earlier cohorts were younger than those taking part in later cohorts. Age was included in analyses for Aims 1 and 2 as an auxiliary variable.

**Primary Analyses:**

Analyses were conducted in MPlus 7.31 with full information maximum likelihood estimation. Measures were zero centered for analyses.

**Aim 1** was to assess the relation between dimensions of racial identity and degree to which multiracial students hold resilience resources. Five regressions were run predicting each of the 5 resilience resources (see Figure 1 for example model). In each regression, the resilience resource was predicted by each of the identity dimensions and any appropriate covariates (see above).

**Aim 2** was to assess the relation between dimensions of racial identity and both college and psychological adjustment, as mediated by the resilience resources (Figure 2). The racial identity dimensions and covariates were entered into an SEM model to predict both college adjustment and psychological adjustment, with each of the resilience resources included as mediators. One covariate, living arrangements, was found to produce convergence issues with the model, and was removed from analyses for Aim 2.

Although parameters may not be reliable in the model with living arrangements included, based on these parameters removing living arrangements did not result in any changes in relation significance. Mediated effects and standard errors were estimated using the product of coefficients approach. Mediation significance was tested using the distribution of product approach, with exact critical values obtained via PRODCLIN (MacKinnon, Fritz, Williams, & Lockwood, 2007).

**Aim 3** was to identify profiles of identity variables, including Hispanic/Latinx identity, White identity, Hispanic/Latinx cultural orientation, identity integration, shifting expressions of identity, and identity malleability. Latent profile analysis (LPA) was conducted; I evaluated the best-fitting solution (i.e. number of profiles) by comparing models with an increasing number of latent profiles using recommended model fit indices (e.g., Bayesian Information Criterion [BIC], Bootstrap Likelihood Ratio Test [BLRT], etc.; Tein et al., 2013) as well as entropy and proportion of participants categorized into each class.

Once a best-fitting solution was selected, I assessed each class separately in terms of the class's mean level of each identity variable, relative to the sample mean (e.g. significantly lower, higher, etc.). I also ran a one-way ANOVA with class membership as the grouping variable and each of the identity variables as dependent variables. Post-hoc comparisons (Games-Howell) assessed whether differences between classes on identity variables were significant. These data were used to characterize each class.

# CHAPTER 3

# RESULTS

## Aim 1 Results

Aim 1 was to assess the relation between dimensions of racial identity and degree to which multiracial students hold resilience resources. See Table 5 for a summary of results. See Figure 1 for an example model predicting Familism values.

*Personal mastery* was significantly predicted by shifting expressions of identity (B=-0.26, p=.003), such that greater reported use of identity shifting expressions was associated with less reported personal mastery, controlling for the other identity variables as well as gender and living on/off campus. Gender (B=-.22, p=.003) and living arrangements (B=.21, p=.005) significantly predicted personal mastery, such that male participants reported greater personal mastery than female students, and students living on campus reported less personal mastery than students living off campus.

*Social competence* was not significantly predicted by any of the identity dimensions. However, social competence was predicted by gender (B=-.23, p=.007), such that male participants reported greater social competence than female participants.

*Perspective taking* was significantly predicted by Hispanic/Latinx identity (B=.22, p=.021), such that greater reported Hispanic/Latinx identity was associated with greater reported use of perspective taking, controlling for the other identity variables.

*Coping flexibility* was significantly predicted by Hispanic/Latinx identity (B=.22, p=.023), such that stronger reported identification as Hispanic/Latinx was associated with greater reported coping flexibility.

*Familism* values were significantly predicted by White identity (B=.20, p=.026), such that stronger reported identification as White was associated with greater reported belief in familism values. Hispanic/Latinx identity was found to predict reported belief in familism values to a similar magnitude (B=.19, p=0.08), although this was nonsignificant.

**Aim 2 Results**

Aim 2 was to assess the relation between dimensions of racial identity and both college and psychological adjustment, as mediated by the resilience resources. See table 6 and figure 2 for model results. Controlling for gender and other identity variables, Hispanic/Latinx identity significantly predicted perspective taking (B=.21, p=.031) and coping flexibility (B=.21, p=.036), such that higher reported Hispanic/Latinx identity predicted higher reported perspective taking and greater reported coping flexibility. While Hispanic/Latinx identity did not predict familism (B=.19, p=.08), the relation was similar in magnitude to the significant relation between White identity and familism (B=.21, p=.014). Hispanic/Latinx identity did not significantly predict personal mastery (B=.11, p=.22) or social competence (B=.16, p=.13). Hispanic/Latinx identity was not directly related to either college adjustment (B=.13, p=.22) or psychological adjustment

(B=.10, p=.27). None of the indirect effects of Hispanic/Latinx identity through the resilience resources were significant.

Hispanic/Latinx cultural orientation was not significantly related to any of the resilience resources (p's> .14) nor was it directly related to college adjustment (B=.01, p=.99) or psychological adjustment (B=-.11, p=.21). None of the indirect effects of Hispanic/Latinx cultural orientation through the resilience resources were significant.

White identity significantly predicted familism (B=.21, p=.014), such that higher reported White identity predicted greater reported belief in familism values. White identity was not significantly related to any of the other resilience resources (p's>.12), nor was it directly related to either college adjustment (B=-.01, p=.95) or psychological adjustment (B=.04, p=.57). None of the indirect effects of White identity through the resilience resources were significant.

Identity integration was not significantly related to any of the resilience resources (p's> .07) nor was it directly related to college adjustment (B=.06, p=.49) or psychological adjustment (B=-.01, p=.94). None of the indirect effects of identity integration through the resilience resources were significant.

Shifting expressions of identity was significantly related to personal mastery (B=-.32, p<.001) and social competence (B=-.24, p=.015), such that higher reported shifting expressions of identity was related to lower personal mastery and poorer social competence. Shifting expressions of identity was unrelated to perspective taking, coping flexibility, and familism (p's>.45). The direct impact of shifting expressions of identity

on college adjustment was significant (B=-.22, p=.023). The specific indirect effect of shifting expressions of identity on college adjustment was partially mediated through personal mastery (mediated effect=-.07; 95% CI -.147, -.008]). The total impact of shifting expressions of identity on psychological adjustment was significant (B=-.32, p<.001). However, the direct impact of shifting expressions of identity on psychological adjustment was not significant (B=-.14, p=.11). The specific indirect effect of shifting expressions of identity on psychological adjustment was partially mediated through personal mastery (mediated effect=-.14; 95% CI -.24, -.062]).

Malleable identity was not related to any of the resilience resources (p's>.42). Malleable identity was unrelated to college adjustment (B=.21, p=.05) and psychological adjustment (B=.04, p=.68). None of the indirect effects of malleable identity through the resilience resources were significant.

Personal mastery was significantly related to both college adjustment (B=.22, p=.029) and psychological adjustment (B=.48, p<.001), such that greater reported personal mastery was associated with better college adjustment and healthier psychological adjustment. Social competence was significantly related to college adjustment (B=.23, p=.035), such that higher reported social competed was associated with better college adjustment. Coping flexibility was significantly related to psychological adjustment (B=-.21, p=.012), such that more flexibility in coping was associated with poorer psychological adjustment. Perspective taking and familism values were unrelated to both college adjustment and psychological adjustment.

**Aim 3 Results**

Aim 3 was to identify profiles of identity variables, including Hispanic/Latinx identity, White identity, Hispanic/Latinx cultural orientation, identity integration, shifting expressions of identity, and identity malleability.

**Model Selection: Fit Statistics.** The best-fitting solution (i.e. number of profiles) was evaluated using a variety of model fit indices (see table 7). Inspection of BIC values indicated that a 3-class solution provided the best fit (BIC=7451.415 for a 3-class solution versus BIC=7455.818 for a 2-class solution and BIC=7464.541for a 4-class solution; a smaller BIC indicates better fit). Although BIC would indicate selection of a 3-class solution, prior work suggests that the BLRT is a better indicator of class enumeration for continuous latent class analysis (e.g. Nylund, Asparouhov, & Muthen, 2007), particularly with fewer than 500 participants. Inspection of the BLRT values indicated that addition of another class improved model fit up until 6 classes (p's<0.05); 7 classes was not found to be better fitting than 6 classes (p=.10). Based on a combination of the BIC and BLRT, I chose to focus on selecting the best fitting solution from among a 3-class to 6-class solution by considering additional factors.

**Model Selection: Other Factors.** Entropy (e.g. confidence of classification) was lowest for the 3-class solution (72%), with improvements as classes were added (76% for 4-class solution, 79% for 5- and 6-class solutions). Proportion of participants in each class (based on the estimated model) was compared between models; the smallest class in the 3-class solution included 38 participants (18%), while the smallest class in the 4-class

solution included 23 participants (12%). Classes were much smaller in the 5- or 6-class solutions, with the smallest class in the 5-class solution including only 10 participants (5%) and the smallest class in the 6-class solution including only 11 participants (5%).

I also considered the conceptual interpretations to aid in selecting the best fitting solution. In comparing the 3-class and 4-class models, the addition of a fourth class allowed for the comparisons of groups with different combinations of identity integration, shifting expressions of behavior, and identity malleability. For example, in the four-class model one could compare a class with low identity integration and high shifting expressions of behavior to a class with average identity integration and relatively high shifting expressions of behavior and a class with average identity integration and relatively low shifting expressions of behavior. In the three-class model, there were not enough classes to make these fine-tuned comparisons. As shifting expressions of behavior were found to have significant implications for students' resilience resources, college adjustment, and psychological adjustment in Aims 1 and 2, the implications of membership in these different classes would likely be important to explore in future studies to inform theory on resilience and multiracial identity.

In comparing the 4-class and 5-class models, the classes were largely the same in their conceptual interpretations. However, the addition of a fifth class allowed for comparisons of groups with high shifting expressions of identity and identity malleability who had either low or high levels of Hispanic/Latinx identity. As Hispanic/Latinx identity was found to have significant implications for students' resilience resources in

Aims 1 and 2, this would likely be important to explore in future studies to inform theory on resilience and multiracial identity.

. In comparing the 5-class and 6-class models, five of the classes were largely the same in their conceptual interpretations. The 6-class model, however, had an additional small class of participants who were relatively low on almost all parameters of identity.

Ultimately, I chose to select a 4-class model as the best-fitting solution. The 4-class model had an improved degree of entropy compared to the 3-class model and offered additional groups with theoretical distinctions that could be important for future research. Although the 5- and 6-class models also offered classes with theoretical distinctions that could be important for future research, these models contained classes that were very small (e.g. including as few as 10 participants out of N=217). The larger subgroups of participants in the 4-class model are more likely to be meaningful and to replicate in future studies compared to those in either the 5- or 6-class models.

**Classes.** The 4-class model was chosen as the best-fitting solution. See figure 2 for a plot of identity variables for each of the 4 classes and table 8 for an overview of identity variable means for each class. Table 9 provides post-hoc comparisons between classes on each identity variable.

*Group 1 – (Low Identity)* represented 32% of the sample. This group had significantly lower values on both Hispanic/Latinx identity and Hispanic/Latinx cultural orientation compared to all other groups. This group also had lower levels of White identity than other groups, although this difference was nonsignificant and this group's

level of White identity was within the average range for this sample. This group had significantly lower levels of both shifting expressions of identity and identity malleability than all other classes. This group reported significantly higher levels of identity integration compared to the other classes.

*Group 2 - (Integrated, Low Shifting)* represented 32% of the sample. This group had significantly higher values on both Hispanic/Latinx identity and Hispanic/Latinx cultural orientation relative to Group 1. This group reported average levels of White identity for this sample. This group reported significantly low levels of shifting expressions of identity relative to this sample, although they reported average levels of identity malleability. This group also reported average levels of identity integration for this sample.

*Group 3 – (Integrated, Shifting)*, represented 26% of the sample. This group had significantly higher values on both Hispanic/Latinx identity and Hispanic/Latinx cultural orientation relative to Group 1. This group reported average levels of White identity for this sample. This group also reported average levels of identity integration for this sample. In contrast to Group 2, this third group reported significantly high shifting expressions of behavior for this sample, reporting more shifting behavior than both Groups 1 and 2.

*Group 4 – (High Flexibility, Low Integration)* represented 11% of the sample. This group reported average levels of Hispanic/Latinx identity, White Identity, and Hispanic/Latinx cultural orientation relative to this sample. However, compared to the

other three groups, this group had the highest levels of shifting expressions of behavior as well as the highest levels of identity malleability. This group also had significantly lower levels of identity integration compared to all other groups.

# CHAPTER 4

# DISCUSSION

## Predicting Resilience Resources

The current study examined the associations between identity, resilience resources, and adjustment among multiracial White and Hispanic/Latinx students navigating the stressors of college. Drawing from ecological theories of multiracial identity development (e.g. Renn, 2003), I theorized that multiracial students reporting differing levels of identity variables (Hispanic/Latinx identity, Hispanic/Latinx cultural orientation, White identity, identity integration, shifting expressions of identity, identity malleability) would likely have gone through differing processes and experiences of identity formation. As a result of going through these differing processes and experiences, students with different levels of identity variables were expected to have different resilience resources (personal mastery, social competence, perspective taking, coping flexibility, and familism values). It was also hypothesized that both college and psychological adjustment would be significantly associated with each of the racial identity dimensions, with greater scores on the racial identity dimensions associated with healthier college and psychological adjustment. It was also hypothesized that different resilience resources would mediate the relation between different identity dimensions and college and psychological adjustment, in line with theories of equifinality (e.g. Curtis & Cicchetti, 2003).

**Perspective Taking**. Stronger identification as Hispanic/Latinx was related to higher reported perspective taking. Prior cross-cultural work has shown that individuals from interdependent cultures demonstrate more frequent use of perspective taking abilities (Chopik, O'Brien, & Honrath, 2017; Wu & Keysar, 2007), which is theorized to stem from increased pressures to consider and interpret the thoughts of others in inter-dependent social interactions (Wu & Keysar, 2007). The current study did not compare across cultures but examined multiracial individuals with racial heritage linked to an interdependent culture (i.e. Hispanic/Latinx culture). Prior work on multiracial identity development suggests that interactions with others from one's heritage backgrounds play a role in identity formation (e.g. Renn, 2003); as such, multiracial college students with stronger identification as Hispanic/Latinx are likely to have had or sought out significant contact with individuals within the Hispanic/Latinx culture. These contacts may have boosted these students' use of perspective taking through modeling and transmission of cultural messages regarding interdependence.

Interestingly, while Hispanic/Latinx identity was related to more perspective taking, *orientation* towards Hispanic/Latinx culture was unrelated to perspective taking. These findings highlight the differences between identity and cultural orientation for multiracial college students. For multiracial individuals, racial identity has been defined as an individual's *self*-understanding (Rockquemore et al., 2009); more general work on ethnic identity notes that ethnic identity is an *internal* structure that can exist with or without culturally-relevant behavior (Phinney & Ong, 2007). Cultural orientation, on the

other hand, has typically been understood in terms of the degree to which an individual has knowledge of a culture's traditions, engages in behaviors or uses languages associated with a cultural group, and holds beliefs, values, and norms in line with that culture's worldview (e.g. Marin, 1992).

Perspective taking refers to an internal process by which an individual is able to or chooses to adopt the psychological point of view of others and thereby anticipate the behavior and actions of others (Davis, 1983). Based on the current study's results, it appears that holding a stronger identity as Hispanic/Latinx is more linked to perspective taking than whether one engages in Hispanic/Latinx cultural behaviors. This may indicate that stronger perspective taking is not just the result of modeling and transmission of Hispanic/Latinx cultural messages regarding interdependence, but that multiracial college students who internally develop an identity as Hispanic/Latinx consequently gain higher skills at internally adopting the psychological viewpoint of others (e.g. perspective taking) through their identity formation process. Individuals with a stronger Hispanic/Latinx identity may also place a higher value on interdependence and thus place a high value on perspective taking. Engaging in culturally oriented behaviors without having a strong Hispanic/Latinx identity may not lead to increased perspective taking. Prior qualitative literature indicates that individuals with multiple racial heritages identify improved perspective taking ability as a strength of having multiple racial heritages (e.g. Suyemoto, 2004). The current results indicate that, at least among multiracial individuals

with White non-Hispanic and Hispanic/Latinx heritage, multiracial individuals with stronger Hispanic/Latinx identity report higher perspective taking.

**Coping Flexibility.** Hispanic/Latinx identity was also related to coping flexibility, such that stronger Hispanic/Latinx identity was associated with higher reported coping flexibility. Theoretically, coping flexibility refers to the ability to use a variety of coping strategies depending on the needs of the situation (Cheng et al., 2014). Multiracial students who have a stronger Hispanic/Latinx identity may have learned and/or sought out ways to cope with stress associated with not only the mainstream U.S. culture, but also coping strategies more in line with their Hispanic/Latinx identities. Although this has not yet been examined among multiracial students or interracial families, there is some evidence for cross-cultural differences in coping style (e.g. Lentz, Glenwick, & Kim, 2016; O'Connor & Shimizu, 2002). Having additional coping strategies to choose from would support more coping flexibility among multiracial students with a stronger Hispanic/Latinx identity.

As with perspective taking, while Hispanic/Latinx identity was related to more coping flexibility, *orientation* towards Hispanic/Latinx culture was unrelated to coping flexibility. Coping flexibly with stress requires engagement of both cognitive and behavioral systems (Cheng et al., 2014). Based on the current study's results, it appears that holding a strong internal identity as Hispanic/Latinx is more linked to coping flexibility than whether one engages in Hispanic/Latinx cultural behaviors. This may indicate that learning new coping strategies and attaining greater coping flexibility may

take place through multiracial students' internal Hispanic/Latinx identity formation processes and experiences. Engaging in culturally oriented behaviors without having a strong Hispanic/Latinx identity may not lead students to learn and implement additional coping strategies and attain greater coping flexibility.

**Familism.** Unexpectedly, stronger White identity was related to higher familism values. Neither Hispanic/Latinx identity nor Hispanic/Latinx cultural orientation were related to familism values when accounting for the other identity variables and covariates. However, Hispanic/Latinx identity and Hispanic/Latinx cultural orientation were related to familism values in zero-order correlations.

It is important to note that the current study assessed familism values specific to *family support,* which reflect one's expectation that family members should be dependable sources of support and have close relationships with one another (Knight et al., 2010). Other aspects of familism, such as values of family obligations (i.e. family members have a responsibility to provide for one another) and family as a referent (i.e. one should meet one's family's expectations; Knight et al., 2010), might have differing relations to these identity dimensions. For example, monoracial Hispanic/Latinx college students report higher family obligations than their monoracial White peers, and family obligations have been shown to significantly impact monoracial Hispanic/Latinx students' educational decisions and outcomes (e.g. Desmond & Turley, 2009). Among multiracial Hispanic/Latinx and White non-Hispanic college students, a stronger identity as Hispanic/Latinx might be related to stronger family obligation values.

Although the specific cultural values associated with White identity have not yet been well studied in the literature, White identity may be associated with cultural values of family support tied to students' White heritage(s). This is likely to vary based on each multiracial student's White heritage(s) (e.g. having a strong identity as Italian versus Swedish versus Saudi Arabian). It is also important to consider the implications of having a strong White identity in the context of a multiracial individual's overall identity. For a multiracial individual with both White and Hispanic/Latinx heritage, having a stronger White identity might reflect greater exploration of one's heritage in general; indeed, the current results show that White identity and Hispanic/Latinx identity were positively correlated. For multiracial individuals, engagement with the process of identity exploration would likely involve interacting with and learning from family members from different sides of one's family (e.g. Brittian et al., 2013; Renn, 2003); these crucial interactions could result in greater value placed on family support and close relationships with one's family. Thus, stronger White identity (alongside stronger Hispanic/Latinx identity) would be related to stronger familism values. Alternatively, with cross-sectional data it cannot be ruled out that students with closer family relationships and stronger family support values are more supported in exploring their racial identities (e.g. through engaging in cultural practices with family members from their White racial background) and might develop a stronger White identity (and Hispanic/Latinx identity) because of this support.

**Personal Mastery and Social Competence.** Also unexpected was the finding that higher reported shifting expressions of identity was related to *lower* social competence and personal mastery. Prior work (e.g. Miville et al., 2005) has suggested that shifting one's expression of racial identity might be protective by allowing a multiracial individual to fit into multiple groups and settings and obtain optimal social outcomes. An examination of the college environment might help to explain the current findings. Prior work suggests that many multiracial students experience monoracism from their peers- for example, challenges to their racial "authenticity" (e.g. saying ""What are you doing here?" to a multiracial student attending a Latinx student meeting; Museus, Lambe Sariñana, Yee, & Robinson, 2016). Collegiate institutions themselves may leave multiracial students feeling trapped within a monoracial structure, with students often being given only options for monoracial-oriented support spaces and coursework (e.g. Latinx Student Associations, Latinx Studies courses; Ingram et al., 2014; Literte, 2010).

Altogether, the monoracial structural context of college might limit attempts to *successfully* shift one's expression of racial identity and to truly belong to multiple racial groups. This in turn might limit the theorized benefits of shifting expressions of identity for multiracial college students' social competence. Further, students who attempt to display shifting expressions of identity might increase their risk of exposure to monoracism. Exposure to monoracism may play a role in the link between shifting expressions of identity and personal mastery. This is in line with prior work suggesting

that higher shifting expressions of identity are associated with more unstable regard (i.e. fluctuating private regard about their multiracial background; Sanchez et al., 2009). Alternatively, multiracial college students with lower personal mastery and lower perceived social competence may adopt shifting expressions of identity as an attempt to garner support.

**Predicting Adjustment**

Higher reported shifting expressions of identity was associated with poorer psychological adjustment and poorer college adjustment. Although this is in contrast to theorized benefits of shifting expressions of identity for multiracial individuals (e.g. Miville et al., 2005), prior work has found a relation between shifting expressions of identity and depressive symptoms (e.g. Yoo et al., 2015). As noted above, displaying shifting expressions of identity within the monoracial context of college might increase risk of exposure to monoracism, which has been linked to poorer psychological adjustment (e.g. Jackson, Yoo, Guevarra, & Harrington, 2012; Salahuddin & O'Brien, 2013). Although prior work has not investigated the relation between monoracism and college adjustment among multiracial students, work with monoracial minority students has found that discrimination is linked to poorer college adjustment (e.g. Levin, Van Laar, & Foote, 2006) and less college persistence (Witkow, Huynh, & Fuligni, 2015). Alternatively, with cross-sectional data it cannot be ruled out that multiracial college students with lower college adjustment and/or lower psychological adjustment may adopt shifting expressions of identity as an attempt to cope.

Unexpectedly, none of the other identity variables assessed in the current study (Hispanic/Latinx identity, Hispanic/Latinx cultural orientation, White identity, identity integration, identity malleability) were associated with either college adjustment or psychological adjustment. This is in contrast to prior work (e.g. Bracey et al., 2004; Brittian et al., 2013) which has shown associations between identity factors such as identity resolution and psychological adjustment. For multiracial individuals, racial and ethnic identity may be less salient predictors of college and psychological adjustment compared to other factors such as gender, socioeconomic status, etc. Other unmeasured identity variables, such as positive feelings regarding one's ethnic group or ethnic identity (e.g. Brittian et al., 2013) might be more salient. Alternatively, identity variables may only be strongly related to college or psychological adjustment for some multiracial individuals, with unidentified third variables moderating the relations between identity variables and adjustment. For example, prior work with monoracial college students found that different aspects of ethnic identity predict college adjustment among male students and female students (Kalsner & Pistole, 2003).

As expected, higher personal mastery was related to better college adjustment and psychological adjustment in this sample of multiracial college students. Further, personal mastery partially mediated the impact of shifting expressions of behavior on college and psychological adjustment, such that more shifting expressions of behavior was related to lower personal mastery which was related to poorer college adjustment and poorer psychological adjustment. Given the cross-sectional nature of the current data, it is

possible that multiracial students who are doing well in college and have fewer psychological symptoms rate themselves as having more mastery over their lives. However, in prior work with general student samples, personal mastery has been linked to increased physiological self-regulation when faced with college stressors (Pham et al., 2001), which would not be expected to be due simply to differences in students' self-ratings. Like with monoracial students, personal mastery appears to be an important resilience resource for multiracial college students.

Additionally, higher social competence was related to better college adjustment in this sample of multiracial college students. This is in line with prior work with general student samples (e.g. Yang & Brown, 2015). Like with monoracial students, social competence appears to be an important resilience resource for multiracial college students. Given the cross-sectional nature of the current data, it is possible that multiracial students who were doing well in college reported themselves as having increased social competence. Interestingly, higher social competence was related to better college adjustment but not better *psychological* adjustment. It may be that high social competence is particularly vital for success in the tasks of college, such as acquiring new social ties and supports, forming connections with professors and other mentors, and getting along well with roommates and classmates. While social competence might improve psychological adjustment to some degree, other factors (e.g. personal mastery, social support, coping efficacy) might be more relevant to psychological adjustment.

Unexpectedly, higher coping flexibility was associated with *poorer* psychological adjustment in this sample of multiracial college students. Coping flexibility was unrelated to college adjustment. This is contrary to research with general and monoracial samples, which has linked improved coping flexibility to lower depression, anxiety, and distress (Gan, Shang, & Zhang, 2007; Kato, 2012; Kato, 2015). The current study conceptualized coping flexibility as having a broad variety of coping strategies to choose from, and measured coping flexibility via a count of strategies that students report using in response to college stressors. A recent meta-analysis found that the (positive) link between coping flexibility and psychological adjustment was stronger in samples from countries with low individualism and samples with lower socioeconomic status (SES) (Cheng, Lau, & Chan, 2014). Cheng and colleagues theorized that this was in part due to resources- individuals with lower SES, for example, might need to try a variety of strategies to cope successfully with stress, while individuals with higher SES might be able to successfully cope with stress by using only a few effective strategies. For relatively high SES college students living in the individualistic U.S. culture, displaying a variety of coping strategies might reflect an inability to successfully cope with stress despite having adequate resources, leading to more coping attempts and thus more coping flexibility.

Neither perspective taking nor familism values were related to college adjustment and psychological adjustment as one would expect based on the prior literature. It is possible that these resources, while shown to be protective for monoracial college students, are not the most relevant or protective resources for multiracial college students.

Prior work with multiracial individuals has also identified factors such as multiracial pride (Salahuddin & O'Brien, 2011), creating third space (Yoo et al., 2015), and multicultural engagement (Yoo et al., 2015) as potential resilience resources.

It is also possible that environmental factors might moderate the impact of resilience resources on college and psychological adjustment. For example, Brittian and colleagues (2013) found that ethnic identity resolution was a stronger predictor of psychological adjustment for multiracial college students in relatively more diverse university settings, while ethnic identity affirmation was a stronger predictor of psychological adjustment for multiracial college students in relatively less diverse university settings. Given the importance of context in understanding multiracial student identity development (e.g. Renn, 2003), students' context should also be given more of a focus when considering which resilience resources are protective. For the current sample, for example, it might be useful to examine White and Hispanic/Latinx identity *resolution* rather than the overall strength of identity, given the relatively diverse setting in which these data were collected (Arizona State University, 2018).

It may also be that the resilience resources examined in the current study are only protective for certain multiracial students based on their identities. As supported by prior theories of multiracial identity development (e.g. Poston, 1990; Renn, 2003), multiracial students' identities are formed through a variety of complex and ongoing processes and interactions with their environment. In the current study, I hypothesized that these processes and interactions might lead multiracial individuals to experience differing use

or access to resilience resources- i.e., that identity variables could be used to *predict* reported use of resilience resources. However, identity variables could also be *moderators* of the impact of resilience resources on adjustment. The processes and interactions that multiracial students experience in forming their racial identities could moderate how effective resilience resources are at leading to positive college and psychological adjustment. For example, prior work with multiracial individuals has found that identity integration moderates the impact of discrimination on psychological adjustment (Jackson et al., 2012). Further, cross-cultural work has found that coping flexibility is more strongly linked to psychological adjustment in less individualistic cultures (Cheng, Lau, & Chan, 2014). In the current multiracial sample, individuals with stronger orientation towards Hispanic/Latinx culture or with a stronger Hispanic/Latinx identity may experience a stronger link between coping flexibility and psychological adjustment.

A longitudinal assessment of identity and resilience at multiple stages before, during, and after college would clarify whether identity variables are better used to predict or moderate resilience. Alternatively, identity variables could act as both predictor and moderator of resilience resources in a more dynamic way. For example, multiracial students with stronger Hispanic/Latinx identity were found to report higher perspective taking. The strength of multiracial students' Hispanic/Latinx identity might also moderate the relation between perspective taking and psychological adjustment, such that

perspective taking is more strongly linked to psychological adjustment for multiracial students with stronger Hispanic/Latinx identity.

Altogether, the current results support the theory that different dimensions of identity are differentially related to students' use of resilience resources. This suggests that the process of engaging in *any* identity formation and exploration is not related to improved resilience across the board, but that different resilience resources are strengthened (or impaired) through *specific* identity-relevant skills and interactions with one's environment. These findings highlight the need for person-centered and ecological approaches to understanding identity development and resilience among multiracial individuals.

Results do not strongly support the theory of equifinality; while different identity dimensions were related to different resilience resources, only personal mastery and social competence were related to better college adjustment. These two resilience resources were only (negatively) linked with a single identity variable, shifting expressions of behavior. Further, only personal mastery was related to psychological adjustment. These results highlight personal mastery and social competence as important resilience resources not only for monoracial college students, but also for multiracial college students.

**Patterns of Identity**

The current study also sought to investigate whether distinct subgroups of multiracial Hispanic/Latinx and White students could be determined based on patterns of

multiple aspects of identity. Four distinct patterns of identity arose, forming four subgroups: Group 1 (32% of sample), characterized by low levels of identity dimensions, particularly Hispanic/Latinx identity and Hispanic/Latinx cultural orientation; Group 2 (32% of sample), characterized as having integrated identities and low levels of shifting expressions of identity; Group 3 (26% of sample), characterized as having integrated identities with higher levels of shifting expressions of identity; and Group 4 (11% of sample), characterized as having very low integration of their identities but very high levels of shifting expressions of identity and identity malleability.

**Comparisons to prior models of multiracial identity.** These four subgroups show some similarities with the resolutions identified by Root (1990), which include acceptance of a socially-assigned identity, identification with multiple racial groups (e.g. "I'm part White and part Hispanic"), identification with a single racial group, and identification as belonging to a new racial group or identifying with other mixed race individuals. Group 2, characterized by having integrated identities which rarely shift or show malleability, could be an analogue to identification with multiple racial groups. Root's resolution of identification with a single racial group, either socially assigned or actively chosen, was not strongly supported by these data, as most subgroups had relatively similar scores on both White and Hispanic/Latinx identity, rather than high scores in one and low scores on the other. Of course, it is possible that *individual* participants would label themselves as holding a single monoracial identity; however,

when looking at identity in a continuous fashion with this sample, a single monoracial identity was not supported at the *subgroup* level.

The four subgroups identified in the current study can also be compared with Root's later conceptualizations of border crossings (1996), which include having "both feet in both groups", holding a situational ethnicity and race, "sitting on the border" and claiming being multiracial as one's point of reference, and forming a "home base" in one identity with forays into others. Group 2, characterized by having integrated identities which rarely shift or show malleability, could be similar to either having "both feet in both groups" or "sitting on the border". Asking students about the strength of their identity as multiracial might have clarified which border crossing the Group 2 participants best fit in. Group 4, characterized by low integration and high shifting expressions and malleability, might best match with holding a situational ethnicity or race, or with forming a "home base" in one identity with forays into others. Asking students how they themselves label their identity might have clarified which border crossing the Group 4 participants best fit in.

Comparison with the five identity patterns identified by Renn (2003) can also help to contextualize the current findings. Renn (2003) identified multiple patterns of identity specific to multiracial college students: holding a solely monoracial identity (e.g. "White", "Hispanic), holding multiple monoracial identities simultaneously (e.g. "White and Hispanic"), identifying with a distinct multiracial identity (e.g. "Multiracial", "Mixed"), identifying with an extra-racial identity (e.g. "human being"), and holding a

shifting, flexible, or situational identity (e.g. changing the way they identify in different contexts and at different times). While this cannot be clarified with the current data, it could be that the students who fell into Group 1 in the current study are not necessarily "*low*" on identity, but instead fall under Renn's category of holding an *extraracial* identity by deconstructing race or opting out of identification with U.S. racial categories. Asking students how they label themselves might have clarified whether these "low" identity students are those that consider themselves extraracial. Group 2, characterized by having integrated identities which rarely shift or show malleability, could be an analogue with Renn's category of holding a multiracial identity. Group 3, characterized by having integrated identities that do shift and show malleability, could better fit with Renn's category of holding multiple monoracial identities which shift according to the situation. Group 4, characterized by low integration and high shifting expressions and malleability, might best fit with Renn's category of a situational identity. Finally, Renn's pattern of holding a single monoracial identity was not strongly supported by these data at the subgroup level in this sample.

Differences between these models and the current results could stem in part from the specific sample being examined. The identity categories outlined by Renn (2003) were formed using a sample of multiracial college students from a variety of racial and ethnic heritages, including students with one white parent and one parent of color as well as students with two parents of color. In the current sample, on the other hand, all students had one parent of White non-Hispanic/Latinx descent and one parent of

Hispanic/Latinx descent. Thus, results may give us insight into patterns of identity specific to this population.

The differences in identity patterns for the current sample compared to Renn's 2003 sample may result in part from differences in how multiracial students with different racial/ethnic heritages are perceived by others. As noted by Renn (2003), Root (1990), and other theorists, societal expectations for identity play a role in identity development and formation. Multiracial students of White non-Hispanic and Hispanic/Latinx heritage may be more likely to appear "White" or ethnically ambiguous compared to their multiracial peers with other racial backgrounds. A White or ambiguous appearance may give multiracial students more opportunity to identify with their White heritage or to shift their expressions of identity (e.g. Vasquez, 2010), but conversely may make them appear less "authentic" if they identify as Hispanic/Latinx or shift their expression of identity in that direction (e.g. Brunsma & Rockquemore, 2001; Hunter, 2007). This may partially explain the lack of an identifiable monoracial Hispanic/Latinx subgroup in the current study's findings.

Differences in identity patterns for the current sample compared to Renn's 2003 sample may also be due to understandings of identity which are specific to students with Hispanic/Latinx background. Hispanic/Latinx descent is considered an ethnic category on many government forms and in other official capacities but is conceptualized as a race by many Hispanic/Latinx individuals (Terry & Fond, 2013). Due to the ambiguity of what Hispanic/Latinx descent is, there may be more ambiguity surrounding what it means to be

multiracial with White non-Hispanic/Latinx and Hispanic/Latinx descent compared to other mixed backgrounds. If being White and being Hispanic/Latinx are not seen as inherently contradictory, strong identity integration could be a more common feature of identity among college students with these backgrounds than with other backgrounds. Subsequently, multiracial students of White and Hispanic/Latinx descent may be more likely to incorporate aspects of both of their backgrounds into their identity, which may explain the lack of a strong monoracial subgroup in the current sample. Further, with ambiguity surrounding whether being Hispanic/Latinx is an ethnicity or a race, students may be more likely to shift their expressions of identity based on how a question is asked or the context of the situation, highlighting the importance of understanding both behavioral identity shifts and identity malleability in this population.

The larger historical and sociocultural context of the current sample may also play a role in why the current study obtained different results from those shown by Renn (2003) and inform our understanding of identity patterns in this sample. At the university at which these data were collected, 24% of undergraduate students report Hispanic/Latinx heritage (representing over 14,000 students), and over 4% of undergraduate students report belonging to two or more races (representing over 2,500 students; Arizona State University, 2018). Having many individuals from their minority heritage background and with two or more racial backgrounds available may provide students in this sample with more opportunities to explore their identity, to see examples of different expressions of racial identity, and to engage in cultural and identity-relevant events. This may have

resulted in the relatively high identity integration and lack of distinct monoracial subgroups in the current sample.

Recent history has also included several contentious political events concerning the Hispanic/Latinx population in Arizona which might have impacted students' reported and self-identification. For example, in 2010 Arizona passed SB 1070, a "show me your papers" anti-immigrant law. The current sample of participants were children or adolescents when this law was passed. In the current sample, 62% of students lived in Arizona prior to college, and an additional 14% came from neighboring border states. Even students living in other areas of the country may have been impacted by the social and political repercussions of this law at the national level. Prior work suggests, for example, that students at another university in Arizona became less likely to report being solely Hispanic/Latinx and more likely to describe having both Hispanic/Latinx and White heritage in the year following the passage of SB 1070 (Cabrera & Holliday, 2017). The impact of SB1070 and the overall political climate in Arizona might help to explain the lack of a distinct monoracial Hispanic/Latinx group in the current sample.

Based on the current results, I propose that multiracial identity be conceptualized *dimensionally*. Even among students who choose monoracial labels for their race or report monoracial identities, models of identity should reflect that these students may have noticeable and important connections to the "other side[s]" of their heritages and identities. This is reflected in the current results by the lack of a strong "monoracial"

group- there was not a significant class of participants with high scores only on Hispanic/Latinx identity and very low scores on White identity, for example. The current results also found a significant correlation between Hispanic/Latinx identity and White identity.

This dimensional approach applies to other facets of multiracial identity as well. Shifting expressions of behavior, for example, was found in multiple subgroups (most notably groups 3 and 4) to greater or lesser degrees. Trying to fit categorical labels onto multiracial students' identities may fail to give researchers a nuanced, useful understanding. Instead, we might best understand identity by assessing identity variables such as the strengths of each of a students' racial heritages (as well as the strength of their identity as "multiracial"), how integrated these identities are, and how frequently they shift these identities on a continuum.

Although I recommend taking a dimensional approach, there are times when it is useful to consider identity in a categorical manner, such as when conducting epidemiological research or examining self-categorization. Based on the results of the current study, I propose a new categorical model of identity for multiracial students of Hispanic/Latinx and White descent by expanding on patterns identified in prior research (e.g. Renn, 2003). First, I propose adding patterns of identity consisting of multiracial students with "low" identity or "weak" racial identity, consistent with Group 1 in the current study's results. I also propose that, among identity patterns involving a shifting or situational identity, models should differentiate between groups with shifting expressions

of identity and *high* integration of these identities, and groups with shifting expressions of identity and *low* integration of these identities, as was seen in Groups 2-4 in the current results. Further, patterns of identity considered to be "monoracial" should instead be termed "monoracial leaning", to reflect the overlap in identities seen in the current subgroups.

## Overall Discussion

**Clinical Implications.** For multiracial college students, personal mastery and social competence appear to be particularly vital targets for prevention and intervention efforts; as higher personal mastery was related to better scores on both college adjustment *and* psychological adjustment, it might prove to be a very "cost-effective" target. Further, as students who reported in engaging in more shifting expressions of identity had lower personal mastery, poorer college adjustment, and poorer psychological adjustment, prevention and intervention efforts might consider targeting these students as particularly in need of support. While the current results did not indicate that Hispanic/Latinx identity was related to college or psychological adjustment, a strong Hispanic/Latinx identity was linked to both higher perspective taking and higher coping flexibility. Thus, preventions and interventions might also consider finding ways for multiracial students to explore and affirm their Hispanic/Latinx identities in the college context.

**Limitations and Future Directions**. The current study was strengthened by taking both a dimensional and categorical approach to understanding identity among multiracial college students. This allowed for analyses examining both how specific

dimensions of identity relate to resilience resources and adjustment outcomes as well as how dimensions of identity co-occur. Focusing on a specific group of multiracial individuals in a specific context allowed the current study to make specific hypotheses and interpretations about a rapidly growing and relatively understudied population. However, the current results may not generalize to multiracial individuals at other stages in development, to multiracial individuals of this age range not attending college, or to multiracial individuals with different racial heritages. Additionally, interpretation was limited by the cross-sectional nature of the current study- results could not clarify the direction of relations, leaving the possibility that students' adjustment might change how they report on their resilience resources and the possibility that students' use of resilience resources might change how they report on their racial identities. Further, the current study did not measure all possible identity variables or resilience resources; while the current study looked at the strength of students' Hispanic/Latinx identity and the strength of students' White identity, the current study did not measure the strength of students' identity as multiracial or mixed.

Future work should follow multiracial Hispanic/Latinx and White college students longitudinally across a longer span of development to strengthen understanding of causality and the direction of relations among identity, resilience, and adjustment outcomes. A mixed-methods approach including additional measures would also build upon the current study. For example, future studies might assess the strength of students' identity as multiracial or mixed, as well as conduct qualitative interviews to understand

how identity development processes and experiences might differ among students falling into different subgroups.

# CHAPTER 5

# CONCLUSION

The current study examined the associations between identity, resilience resources, and adjustment among multiracial White and Hispanic/Latinx students navigating the stressors of college. Altogether, results indicated that different dimensions of identity were related to student's use of different resilience resources; however, of the resilience resources, only personal mastery was related to better college adjustment and better psychological adjustment, while social competence was related to better college adjustment. These findings highlight the need for person-centered and ecological approaches to understanding identity development and resilience among multiracial college students and can inform prevention and intervention efforts among this population.

The current study also identified four distinct subgroups of multiracial college students based on their patterns of identity. While these subgroups had some similarities to stages, resolutions, and patterns identified in prior work (e.g. Poston, 1990; Renn, 2000; Root, 1990; Root, 1996), results also highlighted the importance of assessing identity not only via single labels but through multiple dimensions, and including factors such as identity integration, shifting expressions of identity, and identity malleability when trying to understand the complexities of multiracial identity. Results further understanding of identity specific to multiracial college students of White and Hispanic/Latinx descent.

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Table 1

*Sample Demographics*

| | |
|---|---|
| **Age –** Range; M (SD) | 18-25; 18.92 (1.33) |
| **Gender** – N (%) | |
| Male | 89 (41%) |
| Female | 126 (58%) |
| Other | 2 (1%) |
| **Language Status** – N (%) | |
| Monolingual | 137 (88%) |
| Multilingual | 19 (12%) |
| **Family Income** - N (%) | |
| ≤ $20,000 | 15 (9%) |
| $20,001 - $30,000 | 5 (3%) |
| $30,001 - $40,000 | 9 (5%) |
| $40,001 - $50,000 | 16 (9%) |
| $50,001 - $75,000 | 27 (15%) |
| $75,001 - $100,000 | 34 (19%) |
| $100,001 - $250,000 | 51 (29%) |
| $250,001 or more | 18 (10%) |
| **Religion** – N (%) | |
| None | 76 (35%) |
| Catholic | 72 (33%) |
| Other | 42 (20%) |
| Protestant | 19 (9%) |
| Jewish | 5 (2%) |
| Muslim | 1(<1%) |
| **Living Arrangements** – N (%) | |

| | |
|---|---|
| On-Campus in Dorm | 111 (51%) |
| Off-Campus with Family | 45 (21%) |
| Off-Campus (e.g. apartment alone or with roommates) | 61 (28%) |

Table 2

*Study Variables*

| | Range | Mean (SD) | Skew (SE) | Kurtosis (SE) |
|---|---|---|---|---|
| **Hispanic Identity** | 6-24 | 15.87 (4.6) | -.202 (.19) | -.393 (.39) |
| **White Identity** | 6-24 | 13.65 (4.1) | -.011 (.20) | -.321 (.40) |
| **Hispanic Orientation** | 16-74 | 42.79 (10.1) | .269 (.20) | .450 (.40) |
| **Identity Integration** | 13-40 | 30.41 (5.6) | -.327 (.17) | -.585 (.33) |
| **Shifting Expressions** | 5-25 | 9.78 (5.3) | .916 (.17) | -.145 (.33) |
| **Identity Malleability** | 5-25 | 13.83 (5.9) | .001 (.20) | -1.066 (.39) |
| **Social Competence** | 15-73 | 51.34 (11.2) | -.299 (.22) | .143 (.44) |
| **Perspective Taking** | 12-35 | 26.00 (4.9) | -.240 (.19) | -.341 (.39) |
| **Coping Flexibility** | 1-49 | 27.74 (7.9) | -.047 (.17) | .710 (.34) |
| **Personal Mastery** | 11-28 | 20.94 (3.5) | .047 (.20) | -.298 (.39) |
| **Familism** | 6-30 | 24.86 (4.5) | -1.164 (.22) | 2.103 (.44) |
| **College Adjustment** | 2.8-8.4 | 6.13 (1.2) | -.378 (.17) | -.246 (.33) |
| **Psychological Adjustment** | 0-84 | 63.64 (16.8) | -1.083 (.17) | .694 (.33) |

Table 3

*Zero Order Correlations*

| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Hispanic ID | 1.0 | | | | | | | | | | | | | | | | | |
| 2. White ID | .27* | 1.0 | | | | | | | | | | | | | | | | |
| 3. Hispanic Orient. | .54* | .15 | 1.0 | | | | | | | | | | | | | | | |
| 4. ID Integration | -.06 | -.07 | -.04 | 1.0 | | | | | | | | | | | | | | |
| 5. Shifting Expressions | .18* | .02 | .25* | -.44* | 1.0 | | | | | | | | | | | | | |
| 6. Identity Malleability | .43* | .21* | .36* | -.42* | .56* | 1.0 | | | | | | | | | | | | |
| 7. Personal Mastery | .11 | .07 | .06 | .24* | -.32* | -.18* | 1.0 | | | | | | | | | | | |
| 8. Social Competence | .19* | .20* | .11 | .12 | -.17 | -.01 | .42* | 1.0 | | | | | | | | | | |
| 9. Perspective Taking | .16* | .10 | .04 | .18* | .07 | -.07 | .17* | .29* | 1.0 | | | | | | | | | |
| 10. Coping Flexibility | .22* | .20* | .21* | .01 | .04 | .18* | .04 | .30* | .38* | 1.0 | | | | | | | | |
| 11. Familism | .29* | .26* | .20* | .08 | .06 | .12 | .19* | .29* | -.04 | .33* | 1.0 | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12. Academic Adjust. | .23* | .11 | .16 | .16* | -.17* | .06 | .38* | .29* | .20* | .10 | .15 | 1.0 | | | | | |
| 13. Social Adjust. | .20* | .16 | .07 | .08 | -.22* | .10 | .19 | .24* | -.02 | .13 | .02 | .43* | 1.0 | | | | |
| 14. Inst. Attach. | .11 | .06 | .09 | .10 | -.19* | .05 | .16* | .23* | .18* | .10 | .05 | .63* | .56* | 1.0 | | | |
| 15. Anxiety | -.01 | .12 | -.10 | .17* | -.25* | -.13 | .42* | .27* | .03 | -.16* | .11 | .28* | .13 | .11 | 1.0 | | |
| 16. Depression | .14 | .09 | .03 | .16* | -.32* | -.03 | .52* | .30* | .02 | -.05 | .15 | .42* | .34* | .24* | .70* | 1.0 | |
| 17. Gender | .07 | .02 | .19* | -.07 | .01 | .21* | -.27* | -.21* | -.08 | .06 | .09 | -.02 | .13 | .17* | -.12 | -.08 | 1.0 |
| 18. Living Arrange. | .10 | -.08 | .15 | -.02 | -.01 | .09 | .26* | .13 | .08 | .04 | .05 | .10 | -.15 | -.01 | .01 | .08 | -.08 | 1.0 |

*Note.* ID = identity; Orient. = Orientation; Psych. = Psychological; Adjust. = Adjustment; Inst. = Institutional; Attach. = Attachment; Arrange. = Arrangements.

Gender coded as Male = 1, Female = 2, with participants reporting Other set as missing for analyses (N=2); Living arrangements coded as On Campus = 0, Off Campus = 1.

* indicates significance at $p<.05$ level

Table 4

*Missing Data for Each of the Study Variables*

| **Variable** | **Intact** | **Missing – Count (Percent)** |
|---|---|---|
| Hispanic Identity | 156 | 61 (28%) |
| White Identity | 155 | 62 (29%) |
| Hispanic Cultural Orientation | 149 | 68 (31%) |
| Identity Integration | 211 | 6 (3%) |
| Shifting Expressions | 212 | 5 (2%) |
| Identity Malleability | 154 | 63 (29%) |
| Social Competence | 120 | 97 (45%) |
| Perspective Taking | 156 | 61 (28%) |
| Coping Flexibility | 201 | 16 (7%) |
| Personal Mastery | 154 | 63 (29%) |
| Familism | 120 | 97 (45%) |
| College Adjustment | 214 | 3 (1%) |
| Psychological Adjustment | 214 | 3 (1%) |

Table 5

*Model Results for Aim 1.*

| | Personal Mastery | | Social Competence | | Perspective Taking | | Coping Flexibility | | Familism | |
|---|---|---|---|---|---|---|---|---|---|---|
| | B (SE) | p | B | p | B | p | B | p | B | p |
| Hispanic ID | .12(.09) | .194 | .14(.11) | .203 | .22(.10) | .021* | .22(.10) | .023* | .19(.11) | .083 |
| Hispanic Orientation | .09(.09) | .301 | .07(.11) | .489 | -.07(.10) | .462 | .01(.10) | .964 | .07(.11) | .522 |
| White ID | .07(.08) | .355 | .14(.09) | .112 | .07(.08) | .375 | .14(.08) | .083 | .20(.09) | .026* |
| Identity Integration | .11(.08) | .181 | .10(.10) | .301 | .17(.09) | .051 | .06(.08) | .442 | .09(.10) | .376 |
| Shifting Expressions | -.26(.09) | .003* | -.17(.10) | .095 | .04(.10) | .693 | -.03(.09) | .701 | -.06(.11) | .590 |
| Identity Malleability | -.05(.1) | .587 | .04(.11) | .701 | -.1(.11) | .349 | .08(.11) | .437 | .04(.11) | .718 |
| Gender | -.22(.07) | .003* | -.23(.08) | .007* | - | - | - | - | - | - |
| Living Arrangements | .21(.07) | .005* | - | - | - | - | - | - | - | - |

*Note.* ID = identity. Gender coded as Male = 1, Female = 2, with participants reporting 'Other' set as missing for analyses (n=2). Living arrangements coded as On Campus = 0, Off Campus = 1.
* indicates significance at p<.05 level

Table 6

*Model results for Aim 2*

| | Personal Mastery | | Social Competence | | Perspective Taking | | Coping Flexibility | | Familism | | College Adjustment | | Psychological Adjustment | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B (SE) | p | B | p | B | p | B | p | B | p | B | p | B | p |
| Hispanic ID | .11(.09) | .22 | .16(.1) | .13 | .21(.1) | .03* | .21(.1) | .04* | .19(.1) | .08 | .13(.1) | .22 | .10(.09) | .27 |
| Hispanic Orientation | .13(.09) | .14 | .07(.1) | .49 | -.06(.1) | .54 | .01(.1) | .98 | .04(.1) | .74 | .01(.1) | .99 | -.11(.09) | .21 |
| White ID | .05(.08) | .53 | .13(.09) | .14 | .07(.08) | .38 | .13(.08) | .12 | .21(.09) | .01* | -.01(.09) | .95 | .04(.08) | .57 |
| ID Integration | .14(.08) | .07 | .09(.1) | .32 | .14(.09) | .11 | .06(.08) | .46 | .08(.1) | .41 | .06(.09) | .49 | -.01(.08) | .94 |
| Shifting Expressions | -.32(.09) | .01* | -.24(.1) | .02* | .01(.1) | .97 | -.03(.09) | .72 | -.08(.1) | .45 | -.22(.1) | .02* | -.14(.09) | .11 |
| ID Malleability | -.03(.1) | .78 | .02(.1) | .85 | -.08(.1) | .47 | .09(.1) | .42 | .01(.1) | .94 | .21(.1) | .05 | .04(.1) | .68 |
| Personal Mastery | - | - | - | - | - | - | - | - | - | - | .22(.1) | .03* | .48(.08) | .01* |
| Social Competence | - | - | - | - | - | - | - | - | - | - | .23(.1) | .04* | .16(.09) | .08 |
| Perspective Taking | - | - | - | - | - | - | - | - | - | - | .08(.09) | .37 | -.04(.08) | .65 |
| Coping Flexibility | - | - | - | - | - | - | - | - | - | - | -.03(.09) | .77 | -.21(.08) | .01* |
| Familism | - | - | - | - | - | - | - | - | - | - | -.05(.1) | .65 | .06(.09) | .49 |

Note. * indicates significance at p<.05 level. Results for identity dimensions predicting college adjustment and psychological adjustment reflect direct effects.

Table 7

*Overview of Class Solutions*

| | 1 Class | 2 Class | 3 Class | 4 Class | 5 Class | 6 Class | 7 Class |
|---|---|---|---|---|---|---|---|
| BIC | 7553.95 | 7455.82 | 7451.42 | 7464.54 | 7481.87 | 7511.71 | 7545.93 |
| Bootstrap LRT p-value | - | <.001 | <.001 | <.001 | <.001 | .030 | 0.098 |
| Entropy | - | 82% | 72% | 76% | 79% | 79% | 80% |
| Proportions (%) | - | 29/71 | 18/36/46 | 11/26/ 30/33 | 5/11/21/ 31/32 | 5/9/11/20/ 24/30 | 6/6/8/9/ 17/24/30 |

Table 8

*Identity Variable Means and Standard Errors for each Latent Profile Group*

| | Group 1 | Group 2 | Group 3 | Group 4 |
|---|---|---|---|---|
| | "Low Identity" | "Integrated, Low Shifting" | "Integrated, Shifting" | "High Flexibility, Low Integration" |
| N (%) | 69 (32%) | 69 (32%) | 56 (26%) | 23 (11%) |
| Hispanic ID | -3.094 (1.17)* | 2.039 (.81)* | 0.753 (1.18) | 1.722 (1.49) |
| White ID | -1.094 (.79) | 1.043 (.77) | 0.241 (.76) | -0.127 (.98) |
| Hispanic Orient. | -6.228(2.21)* | 3.202 (1.85) | 0.881 (2.41) | 6.384 (3.70) |
| ID Integration | 2.554 (.66)* | 0.365 (1.52) | -0.673 (1.04) | -7.232 (.93)* |
| Shifting Expressions | -3.768 (.29)* | -3.110 (.64)* | 4.146 (.67)* | 10.353 (1.02)* |
| ID Malleability | -6.219 (.84)* | 2.017 (1.91) | 2.386 (1.31) | 6.882 (1.18)* |

*Note.* Proportions based on counts for most likely class membership. All variables are mean-centered.

ID = identity, Orient. = Orientation.

* indicates significantly different from zero at $p<.05$ level.

Table 9
*Post-hoc Games-Howell comparisons*

| Identity Variable | (I) Class | (J) Class | Mean Diff. (I-J) | Std. Error | Sig. |
|---|---|---|---|---|---|
| Hispanic/Latinx Identity | Group 1: Low Identity | Group 4 | -4.777* | 1.247 | .004 |
| | | Group 2 | -5.578* | .771 | .000 |
| | | Group 3 | -3.847* | .851 | .000 |
| | Group 4: High Flex, Low Integ. | Group 1 | 4.777* | 1.247 | .004 |
| | | Group 2 | -.802 | 1.234 | .915 |
| | | Group 3 | .929 | 1.285 | .887 |
| | Group 2: Integrated, Low Shifting | Group 1 | 5.578* | .771 | .000 |
| | | Group 4 | .802 | 1.234 | .915 |
| | | Group 3 | 1.731 | .831 | .167 |
| | Group 3: Integrated, Shifting | Group 1 | 3.847* | .851 | .000 |
| | | Group 4 | -.929 | 1.285 | .887 |
| | | Group 2 | -1.731 | .831 | .167 |
| Hispanic/Latinx Cultural Orientation | Group 1: Low Identity | Group 4 | -12.677* | 3.029 | .001 |
| | | Group 2 | -10.087* | 1.722 | .000 |
| | | Group 3 | -7.204* | 2.066 | .004 |
| | Group 4: High Flex, Low Integ. | Group 1 | 12.677* | 3.029 | .001 |
| | | Group 2 | 2.590 | 2.853 | .801 |
| | | Group 3 | 5.474 | 3.073 | .302 |
| | Group 2: Integrated, Low Shifting | Group 1 | 10.087* | 1.722 | .000 |
| | | Group 4 | -2.590 | 2.853 | .801 |
| | | Group 3 | 2.883 | 1.799 | .384 |
| | Group 3: Integrated, Shifting | Group 1 | 7.204* | 2.066 | .004 |
| | | Group 4 | -5.474 | 3.073 | .302 |
| | | Group 2 | -2.883 | 1.799 | .384 |
| White Identity | Group 1: Low Identity | Group 4 | -1.080 | 1.095 | .758 |
| | | Group 2 | -2.214 | .885 | .066 |
| | | Group 3 | -1.201 | .829 | .472 |
| | | Group 1 | 1.080 | 1.095 | .758 |
| | | Group 2 | -1.134 | 1.098 | .732 |

| Identity Variable | (I) Class | (J) Class | Mean Diff. (I-J) | Std. Error | Sig. |
|---|---|---|---|---|---|
| | Group 4: | Group 3 | -.121 | 1.054 | .999 |
| | Group 2: Integrated, Low Shifting | Group 1 | 2.214 | .885 | .066 |
| | | Group 4 | 1.134 | 1.098 | .732 |
| | | Group 3 | 1.013 | .833 | .618 |
| | Group 3: Integrated, Shifting | Group 1 | 1.201 | .829 | .472 |
| | | Group 4 | .121 | 1.054 | .999 |
| | | Group 2 | -1.013 | .833 | .618 |
| Identity Integration | Group 1: Low Identity | Group 4 | 10.182998* | .976691 | .000 |
| | | Group 2 | 2.656716* | .815876 | .008 |
| | | Group 3 | 3.702322* | .858505 | .000 |
| | Group 4: High Flex, Low Integ. | Group 1 | -10.182998* | .976691 | .000 |
| | | Group 2 | -7.526282* | 1.077393 | .000 |
| | | Group 3 | -6.480676* | 1.110023 | .000 |
| | Group 2: Integrated, Low Shifting | Group 1 | -2.656716* | .815876 | .008 |
| | | Group 4 | 7.526282* | 1.077393 | .000 |
| | | Group 3 | 1.045605 | .971535 | .705 |
| | Group 3: Integrated, Shifting | Group 1 | -3.702322* | .858505 | .000 |
| | | Group 4 | 6.480676* | 1.110023 | .000 |
| | | Group 2 | -1.045605 | .971535 | .705 |
| Shifting Expressions | Group 1: Low Identity | Group 4 | -14.364450* | .574999 | .000 |
| | | Group 2 | -.823982* | .304616 | .038 |
| | | Group 3 | -8.022059* | .352303 | .000 |
| | Group 4: High Flex, Low Integ. | Group 1 | 14.364450* | .574999 | .000 |
| | | Group 2 | 13.540468* | .582150 | .000 |
| | | Group 3 | 6.342391* | .608461 | .000 |
| | Group 2: Integrated, Low Shifting | Group 1 | .823982* | .304616 | .038 |
| | | Group 4 | -13.540468* | .582150 | .000 |
| | | Group 3 | -7.198077* | .363856 | .000 |
| | | Group 1 | 8.022059* | .352303 | .000 |
| | | Group 4 | -6.342391* | .608461 | .000 |

| Identity Variable | (I) Class | (J) Class | Mean Diff. (I-J) | Std. Error | Sig. |
|---|---|---|---|---|---|
| | Group 3: | Group 2 | 7.198077* | .363856 | .000 |
| Identity Malleability | Group 1: Low Identity | Group 4 | -13.422* | 1.000 | .000 |
| | | Group 2 | -8.499* | .663 | .000 |
| | | Group 3 | -8.730* | .787 | .000 |
| | Group 4: High Flex, Low Integ. | Group 1 | 13.422* | 1.000 | .000 |
| | | Group 2 | 4.923* | 1.069 | .000 |
| | | Group 3 | 4.692* | 1.150 | .001 |
| | Group 2: Integrated, Low Shifting | Group 1 | 8.499* | .663 | .000 |
| | | Group 4 | -4.923* | 1.069 | .000 |
| | | Group 3 | -.231 | .873 | .993 |
| | Group 3: Integrated, Shifting | Group 1 | 8.730* | .787 | .000 |
| | | Group 4 | -4.692* | 1.150 | .001 |
| | | Group 2 | .231 | .873 | .993 |

*Note*. All variables are mean-centered. Flex. = Flexibility, Integ. = Integration.
* indicates significant at p<.05 level.

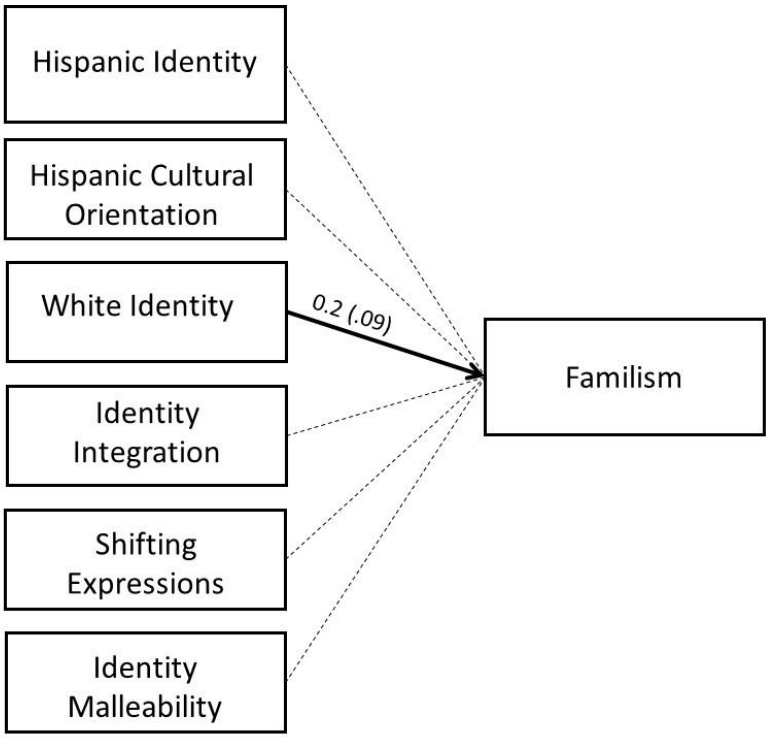


*Figure 1.* Model results for Aim 1, Familism
*Note.* Significant pathways shown in bold with standardized coefficient (standard error). Non-significant pathways shown with dotted lines. Covariates were included only for equations predicting relevant resilience resources.

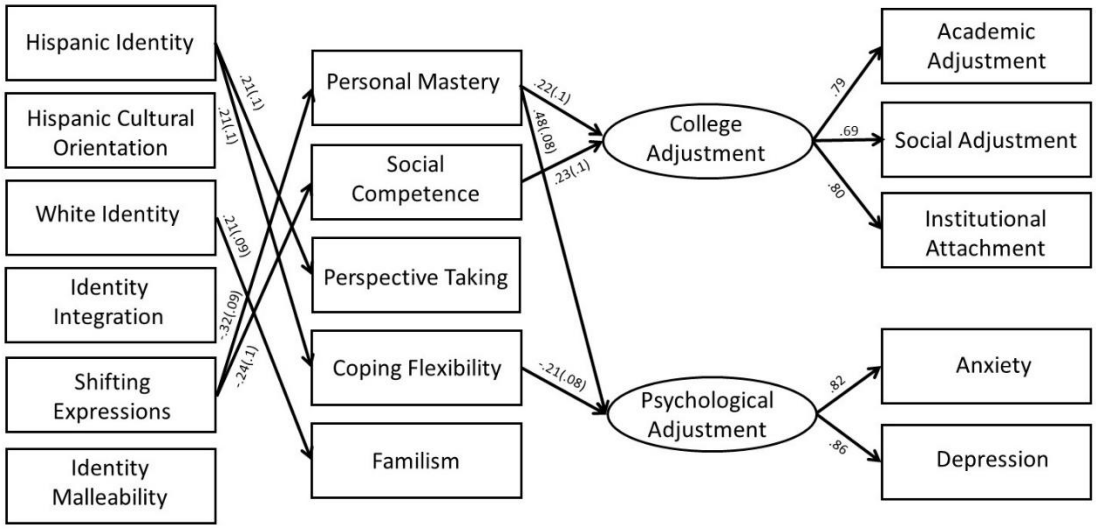


*Figure 2.* Model results for Aim 2
Note. Significant pathways shown in bold with standardized coefficient (standard error). Non-significant pathways shown with dotted lines. Correlations were estimated among identity variables and among resilience resources, but are not shown here for clarity. Gender included as a covariate but not shown here.

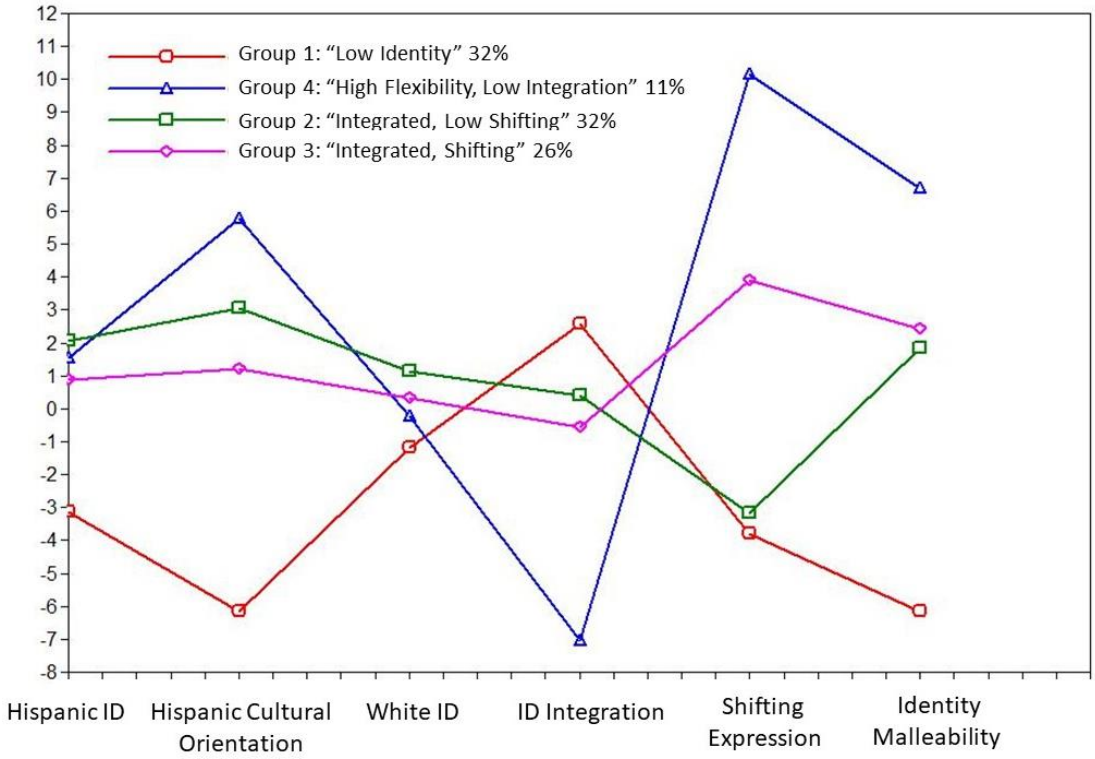


*Figure 3.* Plot of identity variables by latent profile group for 4 class solution
*Note.* All variables are mean-centered. ID = identity. Gender, ability to speak more than one language, and religion included as covariates.



90