

MULTIRACIAL IDENTITY DEVELOPMENT:
PREDICTING THE INTEGRATION OF ETHNIC/RACIAL IDENTITIES IN
MULTIRACIAL ASIAN AMERICANS

BY

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ABSTRACT

Multiracial individuals are a growing population that has yet to receive much attention in research, particularly in light of identity development. Focusing specifically on Asian-White multiracials, this study proposes a new framework for understanding multiracial identity, the Multiracial Identity Framework. This framework draws on theoretical perspectives in multiple dimensions of identity development, ultimately with the goal of understanding the development of ethnic-racial identity for multiracial individuals.

Within this study, each component of the framework is evaluated in its ability to predict different conceptualizations of ethnic/racial identity that multiracial individuals may hold, whether that is to identify with one part or multiple parts of their heritage, consistently or with fluidity that changes based on context. Survey data were collected from Asian-White multiracials, recruited from online social media groups, websites, email lists, and personal contacts. Results suggest that culturally based influences, personality influences, and the ethnic/racial composition of peers along with generational status appear to influence how Asian and White multiracials view their ethnic-racial identity. Implications for the utility of this framework and future steps toward furthering our understanding of multiracial identity are discussed.

KEYWORDS: Multiracial, Asian & White, Ethnic-Racial identity

INTRODUCTION

The rates of interracial marriages are rising rapidly in the U.S. (Pew Research Center, 2017). In the 2010 U.S. Census, 4.2 million children were identified as multiracial or belonging to more than one racial group, and research trends indicate that this population is only increasing (Cheng et al., 2014; Williams, 2012). In fact, multiracial individuals comprise one of the fastest growing demographic groups in the U.S. (Pew Research Center, 2015b), thus indicating a need for researchers to focus on this growing population and on the unique developmental issues that may affect them.

Many different terms have been used to identify those of mixed heritage backgrounds—terms such as multiracial, multiethnic, biracial, bicultural, and multicultural have all been used somewhat interchangeably. Phinney (2006), as one of the leading scholars of identity development, defined *multiracial* individuals as those who have parents with origins from two or more racial or ethnic groups. This approach arguably allows for an inclusive and broad definition of individuals with mixed heritage backgrounds. For example, according to Phinney's approach, an individual with a biological parent who is White and another who is Korean and Chinese may be considered multiracial. An individual with a parent who is German and another who is Asian may also claim a multiracial identification. These examples demonstrate individuals who have origins in both an ethnic group and a racial group. Hence, moving forward, the use of the term, *multiracial*, will reflect individuals with ancestry from multiple ethnic/racial groups.

To be sure, leading scholars have increasingly considered ethnicity and race as related constructs that both originate from socially derived categorizations (Markus,

2008; Worell, 2015). Although it should be acknowledged that these terms differ in their original creation, historical use, and change in emphasis over time (Hitlin et al., 2007; Tatum, 1997), there is considerable overlap between race and ethnicity in terms of their conceptual underpinnings and associations with adjustment. To note, the current study considers race a social construct categorization and uses race labels that reflect the five racial categories adopted by the U.S. Census (White; Black or African American; American Indian or Alaska Native; Asian; and Native Hawaiian or other Pacific Islander; U.S. Census, 2017). Ethnicity, on the other hand, while also a social categorization construct, captures shared cultural heritages based on language, customs, and history (e.g., Chinese, Korean, Vietnamese, and Japanese). Given the considerable overlap and similar social creation of these constructs, the current study is also consistent with the views of contemporary researchers, who have tended to prefer the term, ethnic-racial identity (ERI). More specifically, ERI captures “experiences that reflect both individuals’ ethnic background and their racialized experiences as a member of a particular group in the context of the United States, which can include race salient experiences such as discrimination” (p. 23; Umaña-Taylor et al., 2014). This combined conceptualization recognizes the uniqueness of ethnicity, yet also the ways in which racial categorizations have played a role in the meaning-making processes of ERI formation.

That said, individuals may vary in how they choose to think about their identity. For some, perhaps race is most salient, for others it could be ethnicity. Therefore, while ethnic and racial categorizations may be assigned by default of birth heritages (Chang, 2015), developing a social identity from identification with an ethnic and/or racial group is a personal choice. The primary goal of the current study is to examine these personal

choices by drawing on the broad literature and developing a model of identity development that captures the diverse experiences that face individuals from multiracial backgrounds. More specifically, based on prior work that sought to integrate the existing literature on adolescent identity development, ethnic and racial identity development, biracial and multiracial identity development, and bicultural identity negotiation (Chan, unpublished review), the proposed model synthesizes critical features of multiracial identity development and identifies possible correlates and mechanisms.

Components of this framework are tested in the current study among one specific group of multiracial individuals, specifically, those of Asian-White descent. In accordance with previous conceptualizations from prominent scholars, “Asians” in the current study are considered a pan-ethnic group whose ancestry originates back to the continent of Asian, including many countries such as Bangladesh, Cambodia, China, India, Indonesia, Japan, Korea, Malaysia, Pakistan, Thailand, and Vietnam, to name a few (Tseng et al., 2016). “White” refers to heritage background that relate to European countries of origin. Multiracials of Asian and White heritages are a rapidly growing population as Asian Americans have the second highest intermarriage rate (Pew Research Center, 2015b). Furthermore, compared to other minority groups, Asian Americans are more likely to intermarrying with White Americans (Mok, 1999). Fifteen percent of all interracial couples consists of Asian and White unions, with Asians in non-metropolitan areas particularly likely to intermarry (Pew Research Center, 2015a). Given that Asian immigrants are beginning to settle in rural communities in the U.S. rather than metropolitan areas (Kiang & Supple, 2016), the Asian-White multiracial population is likely to continue in growth. However, this group is still understudied with little research

focusing on key developmental issues (Chang, 2015), especially regarding ERI formation and identity-relevant experiences.

Ethnic-Racial Identity (ERI)

ERI has been linked with many developmental outcomes such as peer friendships, adolescent dating behaviors, self-esteem, depression, mental health, and academic outcomes (Nesteruk, Helmstetter, Gramescu, Siyam, & Price, 2015; Seaton, Quintana, Verkuyten, & Gee, 2017; Smith & Silva, 2011; Stein, Kiang, Supple, & Gonzalez, 2014; Wang, Kao, & Joyner, 2006; Yoon, Adams, Clawson, Chang, Surya, & Jeremie-Brink, 2017). Recent research has suggested that ERI can have a promotive effect for Asian as well as multiracial individuals, with high levels of ERI associated with positive developmental outcomes (Neblett, Rivas-Drake, & Umaña-Taylor, 2012; Mahalingam, Balan, & Haritatos, 2008; Marsiglia, Kulis, & Hecht, 2001). Mahalingam and colleagues (2008) found that among Asian Americans, cultural identities were related to ethnic pride, which was, in turn, positively related to resiliency. Furthermore, for multiracial individuals and ethnic minority youth, high levels of ethnic identity were related to reduced drug use (Marsiglia, Kulis, & Hecht, 2001).

Additional research has also demonstrated a protective effect resulting from ERI, such that it can buffer the negative associations between ethnic and racial discrimination and developmental outcomes (Neblett et al., 2012). For example, with African American youth, a positive connection to one's ethnic/racial group was found to moderate the associations between racial discrimination and academic achievement and problematic behavior. Considering the protective role ERI may hold and its promotive effects, additional research has gone even a step further. Umaña-Taylor and colleagues (2018)

recently evaluated an intervention, titled the Identity Project, which was designed to increase ERI exploration and resolution to ultimately lead to better psychological adjustment. They found evidence that increasing adolescents' ERI can promote positive psychosocial functioning (Umaña-Taylor et al., 2018). Altogether, these studies collectively reveal that the implications of developing ERI are far reaching with very meaningful consequences, particularly for ethnic minority groups.

Given the broad and numerous implications for establishing a strong sense of ERI, it is important to understand how these processes take shape among multiracial individuals. Identity development for those who are multiracial has been purported to be more complex than for those who are monoracial because multiracial individuals often belong to minority racial or ethnic groups in addition to the current majority group of their nation (Gonzalez et al., 2017; Phinney, 2006). Multiple identity dimensions must be dealt with simultaneously while recognizing the potential for these dimensions to conflict. For example, Townsend, Markus, and Bergsieker (2009) found that multiracial individuals report their multiracial heritage as causing tension in a variety of contexts. They further concluded that, when multiracial individuals were unable to choose or claim a multiracial identity in demographic questionnaires, they demonstrated lower motivation and self-esteem (Townsend et al., 2009). Multiracial individuals often must negotiate different, if not dystonic, ethnic and racial identities during identity formation and determine if and how to consolidate these separate identities.

A better understanding of how processes of ERI development occur for multiracial individuals may provide new insights and information regarding links to diverse psychological adjustment outcomes in the face of stress that might be associated

with multiracial status. In a qualitative study, Museus and colleagues (2016) revealed that multiracial individuals face eight different types of prejudice and discrimination during college experiences: racial essentialization, invalidation of racial identities, external impositions of racial identities, racial exclusion and marginalization, challenges to racial authenticity, suspicion of being a social chameleon, exoticization, and pathologizing of multiracial individuals. While some of these (e.g., racial exclusion) might be seen as relevant to monoracial individuals as well, other forms of discrimination appear unique to multiracial individuals' experiences (e.g., suspicion of being a social chameleon). Furthermore, experiences of discrimination may be related to the degree of multiracial identity integration, which is represented by the degree of racial distance and racial conflict present between the identities the individual holds (Jackson, Yoo, Guevarra, & Harrington, 2012). For example, a high degree of multiracial identity integration (i.e., when individuals perceive concordance and little distance and conflict between their identities) was related to higher levels of psychological adjustment, with integration buffering the negative effects of perceived discrimination on psychological adjustment (Jackson et al., 2012). Altogether, research thus far on multiracial individuals does suggest that, not only is the process of ERI formation particularly complex, but similar promotive and protective effects may be associated with ERI development and integration. Therefore, more research is needed to focus on the development and integration of ERI in multiracial individuals. This may yield a more complete understanding of how ERI development can be helpful in promoting optimal psychological adjustment in those who are multiracial.

Clarifying the Multiracial Identity Framework

The Multiracial Identity Framework (MIF) illustrated in Figure 1 integrates the existing theoretical perspectives and models from four bodies of literature—adolescent identity development, ethnic/racial identity, biracial and multiracial identity, and bicultural identity negotiation (e.g., Adams & Marshall, 1996; Berry, 1990, 2003; Cross, 1971; Henriksen & Paladino, 2009; Lafromboise et al., 1993; No et al., 2011; Phinney, 1989, 1992; Poston, 1990; Roccas & Brewer, 2002; Root, 1999, 2002; Sellers et al., 1998; Wijeyesinghe, 2001). A summary of these theories is presented in Table 1.

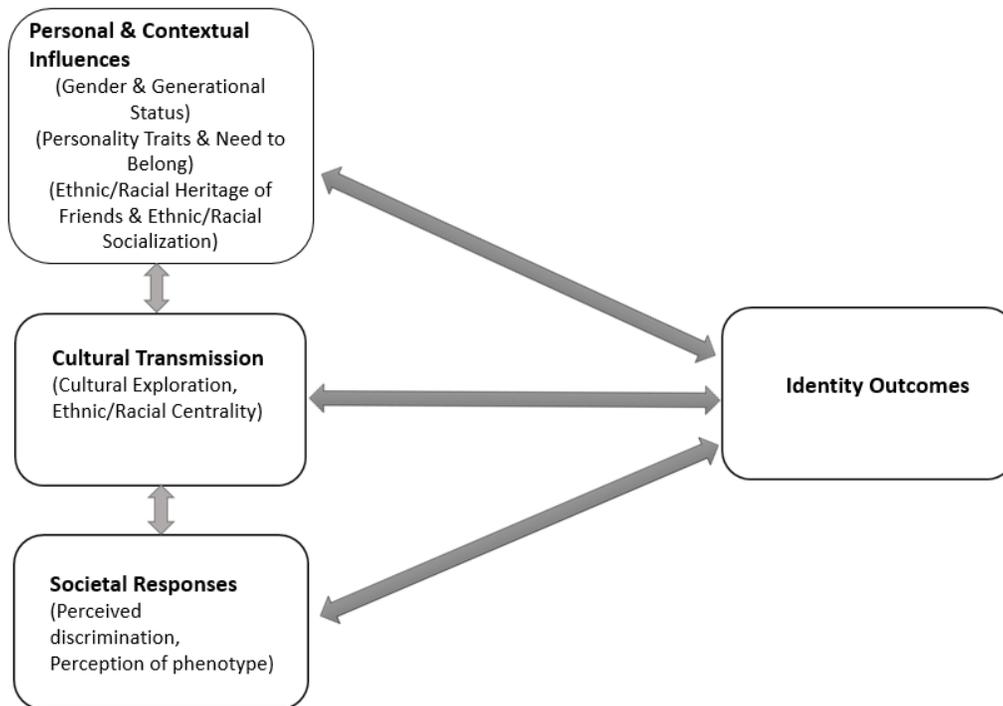


Figure 1. Multiracial Identity Framework (MIF). An illustration of the organization of the MIF. Double arrows indicate bi-directional links.

Table 1

Summary of Models and Theories Of Identity Development

Theories and Models of General Self/Identity Development Developed for Monoracial Individuals	
Erikson's (1968) Psychosocial stages	Eight stages of development: Trust vs Mistrust; Autonomy vs Shame and Doubt; Initiative vs Guilt; Industry vs Inferiority; Identity vs Role Confusion; Intimacy vs Isolation; Generativity vs Stagnation; and Integrity vs Despair. Identity development occurs during adolescence.
Marcia's (1966) Ego identity formation	Four statuses from exploration and commitment of identity: diffused-lacking exploration and commitment; foreclosed-identity commitment without exploration; achieved-identity commitment with exploration; and moratorium-not yet committed in the process of exploration.
Harter's (1992) Multiple selves	Identity development distributed across adolescence. Early adolescence (11-13 year olds)- marked by multiple different selves based on social roles where discrepancies between their self across situations and people are not noticed; middle adolescence (14-16 year olds)- marked by an awareness of opposite abstractions between selves, evident by a recognition of conflict between different selves; late adolescence (17-19 year olds)- marked by the use of higher order abstractions to integrate different selves into one cohesive self by absolving inconsistencies and conflict through personal beliefs and values.
Adam & Marshall's (1996) Dialectical processes	A focus on the micro level dynamic processes of identity development: Through dialectical-process that involves distress, incompatibility, incompleteness, inconsistency, or confrontation, followed by a synthesis or resolution.

Theories and Models developed for Ethnic/Racial Identity

<p>Cross' (1971) Nigrescence model</p>	<p>Five stages of identity: Pre-encounter- predominantly identified with White culture and attempts to deny Black culture, views a White identity as the superior identity; Encounter- rejection of prior identification with White culture and cease of denial of Black culture, marked by exploration of Black culture; Immersion- full identification with Black culture and a negative connotation associated with White culture may develop; Internalization- marked by a desire to transcend racism and reflects a positive internalization of Black culture; Internalization-Commitment- recognizes transcending racism may not be possible, and thus the emphasis switches to a fighting stance on cultural oppression.</p>
<p>Sellers and colleagues' (1998) Multidimensional model of racial identity (MMRI)</p>	<p>Parses group identity into multiple dimensions that comprise one's overall group identity. Four dimensions of group identity in reference to race and ethnicity: Salience- the extent to which ethnicity, race, or behavioral characteristics or appearances are relevant to an individual self-concept at a specific time or situation; Centrality- the extent to which an individual considers ethnicity, race, behaviors, or appearances as normative characteristics that are a constant part of one identity across time and situations; Regard- the extent to which a person feels positively or negatively about his/her group as it related to race or ethnicity; Ideology- the attitudes, opinion, and beliefs about how an ethnic or racial group should live, behave, and interact with society.</p>
<p>Phinney's (1989) developmental model of ethnic identity & Multigroup Ethnic Identity Measure (MEIM)</p>	<p>Similar to Marcia's (1966) model, applies the processes of Exploration and Commitment to Ethnic Identity yielding four identity statuses: foreclosed, diffused, moratorium and achieved. Developed the MEIM which quantifies three sub-dimensions of ethnic identity: attitudes, sense of belonging, ethnic identity achievement, and ethnic behaviors or practices.</p>

Theories and Models developed for Multiracial Identity	
Poston's (1990) Biracial identity model	Five stage model of biracial identity: Personal Identity- identification based on self-esteem and self-worth rather than race or ethnicity; Choice of Group Categorization- a time of alienation where one chooses one specific race or ethnicity based on environmental factors such as family, peers and society and physical appearance and culture; Enmeshment/Denial- marked by feelings of guilt and confusion regarding prior identity choices; Appreciation- an exploration of other races or ethnicity(ies); Integration- a synthesis or integration of multiple identities with cohesion among identities with a multiracial identity.
Root's (1999, 2001) Ecological model of multiracial identity	Four main contexts: Gender, Class, Regional History of Race Relations, & Generation. Within the contexts are three groups of interactive lenses: Inherited Influences, Traits, & Social Context with Community. Lenses affect each context through dynamic interactions. Within each lens are variables. Inherited Influences- biological and environmental influences; Traits- temperament, social skills, talents, and coping skills; Social Context with Community- home, school or work, community, friends, and contexts outside one's community. The interaction of these contexts, lenses and variables lead to four possible identity resolutions: acceptance of an identity assigned by society; identification with both racial or ethnic groups, with consistency across both groups; identification with a single racial or ethnic group; identification with a new racial group, possibly due to connections with other multiracial individuals.
Wijeyesinghe's (2001) Factor model of multiracial identity (FMMI)	Model of eight factors that could affect one's racial identity, not every factor has to be applicable to every individual. Eight factors are: Racial Ancestry, Cultural Attachment, Early Experience and Socialization, Political Awareness and Orientation, Spirituality, Other Social Identities, Social and Historical Context, and Physical Appearance.
Henriksen & Paladino's (2009) Multiple Heritage Identity Development Model (MHID)	Six fluid periods that capture an individual's movement towards a racial or ethnic identity. There is no set linear trajectory through the periods. One may not experience all periods and one can re-experience some periods. Six periods include: Neutrality, Acceptance, Awareness, Experimentation, Transition, and Recognition.

Theories and Models developed for Cultural Identities

Berry's (1990, 2003) Acculturation strategies	Four strategies related to acculturating to a new culture: Integration- retaining traditions and culture of one's ethnic group and developing competencies in mainstream culture; Assimilation- developing competencies with mainstream culture without retaining one's ethnic culture; Separation- retaining one's ethnic culture but not establishing a relationship with mainstream culture; Marginalization- the strategy of retaining neither ethnic culture nor mainstream culture.
Phinney & Devich-Navarro's (1997) bicultural identities	Based on Berry's framework of acculturation, three types of bicultural identities were proposed: Blended Bicultural- affirm biculturalisms with pride in ethnic and mainstream culture with neither in conflict; Alternating Bicultural- those who perceive ethnic and mainstream culture as highly distinctive and alternate between the two cultural identities depending on context; and Separated Bicultural- those who only identify with their ethnic cultures.
Roccas & Brewer's (2002) Bicultural identity categorizations	Four identity categorizations: Intersection- biculturals who identify with others who are the same type of bicultural individuals as they are; Dominance- biculturals who identify with only one of the cultural groups they have ties with; Compartmentalization- biculturals who identify with either of the cultural groups they have ties to depending on the social context; Merger- biculturals who identify with both cultural groups simultaneously.
LaFromboise, Coleman, & Gerton's (1993) Cultural competencies perspective	Six different cultural competencies which must be met to claim a cultural identity; biculturals must master competencies in both cultures to claim a bicultural identity. Identified cultural competencies are: knowledge of and facility with the beliefs and values of the culture; ability to display sensitivity to the affective processes of the culture; language mastery; behavioral competencies in performing socially sanctioned behavior according to cultural norms, and maintaining active social relations with the cultural group.
No, Wan, Chao, & Rosner's (2011) Bicultural identity negotiation framework	Framework of how different dimensions of bicultural identity may work in tandem. Three bicultural strategies by which one can fluctuate: Alternation- individuals who switch back and forth between two cultural identities depending on context; Integration- individuals who integrate separate cultural identities into one bicultural identity; Synergy- the blending of two cultures into one culture that is distinctive from either it originates from. Personal Characteristics- physical appearances, sense of belonging, and self-affirmation; and Social Structural Variables- ethnic socialization, perceived inclusion in the cultural group, and stereotypes and prejudice can impact bicultural identity which in turn impacts Negotiation Outcomes- positive and negative outcomes such as bicultural competence, identity confusion and cultural inauthenticity.

Drawing from these theories and generalizing from existing research, arguments for the key variables that comprise each component of the MIF are presented. Having this framework as a base for understanding multiracial identity, researchers can focus on intricate questions regarding the multifaceted experiences of multiracial individuals. Furthermore, a comprehensive framework may be useful for clinicians, in that it can allow them to focus on specific mechanisms that lead to different ways of conceptualizing ethnic/racial identities, which in turn could affect mental health.

Identity Outcomes

The MIF focuses on the primary question of how individuals from multiracial backgrounds conceptualize and form their ethnic/racial identities. For example, do multiracial individuals choose to identify with all of the ethnic/racial heritages with which they could claim an identity or do they only choose to identify with one or even none of the groups with which they could claim an identity? In formulating these possible identity outcomes, all theories and models from Table 1 were consulted. Ultimately, in constructing the MIF, Root's (1999, 2001) ecological model of multiracial identity, Phinney and DeVich-Navarro's (1997) bicultural identities, Roccas and Brewer's (2002) bicultural identity categorizations, and No, Wan, Chao, and Rosner's (2011) bicultural identity negotiation strategies, were integrated and the following identity outcomes were formulated.

In tandem, the aforementioned theories and models reveal seven possible types of identity outcomes that a multiracial individual could claim. These possible options can be described as:

(1) Society given identity. Multiracial individuals may choose the identity assigned by society without confronting their ethnic/racial identity heritages. The implication of this option is that individuals have not explored their ethnic/racial identities and are agreeing with whichever categorization society has given them, similar to Marcia's (1996) concept of a foreclosed identity (Root, 1999, 2001). For example, individuals with an Asian and White ethnic/racial background may be told by others within their environment that they are Asian and can only be Asian, leading to their accepting that assigned identity as an Asian person, rather than having explored multiple heritages by which they could claim an identity. In contrast, another individual with an Asian and White racial background may be perceived by others as White, thus leading to an acceptance of a White identity.

(2) Identifying with another ethnic/racial group. Multiracial individuals may identify with another mono-ethnic/racial group(s) aside from those by which they have heritage claims (Root, 1999, 2001). This would be illustrated by individuals who choose to identify with a group that they do not have ethnic/racial heritages with. A multiracial person who is Asian and White may choose to identify with neither group and claim an identification with, for example, Latinx Americans, possibly due to environmental influences (e.g., cultural diversity in the community).

(3) Identifying with one group consistently. Multiracial individuals may identify with only one of the ethnic/racial groups with which they have ethnic/racial heritages (Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002; Root, 1999, 2001). This outcome is distinguishable from the second and first identity outcomes in that there is personal exploration prior to the commitment, and that the commitment is to only one

identity, rather than all of the ethnic/racial groups a multiracial individual could claim. Thus, with this outcome, there is a further choice of which ethnic/racial heritage they identify with that can be potentially distinguished (e.g., Asian or White).

(4) *All ethnic/racial groups consistently.* Multiracial individuals may identify with all the ethnic/racial groups with which they share heritage, consistently across different contexts after exploring their ethnic/racial heritages (No et al., 2011; Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002; Root, 1999, 2001). For example, this would be illustrated by an individual who consistently identifies as both Asian *and* White at all times regardless of surrounding, peers, or context.

(5) *Identity depending on context.* Multiracial individuals may identify with all of the ethnic/racial groups by which they have ancestry or heritage after exploring various identity options, but switch between identities depending on contexts, claiming only one identity at any given time (No et al., 2011; Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002). For example, a multiracial may identify as Asian around Asian peers and as White when surrounded by White peers.

(6) *Multiracial only.* Multiracial individuals may choose to identify only as a multiracial person, rather than with any of their ethnic/racial heritages (No et al., 2011; Roccas & Brewer, 2002). For example, rather than identifying as either Asian, White, or both, one can choose to identify as multiracial, finding belonging with others who also choose to identify as multiracial, regardless of one's ethnic/racial ancestry.

(7) *Rejection of ethnic/racial identity.* Multiracial individuals may also choose not to identify with any ethnic/racial groups by which they have heritage claims, preferring to simply identify as a human with no ethnic/racial identity ties (Phinney &

Devich-Navarro, 1997). This would include an individual who rejects both Asian and White identity and chooses not to identify with either group or with other multiracial individuals, preferring to abstain from ethnic/racial categorizations altogether.

Clearly, the existing models and theories that are relevant to individuals with multiracial backgrounds provide many diverse options in terms of the critical developmental task of identity formation. By integrating all possible identity outcomes that have been separately put forth from existing models and theories, these seven different identity outcomes provide a starting point for understanding various forms and possibilities of multiracial identity, summarized in brief in Table 2. To note, two of these outcomes may imply identification with only one part of their ethnic/racial heritage (e.g., *Society Given Identity* and *One Group Consistently*), thus differentiating between which heritage they are identifying with adds another level of complexity to the *Identity Outcomes* proposed.

Personal and Contextual Influences on Identity

As shown in the MIF, Personal and Contextual Influences are expected to play a role in determining the selection of these possible Identity Outcomes. Drawing primarily on LaFromboise et al.'s (1993) cultural competencies perspective, No and colleagues' (2011) bicultural identity negotiation framework, Root's (1999, 2001) ecological model of multiracial identity development, and Wijeyesinghe's (2001) factor model of multiracial identity, Personal and Contextual Influences can be sorted into three broad categories: demographical variables, internal variables, and external variables.

Table 2
Identity Outcomes Defined

Identity Outcome	Definitions
<i>(1) Society Given Identity</i>	Choosing the identity assigned by society without exploring or confronting ethnic/racial identity heritages.
<i>(2) Identifying with Another Ethnic/Racial Group</i>	Identifying with another mono-ethnic/racial group aside from those by which one has heritage claims with.
<i>(3) Identifying with One Group Consistently</i>	Identifying with only one of the ethnic/racial groups by which one has ethnic/racial heritage at all times regardless of context.
<i>(4) All Ethnic/Racial Groups Consistently</i>	Identifying with all the ethnic/racial groups by which one has heritages with, consistently across different contexts.
<i>(5) Identity Depending on Context</i>	Identifying with all the ethnic/racial groups by which one has ancestry or heritage, but switching between identities depending on contexts, claiming only one identity at any given time.
<i>(6) Multiracial Only</i>	Choosing to identify with other multiracial individuals regardless of the ethnic/racial heritages one has claims with.
<i>(7) Rejection of Ethnic/Racial Identity</i>	Choosing not to identify with any ethnic/racial groups by which one has heritage claims, preferring to identify as a human with no ethnic/racial identity ties.

Demographic variables. Demographic variables are identifier variables of multiracial individuals, for example, gender and generational status, as emphasized in prior work (Root, 1999, 2001; Wijeyesinghe, 2001). *Gender* may influence a multiracial individual’s experiences, especially in light of gender-specific cultural expectations. For example, among Asian Americans, sons tend to be granted more freedom than daughters (Nesteruk & Gramescu, 2012), and narratives from Asian American women have identified that gender inequalities are prevalent among traditional Asian values, emphasizing greater family importance given to sons rather than to daughters (Pyke &

Johnson, 2003). Furthermore, daughters in Asian families are often considered as cultural carriers, which may yield greater emphasis on the translation of ethnic-specific cultural values to females (Hickey, 2004).

Applying these ideas toward multiracial Asian Americans, there are conflicting hypotheses. On one hand, females may receive a greater exposure to or have more opportunity to explore their Asian ERI compared to males, which could lead to stronger identification with the Asian side of their ethnic/racial heritage (*Identifying with One Group Consistently, Asian*). However, Asian American multiracial women may find Asian values to reflect gender inequalities, compared against mainstream American values, which are viewed as more reflective of gender equality (Pyke & Johnson, 2003). Therefore, they may instead identify more strongly with their non-Asian heritage to embrace more gender equal perspectives (*Identifying with One Group Consistently, White*). Such possible variation in Identity Outcomes based on gender will be explored.

Umaña-Taylor and colleagues (2014) have argued that *generational status* is another factor that can modify the process of how ERI develops. For example, Tsai, Ying, and Lee (2000) found that, for second generation Chinese Americans, being Chinese and being American were unrelated constructs; however, for first generation Chinese Americans, being Chinese and being American were negatively related. This relates to varying degrees of acculturation and enculturation that may be experienced by first generation immigrants, whereby acculturating to the American culture may interfere with the enculturation of their traditional Chinese values. However, with second generation Chinese Americans, they arguably grow up with exposure to both Chinese and

American values more equivalently and their processes of acculturation and enculturation could be experienced differently compared to more recent immigrants.

Applying these findings to those with multiracial backgrounds, those in later generations may have an easier time integrating all of their ethnic/racial identities compared to first generation individuals who may find their ethnic/racial heritages to be more conflicting. For first-generation multiracials, the experiences of undergoing acculturation to American culture may result in perceived conflict in balancing Asian and White heritage cultures, and result in a greater likelihood of only identifying with one ethnic/racial heritage. For multiracials who are of the second generation and beyond, they likely have a more concordant understanding of American and heritage cultures, and therefore might be more likely to choose integrated identity outcomes (e.g., *All Ethnic/Racial Groups Consistently, Multiracial Only*).

Internal variables. Internal variables that influence multiracial identity are conceived as factors that are intrinsic to an individual, revealing individual differences that are not dependent on one's interaction with others. These individual difference variables include personality traits and need to belong. *Personality traits* are emphasized by more than one model and theory of multiracial identity development (Root, 1999, 2001; Wijeyesinghe, 2001). More specifically, conscientiousness and agreeableness have been found to be predictive of ethnic identity alone, while high levels of openness to experience and low levels of neuroticism are associated with a greater degree of ethnic and mainstream cultural identity integration (Benet-Martinez & Harritatos, 2005). Hence, multiracials who integrate their ethnic/racial identities (*All Ethnic/Racial Groups Consistently; Identity Depending on Context*) rather than choosing to only identify with

one part of their ethnic/racial heritage, may similarly demonstrate high levels of openness to experience and low levels of neuroticism.

Need to belong refers to the differences in people's motivation to fit in with a group and find self-affirmation and self-esteem from belonging to a group. In a review of ethnic-racial identity, Verkuyten (2016) argues that ethnic-racial identities are a social identity by which individuals can derive self-esteem, especially for those who are highly motivated to find belonging with a group. Previous work has also established that ethnic identity is positively related to self-esteem specifically through group belonging (Yuh, 2006). For those with multiracial backgrounds, Root's ecological theory (1999, 2001) argues that the desire to belong with others may play a role in ERI development because the sense of belonging a multiracial individual can derive from ethnic/racial groups is not guaranteed, and exclusion by members of one's chosen ethnic/racial group remains possible. This idea is best demonstrated by research suggesting that multiracials with Black heritages often experience racial identity invalidation from monoracial Black individuals, and those who do experience such invalidation experience greater challenges with developing a strong sense of racial identity (Franco & Franco, 2016). Therefore, the heritage groups by which a multiracial could seek belonging with may not be the groups that are the most welcoming.

Considering multiracial identity development for those with Asian and White heritages, Murphy-Shigematsu's (2012) nonfiction account substantiates the role of need to belong as a common theme that emerged in many of his narratives about multiracial Asian Americans' identity explorations. Research on multiracial Japanese Americans also argue that a strong sense of belonging with Japanese individuals can predict identification

with the Japanese ethnic group (AhnAllen, Suyemoto, & Carter, 2006). Collectively, for multiracials of Asian and White heritages, need to belong may be a strong influence that dictates the groups one chooses to identify with. More specifically, Asian -White multiracials high in need to belong may simply choose identification with whichever group is most accepting (e.g., *Society Given Identity*). Alternatively, those who have low levels of need to belong or who have been unable to derive self-esteem from ethnic/racial group belonging, perhaps due to invalidation from peers (Franco & Franco, 2016), may be comfortable with a lack of identification with his/her ethnic/racial heritages (*Rejection of Ethnic/Racial Identity*) and choose not to seek belonging with any ethnic/racial group and instead seek affirmation from other forms of group membership beyond ethnic/racial heritages.

External variables. External variables are influences that originate from one's interactions with others in the immediate environment by which an individual has some level of control. This categorization of variables is inspired by Bronfenbrenner's ecological theory (2000), specifically considering the influences of the microsystem. In other words, these are variables that reflect individuals' interaction with the immediate environment (e.g., friends, family) that may inform how they conceptualize and integrate different ethnic-racial identities (e.g., ethnic and racial socialization and ethnicity/race of one's chosen peer group). The influence of these variables on ERI is also upheld by Root's ecological theory (1999, 2001) through the lens of social context and community, and by Wijeyesinghe's (2001) emphasis on early experiences and socialization factors.

Ethnic and racial socialization, which consists of the messages and efforts parents, peers, and adults convey to these individuals about their heritage to prepare them

for interactions with ethnically and racially diverse groups, has been linked to the development of ethnic-racial identity among monoracial Asian American youth (Tran & Lee, 2010). For multiracial Asian Americans, ethnic/racial socialization has been found to be associated with a strong ethnic identity exploration (Brittian, Umaña-Taylor, & Derlan, 2013). Therefore, multiracial Asian Americans who have experienced ethnic and racial socialization for parts or all of their ethnic/racial heritages may have higher ERI for those heritages. For example, Asian and White multiracials who have received ethnic/racial socialization for their Asian heritage will likely strongly identify with their Asian heritage; alternatively, those who received strong ethnic/racial socialization messages regarding their White heritage would demonstrate strong identification with that White ethnic/racial group (e.g., *Identifying with One Group Consistently*).

The link between ethnic and racial socialization and ethnic-racial identity is further complicated as it may also be related to the choice of interracial friendships. With Asian American adolescents, cultural socialization or messages regarding cultural practices and pride were related to social competence mediated by ethnic identity, with social competence further linked to interracial friendships (Tran & Lee, 2011). Additionally, Kiang, Peterson, and Thompson (2011) found that, for Asian American adolescents, same- and mixed-ethnic friendships were associated with higher centrality of ethnic identity. In further support, Yip, Douglass, and Shelton (2013) found a positive daily-level association between contact with same-ethnic peers and ethnic private regard for Asian youth who identify highly with their ethnic group. Thus, for multiracial individuals, the *ethnicity/race of a multiracial individual's chosen peer group* may influence ERI. Those who primarily associate with individuals of a particular

ethnic/racial group with which they have ties may develop a higher ethnic-racial identity for that group. Similarly, those with primary multiracial friendships may reflect identity outcomes that correspond to belonging with other multiracial individuals, such as identifying with *Multiracial Only*. Alternatively, those with friends who possess ethnic/racial backgrounds that differ from their own heritages (White and Asian) may choose an identity outcome that reflects the ethnic/racial makeup of their closest friends, perhaps choosing to *Identify with Another Ethnic/Racial Group*.

Cultural Transmission

Cultural transmission in the MIF is demonstrated by the exploration of cultural values and ethnic/racial centrality (e.g., how important one's ethnic/racial group is to one's self concept), and differences in these variables may influence which Identity Outcome a multiracial individual endorses. In some prior theoretical and empirical work, LaFromboise and colleagues (1993) argue that high levels of *cultural exploration* and the acquisition of cultural knowledge can lead to a strong sense of identification with a cultural group. Furthermore, in an autoethnography, Mawhinney (2013), a multiracial individual, emphasizes how her journey of acquiring cultural knowledge through exploration of her Black ancestry led to her own validation in claiming a Black racial identity. Therefore, the exploration and acquisition of cultural knowledge may be a mechanism through which multiracial individuals determine how to conceptualize their ethnic-racial identities. It may be the case that those who have explored and gained cultural knowledge for a part of their ethnic/racial heritages may be more likely to choose identity outcomes that reflect identification with those groups. Those who endorse a high level of Asian or White cultural exploration may choose to *Identify with One Group*

Consistently. For those with integrated identities (e.g., *All Ethnic/Racial Groups Consistently; Identity Depending on Context*), we may find strong cultural exploration endorsement for both Asian and White heritages.

Another component that can reflect cultural transmission is the *centrality levels of ethnic-racial identity*. Centrality has been argued to be a unique component of ERI that encompasses cultural characteristics of an ethnic/racial group (Sellers et al., 1998). For multiracials who endorse an identity outcome that accounts for identification with all of their ethnic/racial heritages (*All Ethnic/Racial Groups Consistently; Identity Depending on Context*), it may be that all of these heritages are important to their self-concept. Alternatively, those who choose to *Identify with One Group Consistently* might experience a high ethnic/racial centrality for that group only.

Societal Responses

Societal Responses in the MIF are related to Garcia Coll and colleagues' (1996) integrative model of child development, which incorporates influences stemming from experiences of social stratification. The factors within this component of the MIF are characterized by society's reactions to a multiracial individual of which the multiracial individual has no personal control. No and colleagues (2011) argue that stereotypes and prejudices of the environment can affect ERI and how salient that identity is to an individual. Societal Responses seeks to capture these types of influences and include *perceived discrimination* and *perception of phenotype*.

At least 60% of Asian and White multiracials report experiencing race related discrimination (Pew Research Center, 2015a), and *perceived discrimination* and ERI are linked (Richman, Blodorn, & Major, 2016). For example, Latinx American students with

high ethnic identity increased their identification with their ethnic group upon perceptions of discrimination, whereas those with low ethnic identity identified even less with their ethnic group upon perceptions of discrimination (McCoy & Major, 2003). Considering the experiences of discrimination for monoracial Asians, Niwa, Way, and Hughes (2014) found that patterns of ethnic/racial discrimination perceived from adults and peers over time varied by both gender and ethnicity and that Chinese adolescent males were more likely to experience peer discrimination compared to African American and Dominican American adolescents. Taken altogether, research does suggest that perceived discrimination experiences could be high for those of Asian and White heritages, and thus influence their ERI. Given the complex relationship between discrimination and ERI, the specific impact on Identity Outcomes in the MIF is largely exploratory.

The role of phenotype is highlighted in both Wijeyesinghe's (2001) and Root's (1999, 2001) models as having a strong influence on multiracial identity development. AhnAllen et al. (2006) found that physical appearance related to one monoracial ethnic/racial group significantly predicted self-identity with that particular group. Furthermore, Khanna (2004) found in a study of multiracial Asian Americans that phenotype emerged as a factor influencing racial identification. In the qualitative analysis within Khanna's (2004) study, several participants cited that how others perceived them greatly influenced the ethnic-racial identity they endorsed; in that those who believed others viewed them as Asian or White choose identities that reflect those beliefs, respectively. This supports the idea of reflected appraisals and suggests that phenotype influences racial identification. Moreover, the concordance between individuals' and others' perceptions of their phenotype is associated with more stability in self-identity

over time (Doyle & Kao, 2007). Collectively, it is clear that the *perception of phenotype* matters (AhnAllen et al., 2006; Doyle & Kao, 2007; Khanna, 2004). Therefore, for those who identify with only one ethnic-racial identity (*Identifying with One Group Consistently*), strong endorsement in the perception of phenotype for the congruent ethnic/racial group is expected (e.g., participants who report that they believe others perceive them as Asian will identify as Asian).

Current Study

Having clarified the components of the MIF, and how they may influence the ERI options available to multiracial individuals, the current study aims to use the model to describe the prevalence of Identity Outcomes selected by multiracial Asian-White individuals, and to pinpoint possible correlates. This approach reflects a significant contribution given that much of the literature to date has had a limited focus on the broad outcome of being “multiracial” (AhnAllen et al., 2006; Cheng & Lee, 2009; Doyle & Kao, 2007; Townsend et al, 2012). To be sure, more diverse identity options than a singular “multiracial” label exist. Therefore, using the identified variables explained above and as shown in the MIF, specific predictors of specific Identity Outcomes for multiracial Asian Americans will be examined.

In summary, the current research has two primary goals. The first is to evaluate how multiracial Asian-White individuals choose to identify using the Identity Outcomes constructed from prominent theories. The second is to use the MIF as a guide to empirically investigate the associations between its other components (e.g., variables falling under Personal and Contextual Influences, Cultural Transmission, and Societal Responses) and the Identity Outcomes chosen by participants. Thus, the key dependent

variable is the specific Identity Outcome that individuals with Asian-White multiracial backgrounds endorse. The independent variables include Personal and Contextual Influences: demographic (*gender* and *generational status*), internal (*personality traits* and *need to belong*), and external variables (*ethnic/racial socialization* and *ethnic/racial heritage of chosen peer group*); Cultural Transmission variables: *cultural values exploration*, and *ethnic/racial centrality*; and Societal Responses variables: *perceived discrimination*, and *perception of phenotype*.

Research Goal 1: What Identity Outcomes do Multiracial Individuals Endorse?

Previous research on multiracial individuals and identity development has been largely based on qualitative studies (No et al., 2011; Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002; Root, 1999, 2001). Additional research on multiracial individuals has focused solely on whether they self-identify as “multiracial” (Anh Allen et al., 2006; Cheng & Lee, 2009; Doyle & Kao, 2007; Jackson et al., 2012; Townsend et al., 2012), which tends to oversimplify identity experiences. Therefore, an important step forward in research is to quantify the distribution of multiracial individuals who endorse more diverse identity options.

The specific distribution of identity outcomes that may be endorsed by this population is largely exploratory. However, prior research yields some insight into what type of distribution patterns might arise. Research from the Pew Research Center (2015a) suggests that about 70% of Asian-White multiracial individuals chose to claim a “multiracial” identity which, when evaluated against the Identity Outcomes proposed, would imply that many might prefer identity outcomes that do encompass “multiracial” elements. Those individuals who might prefer identity labels that do incorporate being

multiracial could be distinguished by their preferences across *All Ethnic/Racial Groups Consistently*, *Identity Depending on Context*, *Identifying with Multiracial Only*. However, those who do not might instead endorse a singular ERI such as *Society Given Identity*, *Identifying with Another Ethnic/Racial Group*, or *Identifying with One Group Consistently*. Research Goal 1 will shed light on what the distribution of these identity options are in order to yield a detailed and nuanced understanding of how Asian-White multiracials conceptualize and understand their identities.

Research Goal 2: Identity Outcome Correlates

Given the wide range of variables identified as possible correlates of multiracial identity and the scarcity of research on this topic, many of the specific links between identity outcomes and proposed influences will be examined in an exploratory manner. However, some specific hypotheses are as follows:

Personal and contextual influences. In terms of demographic variables, there are two competing hypotheses with regards to *gender*. Among those who endorse the Identity Outcome of *Identifying with One Group Consistently*, it is possible that female Asian and White multiracials will be greater represented in this group compared to males and will identify more specifically as Asian due to being cultural carriers for their Asian heritage. However, females may also choose to identify with their non-Asian heritage (*Identifying with One Group Consistently, White*) as Asian values sometimes reflect gender inequality elements. For *generational status*, it was expected that later generations of Asian-White multiracials will be more likely to endorse options that reflect integrated ethnic/racial identities (*All Ethnic/Racial Groups Consistently, Multiracial Only*, and *Identity Depending on Context*) given that there will likely be less conflict between the cultural

elements of their Asian and White heritages among those who have spent more time in the U.S.

For the internal variables of personality traits and need to belong, several hypotheses can be proposed. Hypotheses for *personality traits*' links to identity outcomes focus specifically on *openness* to experience and *neuroticism*. Higher levels of openness were expected to increase the likelihood of multiracials endorsing integrated ethnic/racial identities (*All Ethnic/Racial Groups Consistently; Identity Depending on Context, Multiracial Only*). Lower levels of neuroticism were expected to increase the likelihood of multiracials endorsing integrated ethnic/racial identities (*All Ethnic/Racial Groups Consistently; Identity Depending on Context, Multiracial Only*).

In terms of *need to belong*, it was expected that high scores in need to belong would increase the likelihood of choosing a *Society Given Identity*, instead of the other Identity Outcome options. Those who exhibit the high levels of need to belong would be less likely to choose an identity outcome that reflect no desire to identify with their race or ethnicity, such as *Rejection of Ethnic/Racial Identity*.

With external variables, high levels of *ethnic and racial socialization* for only one of their ethnic/racial heritages will be associated with endorsement of an Identity Outcome that involves identification with that ethnic/racial group (*Identifying with One Group Consistently*). For example, individuals who endorse a high level of endorsement of socialization for their Asian heritage, *Identify with One Group Consistently, Asian*, rather than any other Identity Outcome with the reverse holding true, or those with a high level of White socialization more likely to choose *Identify with One Group Consistently, White*. Those with equivalent and/or high degree of socialization to all their ethnic/racial

heritages would choose identity outcomes that allow for identification with more than one ethnic/racial group (*All Ethnic/Racial Groups Consistently; Identity Depending on Context*).

For *ethnicity/race of one's chosen peer group*, it was expected that individuals with a greater number of close friends who are also multiracial would be especially likely to endorse the *Identifying with Multiracial Only* outcome rather than any other outcome. Those with indicate the greatest number of mostly Asian or mostly White friends will endorse outcomes that reflect identification with that group respectively (*Identifying with One Group Consistently*).

Cultural transmission. Those who endorse a high level of only Asian or White *cultural exploration* will choose to *Identify with One Group Consistently*, respectively, compared to the other possible identity outcomes. Those who endorse high levels of cultural exploration for both their Asian and White heritages will choose Identity Outcomes that allow for identification with all ethnic/racial heritages, given that exploration may lead to a greater identification (*All Ethnic/Racial Groups Consistently; Identity Depending on Context*).

Ethnic/racial centrality, which is purported to represent how important an ethnic/racial group belonging is to one's self concept, should be related to Identity Outcomes chosen. High centrality levels for all ethnic/racial heritages or both Asian and White heritages are expected to be linked to Identity Outcomes that reflect identification with multiple ethnic/racial heritages (*All Ethnic/Racial Groups Consistently; Identity Depending on Context*) rather than an outcome that is oriented towards only one ethnic/racial heritage. High centrality levels with only one heritage (Asian or White)

would be linked to outcomes that reflect high identification with only one ethnic/racial identity, respectively, such as *Identifying with One Group Consistently*.

Societal response. There is evidence for complex and competing ways in which *perceived discrimination* may affect ethnic-racial identity. Higher discrimination for one ethnic/racial heritage could lead to an increase in ethnic-racial identity levels for some and a decrease for others. Therefore, the specific direction for the effect of discrimination is exploratory.

For *perception of phenotype*, it was expected that high levels of perception of phenotype for only one part of their ethnic/racial heritage (e.g., endorsing that others believe they are highly phenotypically congruent to other individuals of Asian heritage,) would be linked to identity outcomes that are congruent with these perceptions such as *Identifying with One Group Consistently, Asian*. Those who indicate a high perception of looking phenotypically congruent to having a multiracial heritage (e.g., endorsing that others believe they highly resemble individuals of both Asian and White heritages) would be more likely to endorse a *Multiracial Only* outcome. Finally, those who indicate a high perception of looking neither phenotypically Asian nor White would choose outcomes such as *Rejection of Ethnic/Racial Identity*.

Analysis Plan

Considering the complexity and number of variables within this study, several techniques will be used to investigate the hypotheses proposed and ultimately to evaluate if the MIF is a suitable framework for multiracial identity development. To address Research Goal 1, the distribution of identity outcomes will be explored descriptively. Given that there are seven different identity outcomes, when possible, efforts to collapse

and merge outcomes will be utilized (e.g., grouping identity outcomes based on single vs. multiple ethnic/racial identities). Not every hypothesis will be evaluated if an insufficient number of participants endorse the identity outcome.

Preliminary analyses to address Research Goal 2 will first consider how the independent variables proposed by the MIF are related to each other. For instance, correlations among continuous variables will be examined to investigate how the independent variables within and across each component are related. In this manner, in order to maximize power, variables that might capture similar constructs could be simplified and/or combined when possible. For example, if two variables are positively correlated, then investigating them separately may not be necessary. As primary analyses to target Research Goal 2, logistic regressions will be used to predict each identity outcome (once collapsed, if necessary) from the possible independent variables capturing each component of the MIF. All proposed hypotheses are listed in Table 3.

Table 3
Hypotheses Proposed

Independent Variables	Society Given Identity	Identifying with Another Ethnic/racial Group	One Group Consistently, White	One Group Consistently, Asian
Personal & Contextual Influences				
Gender			+/-	+/-
Generational status				
Openness to experience				+
Neuroticism				-
Need to Belong	+			
Asian Socialization				+
White Socialization			+	
White Friends			+	
Asian Friends				+
Multiracial Friends				
Cultural Transmission				
Asian Exploration				+
White Exploration			+	
Asian Centrality				+
White Centrality			+	
Societal Responses				
Discrimination	+/-	+/-	+/-	+/-
Phenotype (White)			+	
Phenotype (Asian)				
Phenotype (Asian-White)				+
Phenotype (Neither)				

Table 3 Continued
Hypotheses Proposed

Independent Variables	All Ethnic/Racial Groups Consistently	Identity Depending on Context	Multiracial Only	Rejection of Ethnic/Racial Identity
Personal & Contextual Influences				
Gender				
Generational status	+	+	+	
Openness to experience	+	+	+	
Neuroticism	-	-	-	
Need to Belong				-
Asian Socialization	+	+		
White Socialization	+	+		
White Friends				
Asian Friends				
Multiracial Friends			+	
Cultural Transmission				
Asian Exploration	+	+		
White Exploration	+	+		
Asian Centrality	+	+		
White Centrality	+	+		
Societal Responses				
Discrimination	+/-	+/-	+/-	+/-
Phenotype (White)				
Phenotype (Asian)				
Phenotype (Both)			+	
Phenotype (Neither)				+

Note: Cells without direction listed are exploratory; + high levels of independent variables are predictive of identity outcome; - high levels of independent variable are less predictive of identity outcomes; +/- competing hypotheses.

METHOD

Participants

Participants were recruited using convenience sampling and snowballing techniques. There were three primary screening criteria. Participants were asked to be aged 18 or older, to currently live in the U.S., and to have one biological parent who is White and another biological parent who is Asian. The recruitment advertisement is available in the Appendix.

Approximately $N = 183$ participated in the study to different degrees of completion, in that not all participants completed all measures. Inspection of the responses suggests that data were not missing systematically in that no one particular measure was omitted by participants. Rather, most participants either responded to the survey as a whole, only completed the first few measures, or they began the survey and quickly clicked through to the end without filling out any reports. These patterns precluded the ability to even test for possible differences between the 183 participants who began the survey and the remaining participants who did have complete data. To maximize sample size, all analyses will use listwise deletion and have slightly different N s, which will be noted.

Of those who provided information regarding age ($n = 182$), the mean age was 28.97 years, with a standard deviation of 7.24. Among those who provided information on gender ($n = 183$), 63.9% were female, 35% male, and 1% chose a non-binary gender label. The sample ($n = 183$) included participants who were of the first generation (24%), second generation (57.4%), and third generation (18.6%). Generational status approximations were calculated based on parents' and participants' birth countries. Those

categorized as first generation were born outside the U.S., those of the second generation were born in the U.S. and had at least one parent born outside of the U.S., and those of the third generation were born in the U.S. with both parents also born in the U.S.

Of those who provided data on parents' ethnic/racial heritages ($n = 176$), 73.3% ($n = 129$) reported having an Asian mother and a White father and 26.7% ($n = 47$) reported having an Asian father and a White mother. Of those who self-reported having a father with Asian heritages ($n = 45$), the father's specific ethnicity could be grouped based on the following categories: 48.9% ($n = 22$) of East Asian descent (e.g., Chinese, Japanese, Korean, Mongolian, Taiwanese), 15.6% ($n = 7$) Southeast Asian or Pacific Islander (e.g., Cambodian, Indonesian, Filipinx, Malaysian, Vietnamese, Thai), and 15.6% ($n = 7$) multiracial, meaning their father shared another racial group in addition to being Asian. An additional 13.3% ($n = 6$) of fathers were multiethnic Asians, meaning that they shared heritages with more than one Asian ethnic group (e.g., Japanese and Korean), and 6.6% ($n = 3$) were South Asian (e.g., Indian, Pakistani, Bangladeshi). Of those who reported a mother with Asian heritages ($n = 132$), 48.5% ($n = 64$) of the mothers were East Asian, 22% ($n = 29$) were Southeast Asian or Pacific Islander, 15.9% ($n = 21$) were multiethnic Asians, 12.9% ($n = 17$) were multiracial with one part of their racial heritage being Asian, and 0.8% ($n = 1$) were South Asian.

The ethnic/racial breakdown for the White parents exhibited several patterns based on self-report. Of those who reported a father with White heritage ($n = 131$), 76.3% ($n = 99$) provided one or more country specific label for their father's ethnic/racial background (e.g., Italian, German, French), 2.3% ($n = 3$) provided a descriptor of "White," and 0.8% ($n = 1$) reported their father as multiracial White, sharing heritages

such as American Indian and/or Black. An additional 16% ($n = 21$) of the fathers were described as having a pan-ethnic or pan-racial label such as European-American or Caucasian, and 4.6% ($n = 7$) reported a cultural label such as Ashkenazi Jewish. Of those with a mother with a White heritage ($n = 42$), 76.2% ($n = 32$) provided one or more country specific label for their mother's ethnic/racial background, 9.5% ($n = 4$) reported a "White" descriptor, 9.5% ($n = 4$) of the participants reported their mother as multiracial White, 2.4% ($n = 1$) reported a pan-ethnic or pan-racial label, and 2.4% ($n = 1$) reported a cultural label.

Procedure

A description of the study and web link to a Qualtrics survey were sent out to professional email lists, posted online on professional networking websites, student organizations at colleges and universities, and advertised to social media groups dedicated to mixed-race individuals. This information was also sent to personal contacts who may meet participation criteria or know of others who qualify. Accessing the link directed participants to the Qualtrics website, where they were presented with an informed consent form explaining the study in greater depth and requesting their consent to participate. After providing informed consent, participants were asked to complete a series of questionnaires assessing demographic information, multiracial identity outcome choice, personality trait measure, need to belong, cultural exploration, ethnic/racial socialization, ethnic/racial composition of close friends, perceived discrimination, and perception of phenotype. Questionnaires took no more than 30 minutes to complete, based on pilot testing. After participants completed all questionnaires, they were thanked for their time and debriefed on the study's purpose. In a separately linked Qualtrics

survey, participants were then offered the option of entering a lottery to win one of two \$20 Target gift cards. Participation in the study was not mandatory to enter the lottery drawing.

Measures

All measures are included in the Appendix, consistent with the ordering that was used in the Qualtrics surveys administered to participants.

Identity Outcomes

Multiracial identity outcomes. Participants were asked to choose one of eight identity outcomes. The following options were provided: a) *Society Given Identity*. I identify with the ethnic/racial identity I am told I have by society (e.g., friends, family, teachers, etc.), and this ethnic/racial identity is _____ (e.g. Asian, White, Polish, Chinese, etc.). b) *Identifying with Another Ethnic/Racial Group*. I don't identify with any of the ethnic/racial groups with which I share heritages with. I identify with this other ethnic/racial group that I don't have heritages with (e.g., Asian and White multiracial choosing to identify as Hispanic, rather than Asian or White). The other ethnic/racial group I choose to identify with is _____. c) *Identifying with One Group Consistently*. I identify with only one of the ethnic/racial groups with which I have ancestry ties consistently. In other words, I tell everyone that I'm part of only this ethnic/racial group, and this group is _____. d) *All Ethnic/Racial Groups Consistently*. Across all different contexts (e.g., school, work, around family and friends, and new people I meet) I consistently identify with all of the ethnic/racial groups that I have ancestry ties with. In other words, I tell everyone that I'm part of all of these ethnic/racial groups, and these groups are _____. e) *Identity*

Depending on Context. The ethnic/racial group, I choose to identify with changes at any given moment (e.g., sometimes identifying as Asian and other times as White). However, I do identify with all of the ethnic/racial groups that I have ancestry ties with. In other words, sometimes I tell people I'm a part of one ethnic/racial group and other times I say I'm a part of a different ethnic/racial group, these groups are_____.

f) *Identifying with Multiracials Only.* I identify as "multiracial" and feel connected to other multiracial individuals regardless of their ethnic/racial heritages. When people ask me what my ethnic/racial ancestries are I tell them I'm multiracial. g) *Rejection of*

Ethnic/racial Identity. I don't identify with any of the ethnic/racial groups I have ancestry with. I prefer not to be identified based on ethnicity or race. I identify as a human being.

h) *None of the options* above sound right to me. I choose to think about my ethnic/racial identity another way, and that way is_____. Participants were offered the option to choose two additional selections if they experienced difficulty in choosing just one outcome. Participants were then asked to elaborate and explain their choice/s of identity outcome in an open-ended response.

Personal and Contextual Influences

Demographic information. Participants provided demographic information, including age, gender, ethnicity/race, mother's ethnicity/race, father's ethnicity/race, country of birth, and parents' countries of birth. Participants were asked to provide their best-fit ethnicity/race categorization in an open-response question in addition to choosing one or more of the race categories from a given list. They were asked to provide any and all of their ethnic heritages in an open-ended format.

Personality traits. Participants were asked to complete the Big Five Inventory-2-XS (BFI-2-XS; Soto & John, 2015). This is a shortened version of the Big Five Inventory-2 (BF-2) which originally consists of 60 items. The BFI-2-XS consists of 15 items which retains much of the validity and reliability of the original BF-2 (Soto & John, 2015). This measure has been found to accurately assess five domains of personality traits (Soto & John, 2015). Participants were given the following instructions, “Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others. Please indicate the extent to which you agree or disagree with the following statements.” A list of statements were shown, and participants indicated on a 5-point Likert scale whether they 1 = *disagree strongly*, 2 = *disagree a little*, 3 = *neutral, no opinion*, 4 = *agree a little*, 5 = *agree strongly*. Cronbach’s alpha for this measure was calculated for each factor of personality. Extraversion yielded an alpha of .68. Agreeableness yielded an alpha of .60. Conscientiousness yielded an alpha of .66. Neuroticism yielded an alpha of .71. Openness to experience yielded an alpha of .44.

Need to belong. Participants were asked to complete the Need to Belong Scale (NTBS; Leary, Kelly, Cottrell, & Schreindorfer, 2013). The NTBS is a 10-item questionnaire designed to capture the strength of the desire for acceptance and belonging, with high scores indicating individuals who worry about acceptance and belonging. This is a 5-point Likert scale: 1 = *not at all*; 2 = *slightly*; 3 = *moderately*; 4 = *very*; 5 = *extremely*, whereby participants indicated the degree to which each statement is true or characteristic of them. Cronbach’s alpha for this measure was .86.

Ethnic/racial socialization. Participants were asked to complete the Family Ethnic Socialization Measure (FESM; Umaña-Taylor & Fine, 2001). This is a 12-item measure of various cultural socialization behaviors from the participant's family. A high score indicates greater family cultural socialization. Participants were asked to indicate their response on a 5-point Likert scale: 1 = *not at all* to 5 = *very much* for both parents' ethnic/racial groups separately. The FESM has been used with diverse populations (e.g., $\alpha = .82$ to $.94$ using samples of Latinx, African Americans, Asian Americans, Native Americans, and multi-ethnic/racial adolescents who were between 13 and 19 years old; Umaña-Taylor & Fine, 2004; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). Participants completed this scale once for Asian and once for White heritages. Cronbach's alpha for the scale for Asian socialization was $.94$; Cronbach alpha for the scale for White socialization was $.90$.

Ethnic/racial categorization of friends. Participants were asked to list the initials and ethnicity/race of five of their closest friends in an open-ended format. This approach has been utilized in previous research, (e.g., Douglass, Mirpuri, & Yip, 2016; Joyner & Kao, 2000). The responses were classified according to whether each friend's ethnicity corresponds to an Asian, White, multiracial, or different ethnic/racial grouping compared to the participant. The total number of friends belonging to each group was totaled and divided by the number of reported friends, resulting in a variable capturing the proportion of close friends corresponding to each group.

Cultural Transmission

Cultural exploration. Participants were asked to complete a subscale of the Multigroup Ethnic Identity Measure (MEIM, Phinney, 1992), which was adapted to relate

to participants' White and Asian ethnic/racial background. The 7 items from the exploration/achieved ethnic identity subscale were assessed, which captures cultural knowledge as it relates to one's ethnic group. Participants completed this subscale for both Asian and White ethnic/racial heritages. This measure has been used across a diverse sample of adolescents (Phinney, 1992). Items are scored on a 4-point Likert scale: 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Agree*, and 4 = *Strongly disagree* with higher numbers indicating greater cultural exploration. Cronbach's alpha for Asian cultural exploration was .78. The Cronbach's alpha for White cultural exploration was .62.

Ethnic/Racial identity centrality. Participants were asked to complete the centrality subscale of the Multidimensional Inventory of Black Identity (MIBI), which measures the importance of one's ethnic/racial identity to one's self-concept (Seller, Smith, Shelton, Rowley, & Chavous, 1998). This measure was initially developed for use with African Americans, but it has since then been successfully adapted to measure racial identity for diverse groups such as Latinx and Asian individuals (Kiang et al., 2006; Rivas-Drake, Hughes, & Way, 2008). Participants completed this measure for all of the ethnic/racial groups for which they have ancestry with (e.g., White, Asian, as well as any additional groups they wish to claim belonging with). Sample items include responding to statements such as, "I have a strong sense of belonging to my Asian heritage," on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with greater numbers indicating higher centrality. Cronbach's alpha for Asian centrality was .88. Cronbach's alpha for White centrality was .86.

Societal Responses

Perceived discrimination. Participants were asked to complete a measure capturing perceived ethnic/racial discrimination. They were asked, “How often have you felt racial or ethnicity-based discrimination in the following situations.” A list of seven items were presented that captures experiences of discrimination (e.g., being treated unfairly, being treated with less respect, being feared, being disliked, being insulted or called names, being threatened or harassed, and not being trusted). Participants used a 5-point Likert scale ranging from 1 = *Never*, 2 = *Once or twice*, 3 = *A few times*, 4 = *Several times*, and 5 = *All the time*, with greater numbers indicating more discrimination. This measure has been used with individuals from multiple ethnic groups (Greene et al., 2006), and was initially developed based on extensive qualitative research (Rosenbloom & Way, 2004). Participants were also asked what part of their ethnic/racial background contributed to the perceived discrimination in an open-ended response. The Cronbach’s alpha for this measure was .89.

Perception of phenotype. Participants were asked to complete a series of questions regarding others’ perception of their physical appearance. Participants were asked to indicate their perception of others’ perception of the degree to which their physical appearance resembles that of those who are White; the degree to which their physical appearance resembles that of those who are Asian, the degree to which their physical appearance resembles a combination of Asian and White, and the degree to which it resembles neither Asian nor White ethnic/racial groups. Participants were given a 5-point Likert type scale: 1 = *not at all*, 2 = *slightly*, 3 = *moderately*, 4 = *very*, and 5 =

extremely with high numbers indicating greater endorsement of phenotypical congruence with the expected phenotype of their specific parts of their ethnic/racial heritage.

RESULTS

Distribution of Identity Outcomes

One of the goals of this research was to quantify the different ways in which individuals with Asian-White multiracial backgrounds conceptualize their ethnic-racial identity. Evaluating participants' first choice in the identity outcomes measure, it appears that seven out of eight outcomes were endorsed (Figure 2). Out of ($n = 159$) responses, the following distributions were found: 28% ($n = 44$) preferred to *Identify Depending on Context*, 26% ($n = 41$) preferred to *Identify with All Ethnic/Racial groups Consistently*, 16% ($n = 26$) preferred to identify with *Multiracials Only*, 10% ($n = 16$) preferred to *Identify with One Group Consistently*, 10% ($n = 16$) preferred an *Other* outcome, 8% ($n = 13$) preferred *Society Given Identity*, and 2% ($n = 3$) preferred *Rejection of Ethnic/Racial Identity*.

Looking closer at the outcomes that are oriented to a single group identity, whereby the individual picked one heritage that they identify with (e.g., *Identifying with One Group Consistently*, *Society Given Identity*), notable distributions were found. Among those who choose to *Identify with One Group Consistently* ($n = 16$), 93% ($n = 15$) preferred to identify with their Asian heritage, with 7% ($n = 1$) preferring to identify with their White heritage. Among those who choose *Society Given Identity* ($n = 13$), 30% ($n = 4$) indicated that society viewed them as Asian, 30% ($n = 4$) indicated that society viewed them as mixed race, 10% ($n = 1$) indicated that society viewed them as White, and 30%

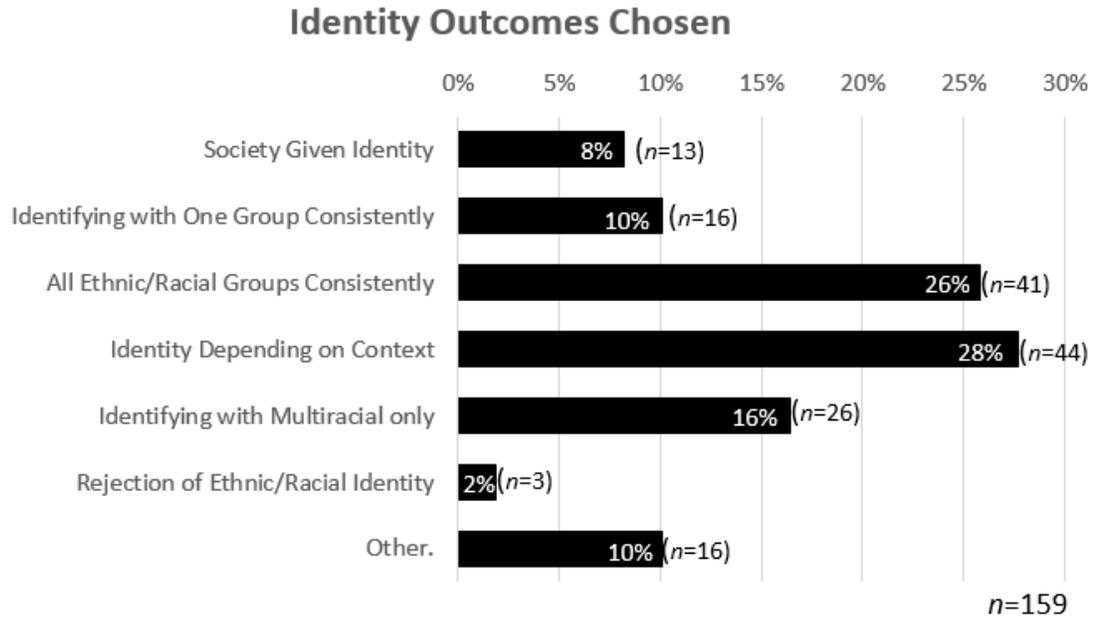


Figure 2. Identity Outcome Chosen. This figure illustrates the distribution of the first choice option chosen by participants. The y-axis lists the different outcomes chosen. The x-axis denotes the percentage and number of participants who chose this outcome from a sample size of $n = 159$.

($n = 4$) indicated that society viewed them as either different race categorizations depending on context, as “race-less beings,” or as another ethnic/racial group with which the individual does not share heritage. Differences in endorsement of Identity Outcomes based on participant’s Asian ethnic heritage were explored through chi-square analyses. However, such analyses did not revealed any identifiable patterns.

Collapsing Identity Outcomes

Given the number of outcomes endorsed and the relatively small sample, testing associations with outcomes that are only endorsed by a few individuals would not have sufficient power to be informative (e.g., only one person chose *One Group Consistently*, *White*). Thus, steps were taken to explore the second choice and third choice Identity Outcomes along with the explanations given for their choice to see if Identity Outcomes

could be grouped together based on commonality. For example, considering identity in terms of those with fluid identity (e.g., *Identity Depending on Context*) compared to those with consistent or stable identity (e.g., *All Ethnic/Racial Groups Consistently, One Group Consistently, and Multiracial Only*) is one possible route to condense outcomes. However, ultimately, individuals were aggregated into five Identity Outcomes: *Identity Depending on Context, Multiracial Only, One Group Consistently, Asian, All Ethnic/Racial Groups Consistently*, and *Other* (Figure 3). The reasons for these grouping are explained below.

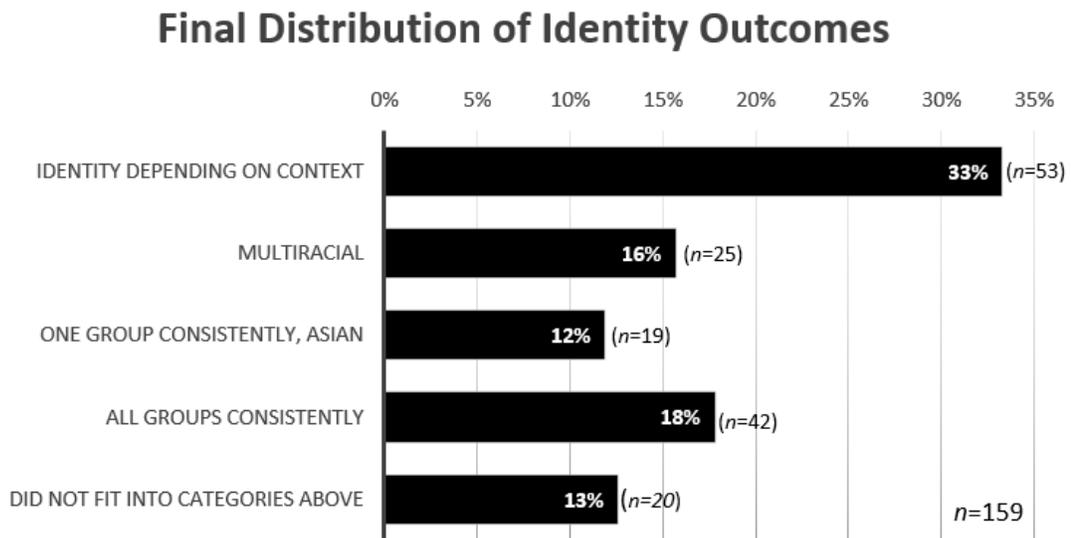


Figure 3. Final Distribution of Identity Outcomes. This figure illustrates the distribution of the final identity outcomes that are predicted in the study, out of a sample size of $n = 159$

When exploring the possible distributions of Identity Outcomes, several observations were evident. The choice to pick a secondary or even a tertiary identity outcome was optional; however, a large number of the participants chose to provide more than one Identity Outcome. Specifically, 77% ($n=123$) of the participants chose to endorse a second Identity Outcome and 40% ($n=64$) chose to endorse a third Identity

Outcome. Even more telling, among those who provided a second choice, 28% ($n=43$) preferred *Identify Depending on Context*, and among those who provided a third choice, 6% ($n=14$) choose *Identity Depending on Context*. Therefore, from these numbers, it is clear that more individuals endorse a fluid identity (*Identity Depending on Context*) than is demonstrated by their first choice Identity Outcome alone.

To elucidate the possible reasons for this variation in the Identity Outcomes chosen, the narrative explanations given by the participants were also examined. Some patterns emerged from this examination. The first pattern that presented itself is the distinction from the ethnic/race categories assigned by default of birth and the ethnic/racial groups an individual felt like they identified with. Some individuals felt that, in order to be accurate in their reporting of ethnicity/race, they have to identify themselves based on all their ethnic/racial heritages, regardless of with which group they feel belonging. For example, one participant reported, “I most strongly identify with my Korean heritage due to my upbringing, but consistently identify myself publicly as being half and half because I feel like I am lying if I do not.” So, while this individual may have the strongest identification to their Asian heritage, she felt compelled to first present herself as mixed race. Another example reported, “I do not completely fit in as Vietnamese even if I claim my Vietnamese background the most. People can tell that I have ancestry different from theirs. No matter what you look like, race is a socially derived perception, so I am what others see me as. This then can depend on the perception of my audience/context.” Another example demonstrated a similar viewpoint, “If I choose just to label myself as Asian or White it feels wrong because I’m not 100% Asian. People don’t think of me as a legit Asian and Whites don’t think I’m a legit White

person. I'm in between so I tend to identify with multiracial more. I identify with Asian culture a lot so if I were to just pick one it'd be Asian.” This also indicated the clear difference in personal identity preferences compared to the ethnicity/race that is visible to others. Making this distinction when choosing an identity outcome was difficult for the participants. Some as above felt that, to be accurate, their first choice was to endorse an outcome that reflected a mixed-race heritage or what others assigned to them, when their personal choice would have been for one specific heritage.

Another phenomenon that emerged was how identity conceptualizations for those who are multiracial is a developmental process that extends beyond adolescence. Thus, for some, different Identity Outcomes are reflected at different stages of their life. For example, one reported, “My responses would have been different over time and where I was in my life and identity development when I was younger. As I have grown older and matured and healed, the way I think about my identity has shifted.” Another reported, “To me, ethnic and racial identity is always changing and evolving. Maybe one day I will land on a secure identity but when I look back starting from middle school all the way to now, I have not had a consistent identity. The older I get the more interested I am in why at a certain age I had that specific identity versus what I have now.” Another participant shared, “Growing up and thru college I was surrounded by predominately white population, so I participated in white culture. After college I moved to an area with a much higher Asian demographic, so I was able to learn and experience more Asian culture,” also indicating how identity can change over time due to life experiences.

Considering the explanations given above with the extensive variation presented in the identity outcomes given for their second or third choice, this open-ended

information was taken into account. When there was conflict between participants' first choice in the Identity Outcome measure and their explanation given, the Identity Outcome (whether they provided two or three outcomes) that matched their explanation best was assigned. Anyone who endorsed *Identity Depending on Context* for any of the three choices, was recoded as *Identity Depending on Context*, due to the reasoning that if their identity varied or was fluid at all, then any of the Identity Outcomes that emphasized stability (e.g., *Multiracial Only*, *One Group Consistently*, etc.) would not be an accurate depiction of their ERI. Exceptions were made if an individual provided an explanation that justified why one of their choices included *Identity Depending on Context* even though their identity was not fluid. For example, one participant picked *Multiracial Only* as a first choice, followed by *Identity Depending on Context* as a secondary choice, and *Society Given Identity* as a third choice. However, in the open-ended explanation, this participant reported the following justification for the choices, "Throughout my life, White people said I'm Asian, Asian people said I'm White, therefore I predominately think of myself as mixed or 'hapa.'" In this example, this individual's first preference is to identify as "mixed" or *Multiracial Only*; however, an endorsement of *Identity Depending on Context* and *Society Given Identity* as a secondary and tertiary choice were also selected based on the identity labels that others have given this individual which has varied depending on the social context of who they are with. Therefore, in this case, the first choice preference of *Multiracial Only* was kept as the individual's Identity Outcome endorsement. With these guidelines, individuals were placed into the following groups with the following, mutually exclusive distributions (Figure 3): 33% ($n=53$) were placed in *Identity Depending on Context*, 16% ($n=25$) were placed in *Multiracial Only*, 12%

($n=19$) were placed in *One Group Consistently, Asian*, 18% ($n=42$) were placed into *All Groups Consistently*, and 13% ($n=20$) did not fit into any group, which were essentially a combination of those who chose *Rejection of Ethnic/Racial Identities, One Group Consistently, White* and *Society Given Identity* with each group having too few individuals to examine as its own dependent variable. Additionally, after final distributions were confirmed, differences in endorsement of Identity Outcomes based on different Asian ethnic heritages were explored again through chi-square analyses, but no meaningful patterns were found.

Correlations between Independent Variables

There are a substantial number of variables in this study, some of which have multiple dimensions within themselves (e.g., phenotype); therefore, preliminary correlations were examined between the independent variables that comprise each component of the MIF, both within components and across components. This is to determine if any variables could be condensed and simplified. Additionally, this can also pinpoint whether the variables are distinctive enough to capture different constructs. For example, is cultural values exploration different enough from the centrality measure to have a meaningful contribution in the MIF? Correlations of the variables tested in this study are shown in Table 4.

Within components correlations. Within the Personal and Contextual component, several correlations emerged as significant. *Need to belong* was positively correlated with *neuroticism*, $r(139) = .51, p < .01$. The *proportion of Asian friends* was negatively correlated with the *proportion of multiracial friends*, $r(125) = -.23, p < .01$.

Table 4

Correlation between Independent Variables

	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)					
(1)	4.08	.69	1	Personal & Contextual Influences																
(2)	3.32	.97	.06	1																
(3)	3.14	.78	-.14	.51**	1															
(4)	2.92	.96	-.02	-.04	.05	1														
(5)	2.55	.83	-.01	.04	.12	.08	1													
(6)	.23	.23	.06	-.19	-.04	.15	-.04	1												
(7)	.25	.19	.02	.03	-.03	.12	-.06	-.23**	1	Cultural Transmission										
(8)	3.05	.52	.12	-.13	-.02	.44**	.08	.30**	.04	1										
(9)	2.55	.50	.07	-.05	.02	-.01	.31**	.11	-.18*	.14	1									
(10)	3.86	.84	-.07	-.13	.11	.49**	.02	.23*	-.01	.58**	.03	1				Societal Responses				
(11)	2.58	.99	-.11	-.12	-.00	.08	.31**	.02	-.13	-.04	.42**	.05	1							
(12)	2.34	.93	.11	.08	-.05	.00	.08	.05	.19*	.30**	.01	.09	-.10	1						
(13)	2.84	1.40	.71	-.15	-.25**	-.04	.02	-.02	-.09	.19*	-.03	.03	.00	.16	1					
(14)	3.49	1.33	.06	-.12	-.01	.08	-.13	.02	-.10	.11	-.05	.21*	-.08	-.10	.34**					

Note: (1) Openness to Experience, (2) Neuroticism, (3) Need to Belong, (4) Asian Socialization, (5) White Socialization, (6) Asian Friends, (7) Multiracial Friends, (8) Asian Exploration, (9) White Exploration, (10) Asian Centrality, (11) White Centrality, (12) Perceived Discrimination, (13) Belief of Other's Perception of Phenotype (Asian), (14) Belief of Other's Perception of Phenotype (Asian & White)

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

Within the component of Cultural Transmission, two correlations emerged. *Asian cultural exploration* was found to be positively correlated with *Asian centrality levels*, $r(146) = .58, p < .01$. Similarly, *White cultural exploration* was positively correlated with *White centrality*, $r(142) = .42, p < .01$. Within Societal Responses, *perception of phenotype (Asian)* was found to be positively correlated with *perception of phenotype (Asian and White)*, $r(125) = .34, p < .01$.

Across components correlations. Across components, Personal and Contextual and Cultural Transmission, the following correlations emerged. *Asian socialization* was found to be positively correlated with *Asian cultural exploration*, $r(145) = .44, p < .01$. *Asian socialization* was also positively correlated with *Asian centrality levels*, $r(145) = .49, p < .01$. A similar positive correlation was found for *White socialization* and *White cultural exploration*, $r(140) = .31, p < .01$. *White socialization* was positively correlated with *White centrality*, $r(140) = .31, p < .01$. *Proportion of Asian friends* was positively correlated with *Asian cultural exploration levels*, $r(145) = .30, p < .01$. Furthermore, *proportion of Asian friends* was positively associated with *Asian centrality levels*, $r(125) = .23, p < .05$. Finally, the *proportion of multiracial friends* was found to be negatively correlated with the degree of *White cultural exploration*, $r(125) = -.18, p < .05$. Across the components of Personal and Contextual Influences and Societal Responses, two correlations emerged. *Need to belong* was negatively correlated with *perception of phenotype (Asian)*, $r(125) = -.25, p < .01$. *The proportion of multiracial friends* was also positively correlated with the degree of *perceived discrimination*, $r(125) = .19, p < .05$. Across the components of Cultural Transmission and Societal Responses, three correlations emerged. *Asian cultural exploration* was positively correlated with *perceived*

discrimination, $r(135) = .30, p < .01$, as well as with *perception of phenotype (Asian)*, $r(125) = .19, p < .05$. *Asian centrality* was positively correlated with *perception of phenotype (Asian and White)*, $r(131) = .21, p < .05$.

Finalized Variables and Hypotheses

Since only four of the original Identity Outcomes demonstrated substantial participant endorsement to be investigated, not all original hypotheses will be evaluated. Therefore, Table 5 lists a streamlined summary of the revised hypotheses that will be tested with the current distribution of Identity Outcomes. Table 5 is identical to Table 3 after removing the Identity Outcomes (e.g., *Society Given Identity*, *One Group Consistently*, *White*, *Identifying with Another Ethnic/Racial Group*, and *Rejection of Ethnic/Racial Identity*) that did not have enough representation to generate meaningful tests. Furthermore, as shown in Table 5, only two dimensions of *perception of phenotype* were kept for analyses (Asian and Asian-White). These were hypothesized to be related to two of the final Identity Outcomes, *One Group Consistently*, *Asian* and *Multiracial Only*, whereas *perception of phenotype (White; neither Asian nor White)* were not originally hypothesized to be related to the final four Identity Outcomes. Similarly, *proportions of White friends* was also removed from final analyses, as it was not expected to be associated with any of the final Identity Outcomes.

Predicting Identity Outcomes

To maximize power, three logistic regressions were run for each of the four Identity Outcomes. Each regression focused on one component of the MIF with all variables simultaneously predicting each Identity Outcome as a dichotomous variable (0

Table 5

Hypotheses Evaluated: Associations between Independent Variables and Four Identity Outcomes

Independent Variables	Identity Depending on Context	Multiracial Only	One Group Consistently, Asian	All Groups Consistently
Personal & Contextual Influences				
Gender			Females +	
Generational status	+	+		+
Openness to experience		+	+	+
Neuroticism	-	-	-	-
Need to Belong				
Asian Socialization	+		+	+
White Socialization	+			+
Asian Friends			+	
Multiracial Friends		+		
Cultural Transmission				
Asian Exploration	+		+	+
White Exploration	+			+
Asian Centrality	+		+	+
White Centrality	+			+
Societal Responses				
Perceived Discrimination	+/-	+/-	+/-	+/-
Phenotype (Asian)			+	
Phenotype (Asian-White)		+		

Note: Cells without direction listed are exploratory; + high levels of independent variables are predictive of identity outcome; - high levels of independent variable are less predictive of identity outcomes; +/- competing hypotheses.

Table 6

Summary of Logistic Regression Analysis for Personal & Contextual Influences Predicting Identity Outcomes

Predictors	Identity Depending On Context				Multiracial Only				One Group Consistently, Asian				All Groups Consistently			
	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>
Demographic																
Gender	.57	.47	1.47	1.77	-.49	.64	.59	.61	.11	.72	.01	1.11	.14	.49	.08	1.14
2 nd Generation	-.56	.62	1.29	.57	-.24	1.49	7.60	.79	-.83	1.13	.54	.44	-.21	.68	.10	.81
3 rd Generation	-.59	.54	.82	.55	2.15*	1.11	.03	8.61	-.30	.88	.12	.74	-.47	.57	.67	.63
Internal																
Openness to Experience	-.34	.30	1.26	.71	.47	.44	1.13	1.60	-.39	.51	.57	.68	.04	.32	.02	1.04
Neuroticism	.33	.26	1.59	1.39	-.04	.36	.01	.96	.36	.49	.53	1.44	-.34	.28	1.46	.71
Need to Belong	.10	.31	.11	1.11	.46	.44	1.08	1.58	-1.02+	.55	3.4	.36	.01	.33	.01	1.01
Asian Socialization	-.03	.22	.25	.97	-.40	.32	1.45	.67	1.37**	.44	1.41	3.95	.29	.25	.88	1.34
White Socialization	-.13	.25	.02	1.14	.43	.36	1.56	1.54	-.50	.42	9.55	.06	-.26	.28	1.36	.77
External																
Asian Friends	1.55	.93	2.76	4.70	-.77	1.51	.26	.46	2.24	1.43	2.45	9.43	-2.14+	1.18	3.31	.12
Multiracial Friends	.55	1.13	.24	1.74	1.39	1.39	.98	3.99	-4.89+	2.68	3.32	.01	-.07	1.18	.00	.93
Constant	-1.33				-6.3				1.55				.29			

Note: Identity Outcomes were coded for as 0 for not endorsed and 1 for endorsed. Demographic Variables: Gender is coded as 0 for female and 1 for males. Generational Status yielded three levels, (first, second, and third generation). First generation was dummy coded as the reference code. All other variables are continuous except for Asian Friends and Multiracial Friends which are proportions, (0-1).

Table 7

Summary of Logistic Regression Analysis for Cultural Transmission predicting Identity Outcomes

Predictors	Identity Depending On Context				Multiracial Only				One Group Consistently, Asian				All Groups Consistently			
	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>
Asian Exploration	-.06	.44	.02	.94	.58	.56	1.10	1.79	-.03	.73	.00	.97	-.71	.50	2.00	.49
White Exploration	-.39	.42	.85	.68	.55	.54	1.02	1.72	.02	.58	.00	1.02	-.32	.49	.43	.73
Asian Centrality	.27	.28	.97	1.31	-.37	.31	1.46	.68	1.07*	.55	3.77	2.94	.40	.33	1.49	1.50
White Centrality	-.24	.20	.01	.60	-.12	.26	.20	.89	-.88+	.34	6.00	.42	.65**	.24	7.38	1.90
Constant	-.50				-3.15				-4.37				-1.35			

Note: Identity Outcomes (Identity Depending on Context, Multiracial Only, One Group Consistently, Asian, and All Groups Consistently were coded for as 0 for not endorsed and 1 for endorsed.

Cultural Transmission Predictor Variables: All variables are continuous.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$

Table 8

Summary of Logistic Regression Analysis for Societal Response predicting Identity Outcomes

Predictors	Identity Depending On Context				Multiracial Only				One Group Consistently, Asian				All Groups Consistently			
	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>	<i>B</i>	<i>SE B</i>	<i>W</i>	<i>e^B</i>
Perceived Discrimination	-.35	.22	2.53	.70	.04	.28	.02	1.04	-.18	.34	.27	.84	.17	.22	.55	1.18
Phenotype (Asian)	-.05	.15	.11	1.05	.09	.19	.21	1.09	.07	.24	.09	1.08	-.08	.16	.27	.92
Phenotype (Asian-White)	-.08	.15	.28	.92	-.12	.20	.39	.88	.11	.25	.20	1.12	.14	.17	.68	1.15
Constant	-.31				-1.67				-2.35				-1.56			

Note: Identity Outcomes (Identity Depending on Context, Multiracial Only, One Group Consistently, Asian, and All Groups Consistently) were coded for as 0 for not endorsed and 1 for endorsed.

Societal Responses Predictor Variables: All variables are continuous.

+*p* < .10. **p* < .05. ***p* < .01. ****p* < .001

coded as other; 1 coded as identity outcome). Results from these regressions are reported in Tables 6, 7, and 8.

Among the Personal and Contextual Influences, two significant effects were found, and in support of hypotheses. Those who *held third generation status* were 8.61 times more likely to endorse a *Multiracial Only* Identity Outcome compared to those who hold a first generation status. Those who demonstrated high levels of *Asian socialization* were 3.95 times more likely to endorse *One Group Consistently, Asian*. Considering exploratory evaluations, while not statistically significant, three marginally significant results were found and in the following directions. Those with high levels of *need to belong* were .36 times less likely to endorse *One Group Consistently, Asian*. Those who reported peer networks consisting of *multiracial friends* were .01 times less likely to endorse *One Group Consistently, Asian*. Finally, those who reported networks of *Asian friends* were .12 times less likely to endorse *All Groups Consistently*. No other significant effects were found.

Among the Cultural Transmission component, two significant associations were found, and in support of hypotheses. High levels of *Asian centrality* increased the likelihood of endorsing *One Group Consistently, Asian* by a factor of 2.94. Furthermore, high levels of *White centrality* levels increased the likelihood of endorsing *All Groups Consistently* by a factor of 1.90. Exploratory analyses yielded one marginally significant finding. High levels of *White centrality* were associated with a .34 decreased likelihood of endorsing *One Group Consistently, Asian*. No other significant effects were found.

Among the Societal Responses component, no significant associations were found.

DISCUSSION

Multiracial populations are growing, which emphasizes the need to understand how ERI develops for this group of individuals, particularly in light of the demonstrated positive effects of fostering strong ERI. Living in the U.S., a highly racialized society, whereby individuals of multiracial heritages may face additional scrutiny at multiple dimensions (e.g., multiple different experiences of prejudices and discrimination), experience identity conflicts which may result in self-confusion, and have difficulty finding belonging with others who share their heritages (Chang et al., 2015; Root, 2001). Therefore, there is a need to understand how those of multiracial backgrounds understand their ERI and what experiences and factors could influence their ERI development. The MIF attempts to address this need by proposing different ways in which multiracial individuals could demonstrate their ERI through the Identity Outcome selected (Table 2). Furthermore, the MIF identifies three components, Personal and Contextual Influences, Cultural Transmission, and Societal Responses that consist of variables that could inform the Identity Outcomes experienced by multiracials. Specifically, in this study, using a sample Asian-White multiracials, a particularly fast-growing group even within the broader multiracial population, the diversity in the ways in which multiracials conceptualize their identity was demonstrated. The relational connection between the variables was explored, which comprise each component of the MIF. Finally, if and how these variables of interest are associated with the ways in which multiracials conceptualize their ERI was investigated.

The Challenges with Identity Outcomes

The overarching insight derived from investigating the distribution of the Identity Outcomes endorsed by Asian-White multiracials is that ERI for multiracials is complex and complicated. A large amount of variation among the Identity Outcomes endorsed by the participants was evident with seven out of eight outcomes chosen as the first choice to capture an individual's ERI (Figure 2). Moreover, many struggled with picking just one outcome that could effectively describe how their ERI is integrated and experienced. When examining the Identity Outcomes chosen by an Asian-White individual in tandem, it is clear that fluid identity or *Identity Depending on Context* is the most commonly endorsed option (Figure 3). These results reflect previous conceptualizations of ERI for multiracials as falling under two dimensions, stable and fluid identity (Chang, 2014). This also relates well to models of bicultural identity, which describe individuals who are able to code-switch and alternate between identities (No et al., 2011; Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002; Table 1), providing support that ERI for multiracials activates similar processes, as many prefer to experience a single identity at any given time.

From an analysis of the reasons given for their Identity Outcomes choice/s, some insight can be gleaned regarding the complexity of ERI. One challenge of using the Identity Outcomes to capture ERI is its inability to differentiate between personal identification and the ethnic/racial labels that are given to these individuals by others they encounter. Wijeyesinghe (2001) has documented this distinction previously. In attempting to make this differentiation, the option of picking *Society Given Identity* was offered. However, it may be the case that ERI is not a choice between *Society Given*

Identity or the given ethnic/racial labels and one's personal own choice of identifying with ethnic/racial heritages. It may be that these exist simultaneously. Each individual may have a label given to them as well as their own preferred ERI, and whether those are different or the same can vary for each individual. In other words, one would have to balance and navigate between one's own choice of identity and others' given labels, with given labels becoming a possible influence on ERI. Considering ERI only in the context of a dichotomous identity choice does not fully capture the complexity of ERI. Chang (2014) provided a unique definition of racial identity in that a healthy racial identity for a multiracial individual encompassed not only one's own self-identity but also the ability to understand and navigate society's ascriptions of race, and these two understandings form a self-concept that is either fluid or static (p. 62; Chang, 2014). Furthermore, Lou and colleagues (2011) found that, when multiracial identity is validated by others, compared to contextually dependent identities or invalidated identities, there is greater degree of identity integration and self-concept clarity (Lou, Lalonde, & Wilson, 2011). Thus, in understanding multiracial ERI, a measure that can simultaneously capture both these dimensions of ERI could be particularly informative.

Additionally, the Identity Outcomes examined were intended to capture an overall categorization of one's ERI. However, the difficulty with categorizing ERI in these mutually exclusive categories is that ERI is an evolving process. The ways in which some multiracials understand their ERI reflects its developmental trajectory. Understanding how multiracials identify requires a continuous knowledge of how their ERI has evolved. Therefore, the weakness of the Identity Outcomes measure is that it attempts to capture ERI at one time point reflected by forcing a best representative choice. In doing so, it

neglects that ERI is a continuous, ever-evolving construct, and choosing a best representative choice could be oversimplifying ERI. From the narratives provided, it is clear that ERI is a lived experience and measurements of ERI should reflect that. Ultimately, while quantifying Identity Outcomes in this study is a starting point to understand multiracial ERI, it is clear that there are additional considerations that must be addressed to develop a truly effective measure of ERI conceptualization and integration for multiracials.

Relationships Between and Within Components of the MIF

In an attempt to determine whether the MIF is able to explain the ERI options for multiracial individuals, correlations were run between the variables that encompass each component of the MIF to investigate the associations between and within the components (Personal and Contextual Influences, Cultural Transmission, and Societal Responses). Within the component of Personal and Contextual Influences, *need to belong* was positively correlated with *neuroticism*. *Need to belong* is a motivational personality component, meant to capture the desire for acceptance and belonging (Leary et al., 2013). As such, it is unsurprising that it relates to a behavioral component such as *neuroticism*, which at high levels reflect low emotional stability and poor coping mechanisms (Benet-Martinez & Haritatos, 2005). Another correlation indicated that the *proportion of Asian friends* was negatively correlated with the *proportion of multiracial friends*. Given that this is a proportional calculation, having a high *proportion of Asian friends* would indicate that the proportion of non-Asian friends are by default lower, given that participants only provided at maximum five friends. Within the component of Cultural Transmission, *Asian cultural exploration* was positively correlated for *Asian centrality*

levels and vice versa for *White cultural exploration* and *White centrality* levels. Given that exploration and centrality are both ways of understanding ERI (Sellers et al., 1986; Phinney, 1989), and exploration can lead to an identity becoming more central to one's self concept, the association between these variables is expected. Within Societal Responses, *perception of phenotype, Asian* correlated with *perception of phenotype, Asian-White*. This finding makes intrinsic sense, as one who is perceived as Asian and White could also demonstrate Asian phenotype characteristics. Given the correlations among the Cultural Transmission components, there is support that this component itself captures a unique construct that impacts multiracial identity development.

Correlation analysis yielded evidence that provided insight on the associations between components of the MIF. This model proposes that each component may be mutually influential on other components and our results are consistent with these conceptual ideas (Figure 1). Six correlations were found between Personal and Contextual Influences and Cultural Transmission. Two correlations were found between Personal and Contextual influences and Societal Responses, with three correlations found between Cultural Transmission and Societal Responses.

The components of Personal and Contextual Influences and Cultural Transmission were correlated across several variables demonstrating the strongest associations between these two components. Looking closely at the correlations that were revealed, *Ethnic and racial socialization* was positively correlated with both *cultural exploration* and *centrality* levels for both Asian and White heritages. *Proportion of Asian friends* was positively correlated with both *Asian centrality* levels and *Asian cultural exploration*. Furthermore, *proportions of multiracial friends* was negatively correlated

with *White cultural exploration*. Given that these are correlations, the direction of these influences are unclear. However, it is possible that *ethnic and racial socializations* and the contexts of friendships could be influencing Cultural Transmissions component, as there may be causal connections between ethnic/racial socialization and friendships on cultural exploration. Links between ethnic/racial socialization and ethnic identity exploration have been revealed among multiracial individuals, with ethnic/racial socialization associated with stronger or greater ethnic heritage exploration (Brittian et al., 2013). Furthermore, diverse friendships have been associated with greater ethnic identity exploration or cultural exploration of their ethnic heritage for diverse youth (Rivas-Drake et al., 2017). The MIF proposes each component as uniquely predictive of Identity Outcomes, however it is worth considering if there are mediating effects with Cultural Transmission acting as a mediator between Personal and Contextual Influences and Identity Outcomes. Moreover, considering that ERI development occurs over time and that this study uses cross sectional data, testing a mediational model with longitudinal data could clarify directionality between these components. Such investigation would yield greater insight on causation and development of ERI over time. Thus, future studies using longitudinal design are needed to evaluate the causal links among the components of the MIF.

Predicting Identity Outcomes

Given the challenges with the Identity Outcome measure, predicting Identity Outcomes from the components of the MIF proved to be less informative than anticipated. However, despite measurement limitations, results demonstrated that several variables emerged as strongly associated with Identity Outcomes. Results indicated that

Asian socialization and *Asian centrality* were linked with the greater likelihood of endorsing *One Group Consistently, Asian*, and with high *need to belong*, having *multiracial friends* and *White centrality* trended towards a lower likelihood of endorsing *One Group Consistently, Asian*. Furthermore, *White centrality* was associated with a greater likelihood of endorsing *All Groups Consistently*, and the effect of having *Asian friends* relating to a lower likelihood of endorsing this identity outcome approached significance. Finally, those holding third *generational status* were more likely than those holding first *generational status* to choose to identify as *Multiracial Only*.

The finding that *Asian socialization* and *centrality* is predictive of endorsing *One Group Consistently, Asian* is in agreement with previous work that has revealed that, for multiracial Asian Americans, ethnic/racial socialization is associated with a strong ethnic identity exploration (Brittian et al., 2013). Additionally, the idea that those who highly endorse being Asian as part of their self-concept tend to choose to identify as Asian, while those who indicate that being White is a part of their self-concept trend towards not identifying as Asian, emphasizes the importance of centrality on Identity Outcomes. In previous work, Syed and Azmitia (2008) found that centrality levels are high for those with achieved identity statuses or those who have undergone high exploration and a strong commitment to their identity. Thus, endorsing high centrality levels would indicate a high degree of exploration and identity commitment (Syed & Azmitia, 2008; Yip, 2014). Therefore, one interpretation of our findings is that those who endorse high *Asian centrality* are more likely to choose *One Group Consistently, Asian*, due to a greater degree of exploration and commitment of their Asian heritage, and such a strong degree of commitment could manifest as a consistent Identity Outcome rather than a more fluid

option (e.g., *Identity Depending on Context*). Considering that, those who endorse *One Group Consistently, Asian* are also associated with a high level of *Asian socialization*, which is linked to ethnic identity exploration (Brittian et al., 2013). Taken together, the influence of *ethnic/racial socialization, centrality levels*, and degree of identity exploration and commitment on Identity Outcomes are potentially connected processes. Future work investigating the causal links between these would be useful to determine if these are mutually influential or if there are direct causal paths. For example, does *ethnic/racial socialization* prompt identity exploration, which then influences *centrality levels* leading to a strong commitment of identity and a stable Identity Outcome?

Considering the trend that those with high levels of *need to belong* were less likely to endorse identifying with *One Group Consistently, Asian*, one possible explanation relates back to the salience of minority groups in the U.S. Asian Americans have often experienced a phenomenon known as the perpetual foreigner stereotype, whereby they are viewed as foreigners regardless of citizenship (Huynh, Devos, Thierry, & Smalarz, 2011; Wu, 2002). Therefore, those who are driven to belong might choose not to identify only with their Asian heritage due to desires to fit in with a larger demographic of individuals, especially considering that Asian Americans are likely to be seen as not belonging in the U.S.

Friendships also appears to play a role in the way in which multiracial individuals choose to identity. More specifically, those with a *high proportion of multiracial friends* are less likely to identify with *One Group Consistently, Asian*, and those with *high proportion of Asian friends* trend towards being less likely to identify with *All Group Consistently*. The role of social context as reflected by the choice of friends as influential

on ERI, has been previously documented among monoracial adolescents (Kiang et al., 2011; Rivas-Drake et al., 2017; Yip et al., 2013), with same-ethnic and different-ethnic peers shaping ERI, suggesting that the diversity of friends can promote identity exploration. Those who have more *multiracial friends* with similarly complex ethnic/racial heritages may find their own multiracial backgrounds to be more salient and thus less likely to identify with only one part of their heritage. Considering the reverse, those with greater degree of *Asian friends* or in other words more racially homogenous friendships may be less likely to identify with *All Groups Consistently* due to the salience of only one part of their own ethnic/racial heritage when surrounded by primarily *Asian friends*. Given that our data is cross sectional, future work should address the possible bi-directional links between friendships and ERI. For example, those who do not identify with only one part of their heritage may seek out multiracial friends due to shared experiences of being a multiracial individual in the U.S. Determining causality between friendships and Identity Outcomes is an important future step to clarify the role friendships have in shaping ERI for multiracials.

The associations between *All Group Consistently* and *White centrality* suggests that high *White centrality* levels are linked with being able to identify with their entire heritages, which is quite different from the idea that high *Asian centrality* levels are linked to *identifying as Asian*. That is, individuals with high *White centrality* still prefer to identify with all heritages rather than just their White heritage. Perhaps, this is due to the lower chance that a multiracial individual is able to claim a consistent and exclusively White identity, in that those who might want to identify as White may not be able to phenotypically portray a White identity even if they wish to do so (Chang, 2014). Thus,

they endorse an identification with all their heritages because they may face significant challenges with claiming a White identity if they are not able to phenotypically pass as White. However, given that we did not analyze associations between *White centrality* and identifying only as White (due to the low sample size and low frequency of selecting this identity outcome), it may be the case that if more were to identify as White, then *White centrality* would be associated with that outcome, rather than being associated with being less likely to endorse *All Groups Consistently*.

The link between *generational status* and *Multiracial Only* endorsement is revealing. Given that those with third generational status are more likely than first generational status to endorse *Multiracial Only*, it could be that those who have parents that have lived in the U.S. for longer experience less conflict between their identities (Tsai et al., 2000). Another possibility is that those who are in later generations are more comfortable with having a multiracial heritage compared to first generation multiracials. This finding is promising given that multiracial populations are increasing, as more marriages that are inter-racial occur. Future generations of these unions may become more comfortable with their multiracial heritages as this population continues to grow and multiracial heritages become more normalized.

Among the four Identity Outcomes that were investigated, the only outcome that failed to reveal any links with the proposed predictors is *Identity Depending on Context*. One possibility for this is due to the fluidity present in this identity choice, with different identities more salient in different contexts. Therefore, when trying to find causal links, it may be more insightful to determine the specifics of the context when each identity might dominate. In a study of Asian-White multiracials, Chong and Kuo (2015) revealed three

clusters of identity patterns (Asian dominant, Integrated Asian-White, and White dominant); however, even within each of these clusters, participants endorsed integrated, identity with majority group, identity with the minority group, and identity with neither group, to varying levels. Therefore, these results suggests that, even though some multiracials may identify with all of their heritages, some parts of their heritage will be most salient at any given time. Therefore, for these individuals, rather than trying to find influences that could shape their fluid identity, it may be more meaningful to understand the day-to-day or moment-to-moment contexts that may promote one identity over another. No and colleagues (2011) suggested a negotiation model to understand bicultural identity and such a model would be useful to understand those who *Identify Depending on Context*. Previous work using methods like daily diaries and experience sampling with monoracial youth have revealed that ERI levels fluctuate day-to-day (Yip, 2008; Yip et al., 2013). Using these methods may be more insightful in pinpointing the context that promotes one identity over the other. For those with fluid identity, future work should focus on developing a model that captures the changes and contextual influences that could predict which heritage identity may dominate at any given time.

Among the MIF, the only component that was not associated with any Identity Outcome was Societal Responses. When organizing the four final Identity Outcomes, efforts were made to distinguish between a personal choice of identity and the labels others give to the participants. Therefore, since the Societal Responses category is meant to capture the influences that result from social stratification, perhaps by isolating personal identity choice from the labels others give, the influence from Societal Responses is less prevalent. For the Identity Outcome, *Society Given Identity*, few

endorsed this outcome; if the sample size was larger, perhaps links between this component and *Society Given Identity* could be found. It is surprising that *perception of phenotype* was not linked to any Identity Outcome. Previous work has alluded to phenotype as influential for multiracial identity (Doyle & Kao, 2007; Gaither, 2015; Khana, 2004). Future work focusing on phenotype should be conducted. While the explanation suggested above may be why this variable was not revealed to be influential, it could also be that case that phenotype is more influential for multiracials of other ethnic/racial compositions. Therefore, despite not finding any associations to phenotype, the influence of phenotype should not be discredited yet.

Limitations and Future Directions

In addition to the measurement concerns outlined above, this study is not without limitations. This sample was small and given the number of predictors, there is a substantial lack of power, thus finding significant results is difficult. Furthermore, with the recruitment strategy used, (e.g., reaching out to groups on social media that are multiracial and/or Asian culture oriented, and personal contacts) there may be a recruitment bias present in the sample. Those who are a part of these groups may have come together due to shared experiences and similar identity conceptualizations. Furthermore, those who are in contact with the author, may have biases in terms of how they view their ERI, given the author's interest in ERI development. Results revealed more individuals who preferred to identify as Asian rather than White. While this finding may hold true among Asian-White multiracials, it could also be a result of recruitment choices, in that those who prefer to identify as White are not joining such communities to begin with. Furthermore, the sample consisted of adults; therefore, the distribution of

Identity Outcomes could be specific to this age group. Identity development occurs throughout adolescence and into emerging adulthood (Phinney, 2006), and more variation may exist among different developmental age groups. Previous work has highlighted that there is developmental trajectory path in how one progresses through identity developmental stages (Syed & Azmitia, 2008; Yip et al., 2006), with adults presenting a more advanced identity developmental stage compared to adolescents. In trying to understand multiracial identity development, the transition in ERI development over time must be taken into account.

Another concern is that specific location contexts in the sample were not controlled for. The selection criteria asked that participants currently live in the U.S. However, experiences could differ depending on where in the U.S. these participants are from. Some areas may be more homogenous in their ethnic/racial composition than others, which could have influences on ERI. Having greater exposure to other multiracials or more general cultural diversity throughout development may also be influential on ERI. Furthermore, by limiting this to a U.S. context, the findings are not necessarily generalizable to other countries that may be more or less multiracial and/or multicultural oriented than the U.S.

In addressing some of these limitations, using a longitudinal rather than cross sectional approach may be the best approach to further understand the development of ERI. Future work should also address concerns in recruitment bias and context in order to have the best representative sample for all Asian- White multiracials. Additionally, the sample grouped different ethnic Asian heritages together, and parsing out differences that may exist for specific ethnic groups is also needed. While this study tentatively explored

such differences without revealing any meaningful patterns, additional research focusing on ethnic differences more thoroughly is needed. Understanding these differences is pivotal especially if one is interested in the Cultural Transmission component, as there may be ethnic-specific cultural differences among different Asian and White heritages. Future work focusing on inter-ethnic differences among this group of multiracials would be insightful. In studying ERI development, developing measures that are multidimensional rather than dichotomous, that can quantify levels of ERI for each specific heritage rather than an overall representation of ERI may be more insightful in understanding how ERI affects multiracial individuals. Moreover, this study only focused on those of Asian and White heritages; investigating whether similarities or differences exist for other multiracials of different racial compositions is needed.

CONCLUSION

This study sought to evaluate a theoretical framework with Asian-White multiracials to understand how ERI conceptualization occurs for this group. An attempt was made to quantify the different ways multiracials understood their ERI and the possible influences on ERI through this organizational framework. Overall, results emphasize that the process of ERI development is complex and there is significant variation in how ERI is conceptualized, with many endorsing having a fluid identity that changes depending on context. Revealing the extent of fluidity in ERI is an important contribution to research and such a finding may assist in developing future models for multiracial identity development, taking into account situationally salient ERI levels. Developing innovative ways to overcome the challenges revealed in this study will allow for investigations that can focus on how to foster and promote optimal ERI development among multiracials. Continued efforts to understand the lived experience of ERI in the U.S. is necessary considering the growth in populations of multiracial people. This study offers a compelling first step towards this goal.

REFERENCES

- Adams, G., & Marshall, S. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of Adolescence, 19*, 429-442.
- AhnAllen, J. M., Suyemoto, K. L., & Carter, A. S. (2006). Relationship between physical appearance, sense of belonging and exclusion, and racial/ethnic self-identification among multiracial Japanese European Americans. *Cultural Diversity and Ethnic Minority Psychology, 12*(4), 673–686. <https://doi.org/10.1037/1099-9809.12.4.673>
- Benet-Martínez, V., & Haritatos, J. (2005). Bicultural Identity Integration (BII): Components and psychosocial antecedents. *Journal of Personality, 73*(4), 1015–1050. doi:10.1111/j.1467-6494.2005.00337.x
- Berry, J. W. (1990). Psychology of acculturation. In J. Berman (Ed.), *Cross-cultural perspectives: Nebraska symposium on motivation* (pp. 201-234). Lincoln, NE: University of Nebraska.
- Berry, J. W. (2003) Conceptual approaches to acculturation. In K. M. Chun, P. B. Organista, & G. Marin (Eds.). *Acculturation: Advances in theory measurement, and applied research* (pp. 17-37). Washington, DC: American Psychological Association.
- Brittian, A.S., Umaña-Taylor, A. J., & Derlan, C.L. (2013) An examination of biracial college youth's family ethnic socialization, ethnic identity, and adjustment: Do self-identification labels and university context matter? *Cultural Diversity and Ethnic Minority Psychology, 19*(2), 177. doi: 101016/j.adolescence.2015.02.002

- Brown, T. L., Linver, M. R., & Evans, M. (2010). The role of gender in the racial and ethnic socialization of African American adolescents. *Youth & Society, 41*(3), 357–381. doi:10.1177/0044118X09333665
- Brunsma, D.L., & Rockquemore, K.A. (2001). The new color complex: Appearances and biracial identity. *Identity: An International Journal of Theory and Research, 1*, 225-246. doi:10.1207/S1532706XID0103_03
- Chan, M. (unpublished review) Towards an understanding of multiracial identity development: A synthesis of the past and steps for the future.
- Chang, S. H. (2015). Raising mixed race: Multiracial Asian children in a post-racial world. Retrieved from <https://ebookcentral.proquest.com>
- Chen, S., Benet, V., & Bond, M. (2008). Bicultural identity, bilingualism, and psychological adjustment in multicultural societies: Immigration-based and globalization-based acculturation. *Journal of Personality, 76*, 803–38. doi:10.1111/j.1467-6494.2008.00505.x
- Cheng, C.-Y. (2005). Bicultural identities: Determinants, processes, and effects. *Dissertation abstract international, 66*, 1217. (UMI No. 3163769).
- Cheng, C.-Y., & Lee, F. (2009). Multiracial identity integration: Perceptions of conflict and distance among multiracial individuals. *Journal of Social Issues, 65*(1), 51–68. doi: 10.1111/j.1540-4560.2008.01587.x
- Cheng, C.-y., Lee, F., Benet-Martínez, V., & Huynh, Q.,-L. (2014). Variations in multicultural experience: Influence of bicultural identity integration on socio-cognitive processes and outcome. In V. Benet-Martínez & Y.-y. Hong (Eds.),

Handbook of multicultural identity: Basic and applied psychological perspectives (pp. 276-294). New York: Oxford University Press.

Chong, V., & Kuo, B. C. H. (2015). Racial identity profiles of Asian-White biracial young adults: Testing a theoretical model with cultural and psychological correlates. *Asian American Journal of Psychology*.
<https://doi.org/10.1037/aap0000022>

Cross, W. E., Jr. (1971). The Negro-to-Black conversion experience: Toward a psychology of Black liberation. *Black World*, 20(9), 13-27

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75.
doi:10.1207/s15327752jpa4901_13

Douglass, S., & Umaña-Taylor, A. J. (2016). Time-varying effects of family ethnic socialization on ethnic-racial identity development among Latino adolescents. *Developmental Psychology*, 52(11), 1904-1912. doi:10.1037/dev0000141

Douglass, S., Mirpuri, S., & Yip, T. (2017). Considering friends within the context of peers in school for the development of ethnic/racial identity. *Journal of Youth and Adolescence*, 46(2), 300–316. doi:/10.1007/s10964-016-0532-0

Doyle, J.M., & Kao, G. (2007). Are racial identities of multiracials stable? Changing self-identification among single and multiple race individuals. *Social Psychology Quarterly*, 70(4), 405–423. doi:10.1177/019027250707000409

Franco, M. G., & Franco, S. A. (2016). Impact of identity invalidation for black multiracial people: The importance of race of perpetrator. *Journal of Black Psychology*, 42(6), 530–548. <https://doi.org/10.1177/0095798415604796>

- Gaither, S. E. (2015). "Mixed" results: Multiracial research and identity explorations. *Current Directions in Psychological Science*, 24(2), 114–119.
<https://doi.org/10.1177/0963721414558115>
- García Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & Vázquez García, H. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891-1914.
doi:10.2307/1131600
- González, R., Lickel, B., Gupta, M., Tropp, L. R., Kanacri, B. P. L., Mora, E., ... Bernardino, M. (n.d.). Ethnic identity development and acculturation preferences among minority and majority youth: Norms and contact. *Child Development*, 88(3), 743–760. <https://doi.org/10.1111/cdev.12788>
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology*, 42, 218–238.
- Henriksen, R. C., & Paladino, D. A. (2009). Identity development in a multiple heritage world. In R. C. Henriksen & D. A. Paladino (Eds.), *Counseling multiple heritage individuals, couples, and families* (pp. 25-45). United States. American Counseling Association
- Hickey, M. G. (2004). 'I want to hold onto the history...': Cultural sustainability in the narratives of Asian-American daughters. *Asian Journal of Women's Studies*, 10(2), 48
- Hitlin, S., Brown, J. S., & Elder, G. H. (2007). Measuring Latinos: Racial vs. ethnic classification and self-understandings. *Social Forces*, 86(2), 587–611.

- Huynh, Q.-L., (2009). Variations in biculturalism: Measurement, validity, mental and physical health correlates, and group differences. Unpublished doctoral dissertation, University of California, Riverside.
- Huynh, Q., Devos, T., & Smalarz, L. (2011). Perpetual foreigner in one's own land: Potential implications for identity and psychological adjustment. *Journal of Social and Clinical Psychology, 30*(2), 133-162.
doi:<http://dx.doi.org.go.libproxy.wakehealth.edu/10.1521/jscp.2011.30.2.133>
- Jackson, K. F., Yoo, H. C. (Brandon), Guevarra, R., & Harrington, B. A. (2012). Role of identity integration on the relationship between perceived racial discrimination and psychological adjustment of multiracial people. *Journal of Counseling Psychology, 59*(2), 240–250. <https://doi.org/10.1037/a0027639>
- Joyner, K., & Kao, G. (2000). School racial composition and adolescent racial homophily. *Social Science Quarterly, 81*(3), 810-825.
- Khanna, N. (2004). The role of reflected appraisals in Racial identity: The case of multiracial Asians. *Social Psychology Quarterly, 67*(2), 115-131
- Kiang, L., Harter, S., & Whitesell, N. R. (2007). Relational expression of ethnic identity in Chinese Americans. *Journal of Social and Personal Relationships, 24*(2), 277–296. doi:10.1177/0265407507075414
- Kiang, L., Peterson, J. L., & Thompson, T. L. (2011). Ethnic peer preferences among Asian American adolescents in emerging immigrant communities. *Journal of Research on Adolescence, 21*(4), 754–761. doi:10.1111/j.1532-7795.2011.00750.
- Kiang, L., & Supple, A. J. (2016). Theoretical perspectives on Asian American youth and families in rural and new immigrant destinations. In L. Crockett & G. Carlo

(Eds.), *Rural ethnic minority youth and families in the United States: Theory, research, and applications* (pp. 71–88). New York: Springer.

https://doi.org/10.1007/978-3-319-20976-0_5

Kiang, L., Yip, T., Gonzales-Backen, M., Witkow, M., & Fuligni, A. J. (2006). Ethnic identity and the daily psychological well-being of adolescents from Mexican and Chinese backgrounds. *Child Development, 77*, 1338-1350.

LaFromboise, T., Coleman, H. L., & Gerton, J. (1993). Psychological impact of biculturalism: Evidence and theory. *Psychological Bulletin, 114*, 395-412.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the Need to Belong Scale: Mapping the nomological network. *Journal of Personality Assessment, 95*(6), 610–624. doi:10.1080/00223891.2013.819511

Lou, E., Lalonde, R. N., & Wilson, C. (2011). Examining a multidimensional framework of racial identity across different biracial groups. *Asian American Journal of Psychology, 2*(2), 79–90. <https://doi.org/10.1037/a0023658>

Mahalingam, R., Balan, S., & Haritatos, J. (2008). Engendering immigrant psychology: An intersectionality perspective. *Sex Roles, 59*(5–6), 326–336. <https://doi.org/10.1007/s11199-008-9495-2>

Marcia, J. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology, 3*, 551-558.

Markus, H. R. (2008). Pride, prejudice, and ambivalence: Toward a unified theory of race and ethnicity. *American Psychologist, 63*(8), 651–670.

<https://doi.org/10.1037/0003-066X.63.8.651>

- Marsiglia, F. F., Kulis, S., & Hecht, M. L. (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the southwest. *Journal of Research on Adolescence, 11*, 21–48. doi:10.1111/1532-7795.00002
- Mawhinney, L., & Petchauer, E. M. (2013). Coping with the crickets: A fusion autoethnography of silence, schooling, and the continuum of biracial identity formation. *International Journal of Qualitative Studies in Education, 26*(10), 1309–1329. doi:10.1080/09518398.2012.731537
- McCoy S. K., & Major B. (2003). Group identification moderates emotional responses to perceived prejudice. *Personality and Social Psychology Bulletin, 29*, 1005–1017. doi:10.1177/0146167203253466
- Mok, T. A. (1999). Asian American dating: Important factors in partner choice. *Cultural Diversity and Ethnic Minority Psychology, 5*(2), 103–117.
- Murphy-Shigematsu, S. (2012). *When half is whole: Multiethnic Asian American identities*. Stanford, CA: Stanford University Press.
- Museus, S. D., Sariñana, S. A. L., Yee, A. L., & Robinson, T. E. (2016). A qualitative analysis of multiracial students' experiences with prejudice and discrimination in college. *Journal of College Student Development, 57*(6), 680–697. <https://doi.org/10.1353/csd.2016.0068>
- Neblett, E. W., Rivas-Drake, D., & Umaña-Taylor, A. J. (2012). The promise of racial and ethnic protective factors in promoting ethnic minority youth development. *Child Development Perspectives, 6*(3), 295–303. <https://doi.org/10.1111/j.1750-8606.2012.00239.x>

- Nesteruk O., & Gramescu A. (2012). Dating and mate selection among young adults from immigrant families. *Marriage & Family Review*, 48, 40–58.
doi:10.1080/01494929.2011.
- Nesteruk, O., Helmstetter, N.-M., Gramescu, A., Siyam, M. H., & Price, C. A. (2015). Development of ethnic identity in young adults from immigrant families: “I want to hold onto my roots, but I also want to experience new routes.” *Marriage & Family Review*, 51(5), 466–487. <https://doi.org/10.1080/01494929.2015.1060288>
- Niwa, E. Y., Way, N., & Hughes, D. L. (2014). Trajectories of ethnic-racial discrimination among ethnically diverse early adolescents: Associations with psychological and social adjustment. *Child Development*, 85(6), 2339–2354.
doi:10.1111/cdev.12310
- No, S., Wan, C., Chao, M. M., & Rosner., J. L., (2011). Bicultural identity negotiation. In A.K. Leung, C.-y. Chiu, & Y. Y. Hong (Eds.), *Cultural processes: A social psychological perspective* (pp. 213-235). New York: Cambridge University Press.
- Palmer, J. (2007). Who is the authentic Korean American? Korean-born Korean American high school students’ negotiation of ascribed and achieved identities. *Journal of Language, Identity, and Education*, 6, 277-298.
- Pew Research Center (2017). Intermarriage in the U.S. 50 Years after Loving v. Virginia. Retrieved from <http://www.pewsocialtrends.org/2017/05/18/1-trends-and-patterns-in-intermarriage/>
- Pew Research Center. (2015a). Multiracial in America: Proud, diverse and growing in numbers. Washington, D.C. Retrieved from <http://www.pewsocialtrends.org/2015/06/11/multiracial-in-america/>

- Pew Research Center. (2015b). Interracial marriage: Who is ‘marrying out’? Retrieved from <http://www.pewresearch.org/fact-tank/2015/06/12/interracial-marriage-who-is-marrying-out/>
- Phinney, J. S. (1989). Stages of ethnic identity in minority group adolescents. *Journal of Early Adolescence, 9*, 34–49. doi: 10.1177/0272431689091004
- Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*, 156–176.
- Phinney, J. S. (2006). Ethnic identity exploration in emerging adulthood. In D. L. Browning (Ed). *Adolescent identities* (pp. 47-63). London: The Analytic Press.
- Phinney, J. S., & Devich-Navarro, M. (1997). Variations in bicultural identification among African American and Mexican American adolescents. *Journal of Research on Adolescence, 7*, 3-32.
- Poston, W. C. (1990). The Biracial Identity Development Model: A needed addition. *Journal of Counseling & Development, 69*(2), 152–155. doi:10.1002/j.1556-6676.1990.tb01477.x
- Pyke, K. D., & Johnson, D. L. (2003). Asian American women and racialized femininities: “Doing” gender across cultural worlds. *Gender and Society, 17*(1), 33–53.
- Richman, L. S., Blodorn, A., & Major, B. (2016). An identity-based motivational model of the effects of perceived discrimination on health-related behaviors. *Group Processes & Intergroup Relations, 19*(4), 415–425. doi:10.1177/1368430216634192
- Rivas-Drake, D., Hughes, D., & Way, N. (2008). A closer look at peer discrimination,

- ethnic identity, and psychological well-being among urban Chinese American sixth graders. *Journal of Youth and Adolescence*, 37, 12-21.
- Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review*, 6, 88-106
- Rodriguez, J., Umaña-Taylor, A., Smith, E. P., & Johnson, D. J. (2009). Cultural processes in parenting and youth outcomes: Examining a model of racial-ethnic socialization and identity in diverse populations. *Cultural Diversity and Ethnic Minority Psychology*, 15(2), 106-111. doi:10.1037/a0015510
- Root, M. M. P. (2002). Methodological issues in multiracial research. In *The science of lives in context* (pp. 171-193). Washington, DC: American Psychological Association.
- Root, M. P. P. (1999). The biracial baby boom: Understanding ecological constructions of racial identity in the 21st century, In R. H. Sheets, R. Hernandez, & E. R. Hollins (Eds.), *Racial and ethnic identity in school practices: Aspects of human development* (pp. 67-89). Mahwah, NJ: Erlbaum.
- Rosenberg, M. (1989). *Society and the adolescent self-image* (rev. ed.). Middletown, CT: Wesleyan University Press.
- Rosenbloom, S. R., & Way, N. (2004). Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth & Society*, 35, 420–451.
- Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. J., & Chavous, T. M. (1998).

- Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18-39.
doi:10.1207/s15327957pspr0201_2
- Seaton, E. K., Quintana, S., Verkuyten, M., & Gee, G. C. (2017). Peers, policies, and place: The relation between context and ethnic/racial identity. *Child Development*, 88(3), 683–692. doi:10.1111/cdev.12787
- Smith, T. B., & Silva, L. (2011). Ethnic identity and personal well-being of people of color: A meta-analysis. *Journal of Counseling Psychology*, 58(1), 42-60.
doi:10.1037/a0021528
- Soto, C. J., & John, O. P. (2017). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality*, 68(Supplement C), 69–81. doi:/10.1016/j.jrp.2017.02.004
- Stein, G. L., Kiang, L., Supple, A. J., & Gonzalez, L. M. (2014). Ethnic identity as a protective factor in the lives of Asian American adolescents. *Asian American Journal of Psychology*, 5(3), 206–213. doi:10.1037/a0034811
- Syed, M., & Azmitia, M. (2008). A narrative approach to ethnic identity in emerging adulthood: Bringing life to the identity status model. *Developmental Psychology*, 44, 1012–1027.
- Tatum, B. N., (1997). *“Why are all the black kids sitting together in the cafeteria?”* New York: Basic Books.

- Townsend, S. S. M., Markus, H. R., & Bergsieker, H. B. (2009). My choice, your categories: The denial of multiracial identities. *Journal of Social Issues, 65*(1), 185–204. <https://doi.org/10.1111/j.1540-4560.2008.01594.x>
- Townsend, S. S. M., Fryberg, S. A., Wilkins, C. L., & Markus, H. R. (2012). Being mixed: Who claims a biracial identity? *Cultural Diversity and Ethnic Minority Psychology, 18*(1), 91–96. <https://doi.org/10.1037/a0026845>
- Tran, A. T., & Lee, R. M. (2010). Perceived ethnic–racial socialization, ethnic identity, and social competence among Asian American late adolescents. *Cultural Diversity and Ethnic Minority Psychology, 16*(2), 169–178. doi:10.1037/a0016400
- Tsai, J., Ying, Y., & Lee, P.A (2000). The meaning of “being Chinese” and “being American”: Variation among Chinese American young adults. *Journal of Cross-Cultural Psychology, 31*, 302–332.
- Tseng, V., Kiang, L., Mistry, J., Mistry, R. S., Wang, Y., & Yoshikawa, H. (2016). Taking stock and moving forward: Research on Asian American child development. *Child Development, 87*(4), 989–994. <https://doi.org/10.1111/cdev.12574>
- Umaña-Taylor, A. J., & Fine, M. A. (2001). Methodological implications of grouping Latino adolescents into one collective ethnic group. *Hispanic Journal of Behavioral Sciences, 23*(4), 347–362.
- Umaña-Taylor, A. J., & Fine, M. A. (2004). Examining ethnic identity among Mexican-origin adolescents living in the United States. *Hispanic Journal of Behavioral Sciences, 26*(1), 36–59. doi:10.1177/0739986303262143

- Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross, W. E., Rivas-Drake, D., Schwartz, S. J., ... Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child Development, 85*(1), 21–39. doi:10.1111/cdev.12196
- Umaña-Taylor, A. J., Yazedjian, A., & Bámaca-Gómez, M. (2004). Developing the Ethnic Identity Scale Using Eriksonian and social identity perspectives. *Identity, 4*(1), 9–38. doi:10.1207/S1532706XID0401_2
- Umaña-Taylor, A. J., Kornienko, O., Bayless, S. D., & Updegraff, K. A. (2018). A universal intervention program increases ethnic-racial identity exploration and resolution to predict adolescent psychosocial functioning one year later. *Journal of Youth and Adolescence, 47*(1), 1–15. <https://doi.org/10.1007/s10964-017-0766-5>
- United States Census Bureau. (2017) Race. Retrieved from <https://www.census.gov/topics/population/race/about.html>
- Verkuyten, M. (2016). Further conceptualizing Ethnic and Racial identity research: The social identity approach and its dynamic model. *Child Development, 87*(6), 1796–1812. doi:10.1111/cdev.12555
- Wang, H., Kao, G., & Joyner, K. (2006). Stability of interracial and intraracial romantic relationships among adolescents. *Social Science Research, 35*(2), 435–453. <https://doi.org/10.1016/j.ssresearch.2004.10.001>
- Wijeyesinghe, C. L., (2001) Racial identity in multiracial people: An alternative paradigm. In C. L. Wijeyesinghe & B. W. Jackson III (Eds.), *New perspectives on*

- racial identity development* (pp. 129-152). New York and London: New York University Press.
- Williams, A. (2012). A mixed bag: Examining the college experience of multiracial students. *INSIGHT into Diversity, April May*, 24-25.
- Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socioemotional adjustment. *Journal of Personality, 71*, 1197–1232.
doi:10.1111/1467-6494.7106012
- Worell, F. C. (2015) Culture as race/ethnicity. In K. C. Mclean & M. Syed (Eds.) *The Oxford handbook of identity development* (pp. 249-268). New York: Oxford University Press.
- Wu, F. H. (2002). Where are you really from? Asian Americans and the perpetual foreigner syndrome. *Civil Rights Journal; Washington, 6*(1), 14.
- Yip, T. (2008). Everyday experiences of ethnic and racial identity among adolescents and young adults. In S. M. Quintana, C. McKown, S. M. Quintana, & C. McKown (Eds.), *Handbook of race, racism, and the developing child* (pp. 182-202). Hoboken, NJ: John Wiley & Sons Inc.
- Yip, T. (2014). Ethnic identity in everyday life: The influence of identity development status. *Child Development, 85*(1), 205–219. <https://doi.org/10.1111/cdev.12107>
- Yip, T., Douglass, S. E., & Shelton, J. N. (2013). Daily intragroup contact in diverse settings: Implications for Asian Adolescents' ethnic identity. *Child Development, 84*(4), 1425–1441. doi:10.1111/cdev.12038

- Yip, T., Gee, G. C., & Takeuchi, D. T. (2008). Racial discrimination and psychological distress: The impact of ethnic identity and age among immigrant and United States-born Asian adults. *Developmental Psychology, 44*(3), 787–800. <https://doi.org/10.1037/0012-1649.44.3.787>
- Yip, T., Seaton, E. K., & Sellers, R. M. (2006). African American racial identity across the lifespan: Identity status, identity content, and depressive symptoms. *Child Development, 77*, 1504–1517.
- Yoo, H. C., & Lee, R. M. (2008). Does ethnic identity buffer or exacerbate the effects of frequent racial discrimination on situational well-being of Asian Americans? *Journal of Counseling Psychology, 55*(1), 63–74. <https://doi.org/10.1037/0022-0167.55.1.63>
- Yoon, E., Adams, K., Clawson, A., Chang, H., Surya, S., & Jérémie-Brink, G. (2017). East Asian adolescents' ethnic identity development and cultural integration: A qualitative investigation. *Journal of Counseling Psychology, 64*(1), 65–79. [doi:org/10.1037/cou0000181](https://doi.org/10.1037/cou0000181)
- Yuh, J. (2006). Ethnic identity and its relation to self-esteem and ego identity among college students in a multiethnic region. *Journal of Applied Social Psychology, 35*(6), 1111–1131. <https://doi.org/10.1111/j.1559-1816.2005.tb02162.x>

APPENDIX

Recruitment Advertisement Write Up

Asian, White, Multiracial, multiethnic, mixed-race, interracial, biracial !

Do any of these labels resonate with you? If so, maybe you would like to participate in a research study about multiracial Asian Americans.

In order to participate, we ask that you are:

- 1. Aged 18 and up**
- 2. Currently live in the U.S**
- 3. Have one biological parent who is racially White and another biological parent who is racially Asian**

We are very interested in hearing about your unique experiences as an individual with both Asian and White heritages.

Please consider completing our short survey, which will take no more than 30 minutes to finish.

In return for your participation, you will be entered into a drawing to win a **\$20 dollar gift card to Target.**

Measures

Demographic Information

Age _____

Gender _____

Country of Birth _____

Mother's Country of Birth _____

Father's Country of Birth _____

Please list all of the ethnic groups with which **you** have heritages with (e.g., Chinese, Korean, Japanese, Irish, Polish, German etc.) Please list any and all that apply.

Please check all racial categories that apply to **your racial** heritage (note: categories are based on the U.S. Census provided racial categories and may not reflect all racial identifications you may prefer).

- White
- Black or African American
- Asian
- Alaskan Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Two or more Races

If you could pick any label in the world that could best describe your ethnic/racial background, what would it be?

You are participating in this research because you indicated that you have at least one parent who is racially White and one who is racially Asian. The following questions are about **your mother's** ethnic and racial heritage.

Please tell us all the ethnic groups (e.g., Chinese, Korean, Japanese, Irish, Polish, etc.) by which **your mother** shares heritages with as inclusive as possible.

Please check all racial categories that apply towards **your mother's racial** heritage.

- White
- Black or African American
- Asian
- Alaskan Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Two or more Races

If you could pick in any label in the world that could best describe **your mother's** ethnic/racial background, what would it be?

You are participating in this research because you indicated that you have at least one parent who is racially White and one who is racially Asian. The following questions are about **your father's** ethnic and racial heritage.

Please tell us the all the ethnic groups (e.g., Chinese, Korean, Japanese, Irish, Polish, etc.) by which **your father** shares heritages with as inclusive as possible.

Please check all racial categories that apply towards **your father's racial** heritage.

- White
- Black or African American
- Asian
- Alaskan Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Two or more Races

If you could pick in any label in the world that could best describe **your father's** ethnic/racial background, what would it be?

Multiracial Identity Outcomes

The following is a list of possible ways by which you might think about your ethnic/racial identity. Please choose the one that best fits with how you think about yourself. If none of these seem right, please tell us how you think about your ethnic/racial identities.

-
- Society Given Identity.** I identify with the ethnic/racial identity I am told I have by society (e.g. friends, family, teachers, etc.), and this ethnic/racial identity is _____ (e.g. Asian, White, Polish, Chinese, etc.).
 - Identifying with Another Ethnic/racial Group.** I don't identify with any of the ethnic/racial groups with which I have heritages with. I identify with this other ethnic/racial group that I don't have heritages with. (e.g. a person with Asian and White heritage choosing to identify as Hispanic, rather than as Asian or White). The other ethnic/racial group I choose to identify with is _____.
 - Identifying with One Group Consistently.** I identify with only one of the ethnic/racial groups with which I have ancestral ties, and this is consistent across different settings and situations (e.g. school, work, around family and friends, and new people I meet). For example, a person with Asian and White heritages who chooses to identify as only Asian. In other words, I identify with only this ethnic/racial group, and this group is _____.
 - All Ethnic/racial Groups Consistently.** Across all different contexts (e.g. school, work, around family and friends, and new people I meet), I consistently

identify with all of the ethnic/racial groups that I have ancestral ties with. (e.g. a person with Asian and White heritages who consistently chooses to identify as both White and Asian). In other words, I identify as part of all of these ethnic/racial groups, and these groups are _____.

- Identity Depending on Context.** The ethnic/racial group I choose to identify with changes at any given moment. (e.g., sometimes identifying as Asian and other times as White). However, I do identify with all of the ethnic/racial groups that I have ancestral ties with. In other words, sometimes I identify with one ethnic/racial group and other times I identify with another ethnic/racial group. These groups are _____.
- Identifying with Multiracials Only.** I identify as “multiracial” and feel connected to other multiracial individuals regardless of their ethnic/racial heritages. When people ask me what my ethnic/racial ancestries are, I tell them I’m multiracial.
- Rejection of Ethnic/racial Identity.** I don’t identify with any of the ethnic/racial groups I have ancestry with. I prefer not to be identified based on ethnicity or race. I identify as a human being.
- None of the options** above sound right to me. I choose to think about my ethnic/racial identity another way, and that way is _____.

If you feel as though you had difficulty picking just one of the statements above, what would your secondary pick be _____, or a third pick if you felt strongly about a third option _____.

Can you please elaborate or tell us more about why you picked the option(s)? In other words, why do you identify with your ethnic/racial heritages in the way you described.

You are participating in this study because you told us you have one parent who is racially White (Polish, German, Irish, European, etc.). The following statements are about your experiences and thoughts about being a part of these groups that may be considered White.

Multidimensional Inventory of Black Identity MIBI (Seller et al., 1998)

1	2	3	4	5
Strongly disagree		Neutral		Strongly Agree
1. ()				
2. ()				
3. ()				
4. ()				
5. ()				
6. ()				
7. ()				
8. ()				

Would you like to evaluate the statements above again for a more specific ethnic group with which you identify, such as Italian, German, Irish, etc.?

- Yes
- No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.

Multigroup Ethnic Identity Measure MEIM (Phinney, 1992)

	1	2	3	4
	Strongly disagree	Disagree	Agree	Strongly agree
1. ()	I have spent time trying to find out more about being White, such as its history, traditions, and customs.			
2. ()	I have a clear sense of being White and what it means for me.			
3. ()	I think a lot about how my life will be affected by my White group membership.			
4. ()	I understand pretty well what having White membership means to me, in terms of how to relate to my own group and other groups.			
5. ()	In order to learn more about being White, I have often talked to other people about being White.			
6. ()	I am not very clear about the role of being a part of White racial group in my life.			
7. ()	I really have not spent much time trying to learn more about the culture and history of my being in a White racial group.			

You may also evaluate the statements above again for a more specific ethnic group.

Would you like to evaluate the statements above again for a more specific ethnic group, such as Italian, German, Irish, etc.?

Yes

No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.

Adaptation of Family Ethnic Socialization Measure FESM (Umaña-Taylor & Fine, 2001)

Please indicate how often you have the following experiences in reference to your White (Polish, German, Italian, Irish, etc.) culture while growing up.

1	2	3	4	5
Never		Sometimes		Almost everyday

Please answer the following statements in regards to **your White** ethnical/racial cultural background.

1. ()My family teaches me about my White background.
2. ()My family encourages me to respect the cultural values and beliefs of my White heritage.
3. ()Our home is decorated with things that reflect my White cultural background.
4. ()The people who my family hangs out with the most are people who share the same cultural background as my White racial group.
5. ()My family teaches me about the values and beliefs of my White cultural background.
6. () My family talks about how important it is to know about my White cultural background.
7. ()My family celebrates holidays that are specific to my White cultural background.
8. ()My family teaches me about the history of my White background.
9. ()My family listens to music sung or played by artists from my White background.
10. ()My family attends things such as concerts, plays, festivals, or other events that represent my White cultural background.
11. ()My family participates in activities that are specific to my White racial group.
12. ()My family feels a strong attachment to my White cultural background.

You may also evaluate the statements above again for a more specific ethnic group.

Would you like to evaluate the statements above again for a more specific ethnic group, such as Italian, German, Irish, etc.?

- Yes
- No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.

You are participating in this study because you told us you have one parent who is racially Asian (Korean, Chinese, Vietnamese, Indian, etc.). The following statements are about your experiences and thoughts about being a part of these groups that may be considered Asian.

Multidimensional Inventory of Black Identity MIBI (Seller et al., 1998)

1	2	3	4	5
Strongly disagree		Neutral		Strongly Agree
1.	()	Overall, being a part of an Asian racial group has very little to do with how I feel about myself.		
2.	()	In general, being a member of an Asian racial group is an important part of my self-image.		
3.	()	My destiny is tied to the destiny of other people who are Asian.		
4.	()	Being part of an Asian racial group is unimportant to my sense of what kind of person I am.		
5.	()	I have a strong sense of belonging to my Asian racial group.		
6.	()	I have a strong attachment to my Asian racial group.		
7.	()	Being a member of a Asian racial group is an important reflection of who I am.		
8.	()	Being a part of a Asian racial group is not a major factor in my social relationships.		

Would you like to evaluate the statements above again for a more specific ethnic group, such as Chinese, Cambodian, Indian, Korea, etc.?

- Yes
- No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.

The next set of statements are also about experiences with your heritage that is considered Asian racially (Cambodian, Korean, Chinese, etc.).

Multigroup Ethnic Identity Measure MEIM (Phinney, 1992).

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

1. () I have spent time trying to find out more about being Asian, such as its history, traditions, and customs.
 2. () I have a clear sense of being Asian and what it means for me.
 3. () I think a lot about how my life will be affected by my Asian group membership.
 4. () I understand pretty well what having Asian membership means to me, in terms of how to relate to my own group and other groups.
 5. () In order to learn more about being Asian, I have often talked to other people about being Asian.
 6. () I am not very clear about the role of being a part of an Asian racial group in my life.
 7. () I really have not spent much time trying to learn more about the culture and history of my Asian background
-

You may also evaluate the statements above again for a more specific ethnic group. Would you like to evaluate the statements above again for a more specific ethnic group, such as Chinese, Cambodian, Indian, Korea, etc.?

- Yes
- No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.

Adaptation of Family Ethnic Socialization Measure FESM (Umaña-Taylor & Fine, 2001)

Please indicate how often you have the following experiences in reference to your Asian (Indian, Taiwanese, Korean, Vietnamese, etc.) culture while growing up.

1	2	3	4	5
Never		Sometimes		Almost everyday

Please answer the following statements in regards to **your Asian** ethnical/racial cultural background.

1. () My family teaches me about my Asian background.
2. () My family encourages me to respect the cultural values and beliefs of my Asian heritages.
3. () Our home is decorated with things that reflect my Asian cultural background.
4. () The people who my family hangs out with the most are people who share the same cultural background as my Asian racial group.
5. () My family teaches me about the values and beliefs of my Asian cultural background.
6. () My family talks about how important it is to know about my Asian cultural background.
7. () My family celebrates holidays that are specific to my Asian cultural background.
8. () My family teaches me about the history of my Asian background.
9. () My family listens to music sung or played by artists from my Asian background.
10. () My family attends things such as concerts, plays, festivals, or other events that represent my Asian cultural background.
11. () My family participates in activities that are specific to the Asian racial group.
12. () My family feels a strong attachment to my Asian /cultural background.

You may also evaluate the statements above again for a more specific ethnic group.

Would you like to evaluate the statements above again for a more specific ethnic group, such as Chinese, Cambodian, Indian, Korea, etc.?

- Yes
- No

If so, please tell us what group you are evaluating the following statements for

_____.

If yes, measure will repeat along with the statement allowing them to fill it out for a more specific ethnic group. Measure will repeat up to three times.
(Measures for Asian and White heritages will be counter balanced by Qualtrics software, so that 50% of participants will get Asian heritage measures first and the other 50% will get White heritage measures first).

Is there **any other ethnic/racial group that you feel belonging with** aside from the ones you have heritage with?

- Yes
- No

If yes, please tell us what ethnic/racial group you feel belonging with_____.

Please evaluate the following statements one more time in reference to the group you listed above_____.

Multidimensional Inventory of Black Identity MIBI (Seller et al., 1998)

1	2	3	4	5
Strongly disagree		Neutral		Strongly Agree

1. () Overall, being a part of this ethnic/racial group has very little to do with how I feel about myself.
 2. () In general, being a member of this ethnic/racial group is an important part of my self-image.
 3. () My destiny is tied to the destiny of other people of this ethnic/racial group..
 4. () Being part of this ethnic/racial group is unimportant to my sense of what kind of person I am.
 5. () I have a strong sense of belonging to this ethnic/racial group.
 6. () I have a strong attachment to this ethnic/racial group..
 7. () Being a member of this ethnic/racial group is an important reflection of who I am.
 8. () Being a part of this ethnic/racial is not a major factor in my social relationships.
-

BFI-2-XS (Soto & John, 2015)

Here are a number of characteristics that may or may not apply to you. Please indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5
Disagree strongly	Disagree a little	Neutral; no opinion	Agree a little	Agree strongly

I am someone who...

-
1. () Tends to be quiet
 2. () Is compassionate, has a soft heart.
 3. () Tends to be disorganized
 4. () Worries a lot.
 5. () Is fascinated by art, music, or literature.
 6. () Is dominant, acts as a leader.
 7. () Is sometimes rude to others.
 8. () Has difficulty getting started on tasks
 9. () Tends to feel depressed, blue.
 10. () Has little interest in abstract ideas.
 11. () Is full of energy.
 12. () Assumes the best about people.
 13. () Is reliable, can always be counted on.
 14. () Is emotionally stable, not easily upset.
 15. () Is original, comes up with new ideas.
-

Extraversion: 1R, 6, 11; Agreeableness: 2, 7R, 12; Conscientiousness: 3R, 8R, 13;
Negative Emotionality: 4, 9, 14R; Open-Mindedness: 5, 10R, 15.

Need to Belong Scale (Leary, Kelly, Cottrell, & Schreindorfer, 2013)

The following statements are some additional characteristics how you might interact with others. Please indicate the extent to which to which the following statements is characteristic of you.

Respondents indicate the degree to which each statement is true or characteristic of them on a 5-point scale. (R) indicates that the item is reverse-scored.

-
- 1—Not at all
 - 2—Slightly
 - 3—Moderately
 - 4—Very
 - 5—Extremely
-

1. If other people don't seem to accept me, I don't let it bother me. (R)
1 2 3 4 5
2. I try hard not to do things that will make other people avoid or reject me.
1 2 3 4 5
3. I seldom worry about whether other people care about me. (R)
1 2 3 4 5
4. I need to feel that there are people I can turn to in times of need.
1 2 3 4 5
5. I want other people to accept me.
1 2 3 4 5
6. I do not like being alone.
1 2 3 4 5
7. Being apart from my friends for long periods of time does not bother me. (R)
1 2 3 4 5
8. I have a strong "need to belong."
1 2 3 4 5
9. It bothers me a great deal when I am not included in other people's plans.
1 2 3 4 5
10. My feelings are easily hurt when I feel that others do not accept me.
1 2 3 4 5

Ethnic and racial categorization of Peers

The following are questions about **your five closest** friends. Please list the initials of five good friends of your choosing and tell us a bit about their ethnic/racial background

Friend # 1 _____

What is the best fit ethnic/racial label for this friend? (e.g., Asian, White, Chinese, Korean, Indian, German, Asian-American, multiracial, Latina/o, etc.)_____.

Friend # 2 _____

What is the best fit ethnic/racial label for this friend? (e.g., Asian, White, Chinese, Korean, Indian, German, Asian-American, multiracial, Latina/o, etc.)_____.

Friend # 3 _____

What is the best fit ethnic/racial label for this friend? (e.g., Asian, White, Chinese, Korean, Indian, German, Asian-American, multiracial Latina/o, etc.)_____.

Friend # 4 _____

What is the best fit ethnic/racial label for this friend? (e.g., Asian, White, Chinese, Korean, Indian, German, Asian-American, multiracial, Latina/o, etc.)_____.

Friend # 5 _____

What is the best fit ethnic/racial label for this friend? (e.g., Asian, White, Chinese, Korean, Indian, German, Asian-American, multiracial, Latina/o, etc.)_____.

Perceived Discrimination (Greene et al., 2006)

These questions ask about whether you think that you have been mistreated by people because of your ethnic/racial background.

1	2	3	4	5
Never	Once or twice	A few times	Several times	All the time

How often have you felt racial or ethnicity-based discrimination in the following situations?

-
1. () Being treated unfairly.
If yes, based on what part of your ethnic/racial background? ()
 2. () Being disliked.
If yes, based on what part of your ethnic/racial background? ()
 3. () Being insulted or called names.
If yes, based on what part of your ethnic/racial background? ()
 4. () Being threatened or harassed.
If yes, based on what part of your ethnic/racial background? ()
 5. () Being treated with less respect.
If yes, based on what part of your ethnic/racial background? ()
 6. () Not being trusted.
If yes, based on what part of your ethnic/racial background? ()
 7. () Being feared.
If yes, based on what part of your ethnic/racial background? ()
-

Perception of Phenotype

Please indicate the degree to which you believe others (e.g., friends, family, peers) agree with the following statements.

1	2	3	4	5
Not at all	Slightly	Moderately	Very	Extremely

Typically, people (friends, family, strangers) think that my physical appearance (skin color, hair, eye color, etc.) resembles ...

-
1. () other White people.
 2. () other Asian people.
 3. () a mix of both Asian and White people.
 4. () neither Asian nor White people.
-

You have now completed the survey. If you would like to be entered into a drawing for a \$20 Target gift card, please provide an email address we can contact you with. This will not be linked to any of your previous responses.

Additionally, if you would like to be contacted for participation in future research on multiracial Asian Americans, feel free to check the following box.

- Yes
- No

CURRICULUM VITAE

MICHELE CHAN

Education

2018 M.A., Psychology, Wake Forest University
2013 B.S., Psychology, University of Georgia
2013 B.S., Biology, University of Georgia
Magna Cum Laude

Research Experience

2016-2018 Master Thesis Research conducted with Dr. Lisa Kiang, Wake Forest University
2017-2018 Research assistant with Global Research and Assessment, Center for Global Programs and Studies
2017 Research assistant with Dr. Catherine Seta, Wake Forest University
2014- 2016 Oak Ridge Institute for Science and Education Fellow, Center for Disease Control and Prevention
2012 Research Assistant, Georgia Decision Lab, University of Georgia

Teaching Assistantships

2016 Social Psychology (1 course)
2016- 2018 Research in Developmental Psychology (3 courses)
Contemporary Issues in Psychology (6 quarter semester courses)
Survey of Abnormal Behavior (2 courses)
2017 Research in Social Psychology (1 course)
2017- 2018 Introduction to Psychology (3 courses)

Publications

Kiang, L., Broome, M., **Chan, M.**, Gonzalez, L., Stein, G., & Supple, A. (2018).
Foreigner objectification, English proficiency, and adjustment among youth and
parents from Latin American backgrounds. *Cultural Diversity and Ethnic
Minority Psychology*.

- Chan, M., & Kiang, L.** (2017). The ecology of dating preferences among Asian American adolescents in emerging immigrant communities. In B. Thelamour & H. Chu (Eds.), *Navigating systems: A multidisciplinary approach to immigrant family ecologies*. (Accepted)
- Ding, Y., Richter, P., Hearn, B., Zhang, L., Bravo, R., Yan, X., Perez, J., **Chan, M.**, Hughes, J., Chen, P., Chen, W., Wong, J., Holmberg, S., Smith, S., Larango, M., Valentin-Blasini, L., & Watson, C. (2017) Chemical characteristics of mainstream smoke from SPECTRUM variable nicotine research cigarettes. *Tobacco Regulatory Sciences*, 3(1), 81-94.
- Ding, Y., Yan, X., Wong, J., **Chan, M.**, & Watson, C. (2016). In-situ derivatization and quantification of seven carbonyls in cigarette mainstream smoke. *Chemical Research Toxicology*, 29(1), 124 -131.

Professional Presentations

- Chan, M., & Kiang, L.** (2018, April). *The internal and external influences on ethnic dating preferences for Asian American adolescents*. Presentation at the meetings of the Society for Research on Adolescence Biennial Meeting (SRA), Minneapolis, MN.
- Chan, M., & Kiang, L.** (2017, October). *The ecology of dating preferences among Asian American adolescents in emerging immigrant communities*. Poster presented at meetings of the Asian American Psychological Association National Convention (AAPA), Las Vegas, NV.
- Chan, M., Kiang, L., Jones, M., & Shaheed, J.** (2017, May). *The ecology of dating preferences among Asian American adolescents in emerging immigrant communities*. Poster presented at meetings of the Annual Association for Psychological Science Convention (APS), Boston, MA.
- Chan, M., Ding, Y., Yan, X., & Watson, C.** (2016, March). Selected carbonyl levels in mainstream smoke from Spectrum research cigarettes. Poster presented at the meetings of the *Pittsburg Conference*, Atlanta, GA.
- Meisel, M., Fuller, B., **Chan, M.**, Saahir, A., & Goodie, A. (2012, November). *College gamblers' social network*. Poster presented at meetings of the 35th Annual Convention of the Behavioral Sciences, Athens GA.