7-2023

Multiracial identity integration: Components, antecedents, and consequences

Sheila Xi Rui WEE
Singapore Management University, sheila.wee.2018@phdps.smu.edu.sg

Multiracial Identity Integration: Components, Antecedents, and Consequences

By

Sheila Wee Xi Rui

Submitted to the School of Social Sciences
in partial fulfilment of the requirements for the
Degree of Doctor of Philosophy in Psychology

Dissertation Committee:

Chi-Ying Cheng (Supervisor/Chair)
Associate Professor of Psychology
Singapore Management University

Angela K-.y. Leung
Professor of Psychology
Singapore Management University

Jacinth J. X. Tan
Assistant Professor of Psychology
Singapore Management University

Fiona Lee (External Member)
Arthur F. Thurnau Professor of Psychology
University of Michigan

Singapore Management University
2023

I hereby declare that this PhD dissertation is my original work

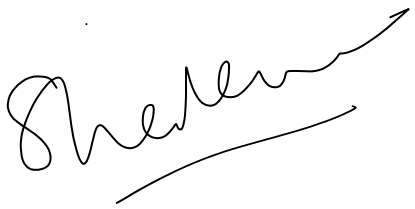
and it has been written by me in its entirety.

I have duly acknowledged all the sources of information

which have been used in this thesis.

This PhD dissertation has also not been submitted for any degree

in any university previously.



Sheila Wee Xi Rui

5th July 2023

Abstract

Existing research on multiracials has examined how multiracials develop different racial identities. However, empirical research on how multiracial manage and integrate their identities as well as its impact are limited. This dissertation examined key antecedents and consequences associated with the unique process that multiracials undergo to achieve a positive identity via Multiracial Identity Integration (MII). In Study 1, we examined the link between MII, psychological well-being, and cognitive capacity. Results revealed a positive association between MII and psychological well-being as well as some cognitive capacity outcomes. Study 2 replicated the same relationship between MII and psychological well-being/cognitive capacity outcomes. Additionally, multiracials' experiences with identity denial and identity inquiry were negatively associated with multiracials' MII. The relationship between identity denial and psychological well-being/cognitive capacity outcomes were mediated by MII. Studies 3 and 4 examined if MII would moderate the interpretation of identity-related questions and if manipulated experiences of identity denial and identity inquiry would impact multiracials' MII respectively. The findings from both studies were nonsignificant. Together, this dissertation illuminated the antecedents and consequences associated with a healthy multiracial identity via MII. Theoretical and practical implications are discussed.

Keywords: Multiracials, Multiracial Identity Integration, Identity Denial, Identity Inquiry, Cognitive Capacity.

Acknowledgement

I would like to thank the following people, without whom I would not have been able to complete my dissertation.

First and foremost, this body of work (and everything I've done in the past five years) would not have been possible without my supervisor, Dr. Chi-Ying Cheng. Thank you for your unwavering support, encouragement, and complete faith in me. Thank you for shaping me to be the researcher that I am today. The past five years were wonderful because of *you*.

Second, my dissertation committee. Thank you Dr. Angela K-.y. Leung, Assistant Dr. Jacinth J. X. Tan, and Dr. Fiona Lee. Together, your enthusiasm, insightful comments, and overall support shaped my dissertation and the way I approach research for the better.

Third, I would like to thank all research assistants, valued lab members, fellow graduate students, and my sister for your help coding all the cognitive and creativity tasks used in this study.

Fourth, to my fellow colleagues turned friends: Bryan, TJ, Shuna. My grad school journey was fun, exciting, and fulfilling because of you. It is with your social support and daily breakout conversations that I was able to complete this dissertation. Your generosity with your time, thoughts, and support was what kept me going when things got tough. Special thanks to my fellow grad school pals, Noah, Bek, Jun Sheng, Germaine, Jon, and Greg. You guys are some of the smartest and most kind-hearted people I know.

To my family, thank you for giving me the freedom to pursue this PhD with your unwavering support. I hope I made you guys proud.

Lastly, to my husband, Marcus. Your quiet and steadfast acts of service throughout my time in grad school turned even the worst days into good ones. You allowed me to prioritize my

work and my career while you hold down the fort at home. Thank you for being my biggest supporter.

Multiracial Identity Integration: Components, Antecedents, and Consequences

In the United States, the multiracial population is projected to grow by 200 per cent from approximately 8 million in 2016 to 25 million in 2060 (Vespa et al., 2020), and psychological research on multiracials is also growing in tandem. While multiracials' identity sense-making can be confusing and challenging (Fisher et al., 2014; Townsend et al., 2009), there are promising studies suggesting that "a healthy racial-ethnic identity [can] serve as a protective factor for all children of color who must navigate racial bias and prejudice" in a largely monoracial society (K. Jackson & Samuels, 2011). Beyond achieving a positive racial identity, multiracials may also reap various cognitive and interpersonal benefits from their multiracial group membership and experience (e.g., Benet-Martínez et al., 2006; Cheng et al., 2014). Therefore, understanding how multiracials develop their racial identity is an important next step. Research on Identity Integration (II) has shown that higher levels of II between potentially conflicting social identities are associated with positive psychological outcomes. The construct of Multiracial Identity Integration (MII), drawing on the well-developed literature on II may help enrich the literature on multiracials. Thus, we are interested in examining the positive role that MII has on various psychological outcomes.

On top an investigation into the consequences of multiracials' identity sense-making, an examination of potential antecedents of MII can also help enrich our understanding of the psychological mechanisms of MII. Previous accounts by multiracials have shown that experiences with identity denial—others' denial of their cherished identities—contribute to identity-related challenges and poorer psychological outcomes (Cheng & Lee, 2009; Jackson et al., 2012), suggesting a negative link between identity denial and multiracials' identity sense-making. Considering the growing multiracial demographic (Vespa et al., 2020), and increased

opportunity for interracial interactions that compel individuals' needs for understanding multiracials, we wondered if identity inquiry—a positive curiosity regarding multiracials' identity (Albuja et al., 2019b)—that stems from monoracials' epistemic motivation to understand and categorize others may positively influence multiracials' identity sense-making experience.

Therefore, this dissertation is interested in two related questions. One, how do multiracials make sense of their different racial identities. Two, what is the mediating role of MII between positive or negative experiences with others and various psychological outcomes. Specifically, the relationship between exposure to identity denial and inquiry on multiracials' psychological well-being, cognitive capacity, and the mediating role of multiracials' identity integration.

Existing Typology of Multiracial Identity Development

Understanding how multiracials develop their racial identity is an important first step, in illuminating both positive and negative outcomes associated with being multiracial. The development of multiracials' racial identities is less direct, compared to monoracials, as they must contend with their distinct ethnic identity separately and simultaneously before they can achieve a healthy and positive racial identity. As such, researchers have developed several models of identity development for both biracials and multiracials (summarized in Table 1). First, Renn (2000, 2008) observed five different patterns of identification amongst biracial and multiracial students. These include, a monoracial identity, multiple monoracial identities, multiracial identity, extraracial identity (i.e., opting out of existing racial categories), and a fluid identity. The five types differ in the way individuals identify with their heritage group and how they express themselves across different situations.

Second, Rockquemore and her colleagues (Rockquemore, 2002; Rockquemore et al., 2009; Rockquemore & Brunsma, 2007) also developed a framework of four different identity options to understanding how White-Black multiracials identify with their racial identity: single identity (monoracial), border identity (biracial), protean identity (shifting between different racial identities), and transcendent identity (beyond racial categories). While both Renn's (2000, 2008) and Rockquemore's (2002) frameworks may be useful in understanding the ways multiracials configure their racial identities, both models are silent on how multiracials may develop and manage their multiple racial identities. Empirical examinations of these frameworks are currently scarce in furthering our understanding of how different chosen racial identities may influence downstream psychological outcomes.

Third, Roccas and Brewer (2002) also proposed a social identity complexity model which reflects perceived overlap between different social identities. Previous investigation into multiracials' identity development (Binning et al., 2009; Gaither, 2015; Lou et al., 2011) found that multiracials do manage their different racial identities according to the four different proposed ways: dominance, compartmentalization, intersection, and merger (Roccas & Brewer, 2002). Dominance denotes the identification of one social identity over others (e.g., White-Black biracial identifying as Black), while compartmentalization refers to fluid identification depending on social context (e.g., White-Black biracial identifying as Black in one setting, and White in another). Intersection refers to multiracials' identification with the intersection of their multiple social identities (e.g., White-Black biracial identifying with others who are also White-Black), and merger refers to the simultaneous identification of various social identities (e.g., White-Black biracial identifying with both White and Black). Social identity complexity model

also notes that merger is the highest level of complexity, and it can buffer against threats to ingroup (Roccas & Brewer, 2002).

Lastly, Poston (1990) theorized that biracials go through five different levels of racial development. The first is personal identity—an identity that is not linked to a racial reference. In the next three stages of choice of group categorization (choosing an ethnic identity), enmeshment/denial (confusion and guilty for choosing one ethnic identity), and appreciation (of their multiple ethnic identity), biracials attempt to navigate the differences between their racial identities and the feelings of guilt, anger and confusion that may arise from it. At the end of it, biracials will achieve integration, denoted by the simultaneous identification of their ethnic identities. Poston's (1990) model of biracial identity development proposed that integration would lead to a healthy identity outcome.

Both social identity complexity (Roccas & Brewer, 2002) and biracial identity development (Poston, 1990) model consider integration of different ethnic identities to be the apex of multiracial identity development. Together, it suggests that identification with only one identity or failing to develop an integrated identity may be psychologically harmful to multiracials (Binning et al., 2009). Conversely, identification with two (or more) racial identities simultaneously via integration is the key to a positive racial identity (Binning et al., 2009; Poston, 1990; Shih & Sanchez, 2005). However, researchers inspired by Berry's (1997, 2005) integration strategy contend that beyond achieving integration by retaining all racial identities, how individuals make sense of their cherished identities and truly bring them together may be more critical to the psychological development of a positive and healthy multiracial identity (Benet-Martínez & Haritatos, 2005; Cheng et al., 2014; Cheng & Lee, 2009). Existing typologies are limited in their theorization beyond integration and how multiracials who achieved

Table 1

Summary of existing typology of multiracial identity development

Renn (2000, 2008): Patterns of Identity		
1	Monoracial Identity	Individuals chooses one heritage background to identify with
2	Multiple Monoracial Identities Shifting Situationally	Personal and contextual factors affect which heritage group multiracial identifies with at a given time and place
3	Multiracial Identity	Distinct "multiracial" identity
4	Extraracial Identity	Resistance to artificial categories that are socially constructed by dominant majority group
5	Situational Identity	Fluid identity pattern where individual's racial identity is stable but different elements are more salient in some contexts than in others
Rockquemore (1999): Multidimensional Model		
1	Singular Identity	Individuals choose to racially identify with only one racial group
2	Border Identity	Individuals construct a border that lie between two racial groups, a completely separate category (e.g., both Black and White)
3	Protean Identity	Individuals have a fluidly shift between racial identities depending on different social context
4	Transcendent Identity	Transcending beyond fixed racial categories, and just simple "human"
Roccas and Brewer (2002): Social Identity Complexity		
1	Dominance	Adopt one primary group identification to which all other potential group identities are subordinate
2	Compartmentalization	Multiple identities can be activated and expressed, depending on different contexts and situations
3	Intersection	Define the ingroup as the intersection of multiple group memberships
4	Merger	Group memberships are simultaneously recognized and embraced in their most inclusive form
Poston (1990): Biracial Identity Development		
1	Personal Identity	Individuals are young, and racial membership are just starting to become salient
2	Choice of Group Categorization	Individuals are pushed to choose one ethnic identity
3	Enmeshment/Denial	Individuals experience confusion and guilt for choosing an ethnic identity that is not fully representative of their racial background
4	Appreciation	Individuals begin to appreciate their multiple identity
5	Integration	Individuals integrate their multiple racial identity

integration may manage their cherished racial identities. To reap the benefits of being multiracial, scholars have suggested that individual difference in II may be provide a more nuanced understanding of the multiracial experience.

Identity Integration and Multiracial Identity Integration

The ways in which individuals may negotiate and make sense of their multiple social identities may be examined by the well-developed theory of Identity Integration (II) (see Benet-Martínez et al., 2021; Benet-Martínez & Haritatos, 2005) which originated from the study of how biculturals make sense of their different cultural identities. II refers to the degree that individuals perceive their seemingly conflicting identity as compatible or in opposition to each other (Benet-Martínez & Haritatos, 2005; Cheng et al., 2014; Cheng & Lee, 2013a; Huynh et al., 2018). II is comprised of two related but distinct underlying dimensions—harmony and blendedness. The harmony (vs. conflict) dimension refers to individual's affective evaluation that their identities represent values and norms that fundamentally do not contradict one another. Blendedness (vs. compartmentalization) refers to the degree to which individuals cognitively perceive their identities as not separate from one another. Higher levels of perceived harmony and blendedness between both identities reflects a more integrated identity.

Most existing research on II were conducted with a bicultural sample, investigating the effects of Bicultural Identity Integration (BII) on biculturals' psychological outcomes. Research on BII has shown that biculturals who achieved high (vs. low) BII experience more positive psychological well-being, cognitive, and interpersonal outcomes (Benet-Martínez et al., 2021; Cheng et al., 2014).

Consequences of II

Research on II with both bicultural and multiracial samples has shown that individuals who were more (vs. less) successful at integrating their identities experience more positive psychological outcomes. This is because low IIs often feel caught between both their identities and therefore prefer to keep them separate (Benet-Martínez & Haritatos, 2005; Cheng et al., 2008b, 2014). In contrast, high IIs perceive their identities as compatible and complementary, which allows them to identify strongly with both identities at the same time (Cheng et al., 2008b; Roccas & Brewer, 2002). It is important to note, however, that harmony and blendedness are distinct dimension that are associated with different antecedents and outcomes. (Benet-Martínez & Haritatos, 2005; Cheng et al., 2014; Huynh et al., 2018). The harmony dimension assesses individuals' affective evaluation of their dual identities. Therefore, the antecedents and outcomes more closely related to harmony tend to be more strongly associated with psychological well-being outcomes. Contrastingly, the blendedness dimension reflects the perceived cognitive distance between both their identities.

BII and Psychological Well-being Outcomes

Research on the effects of BII on biculturals' psychological well-being has shown that II is positively associated with psychological well-being outcomes. In a study with Chinese American biculturals, higher levels of BII are associated with less negative affect and distress symptoms (Benet-Martínez & Haritatos, 2005). Stroink and Lalonde (2009) showed that for East Asian Canadians, BII was negatively associated with uncertainty, but positively associated with self-esteem and life satisfaction. Similarly, in a longitudinal analysis with recently immigrated Hispanic adolescents, researchers found that adolescents with lower BII also reported poorer self-esteem and optimism, negatively impact their mental health (Schwartz et al., 2015). Even after controlling for neuroticism, BII was positively associated with psychological well-being

and psychological adjustment (S. X. Chen et al., 2008). Together, the findings provide a consistent picture across different bicultural population that BII is positively associated with various psychological well-being outcomes.

BII and Cognitive Capacity Outcomes

Existing research on BII has also shown that it is related with a myriad of cognitive capacity outcomes. Huynh et al. (2018) found that Asian Americans higher on BII possess more cultural competency in the dominant culture and were more Americanized. A potential explanation is that biculturals' cultural competency (e.g., linguistic abilities, and relations with others) helped minimize acculturation-related stressors which can facilitate II (Benet-Martínez & Haritatos, 2005; Huynh et al., 2018). Tadmor et al. (2012) also found that individuals high on BII exhibit higher levels of cognitive complexity. This is because integrating two separate identities increased individuals' integrative complexity, allowing them to consider and combine different perspectives from two different cultural frames (Tadmor et al., 2012).

Moreover, BII was found to be associated with creativity. Cheng et al. (2008b) found that for Asian Americans, higher levels of BII was associated with more creative output when they can draw on both cultural frameworks. This may be attributed to the positive benefits associated with higher BII and cognitive complexity. Saad et al. (2013) corroborated these findings and showed that Chinese American biculturals who reported higher levels of BII displayed more creativity when they are primed with two cultural identities simultaneously (vs. one cultural identity only). In short, BII can positively impact cognitive complexity and creativity.

BII and Interpersonal Outcomes

The literature also suggests that individuals who are high in BII perceive more compatibility between their identities and may also feel more comfortable and accepted by

different social groups (Darling et al., 2008a; Mok et al., 2007). High IIs are therefore better able to draw social support from friends and family (Darling et al., 2008b; Mok et al., 2007). Although the literature is scarce, these preliminary findings suggest that individuals with high BII may reap positive interpersonal outcomes with a stronger and more diverse social network.

Biracial vs. Multiracials

Current research on biculturals and BII has illustrated a robust body of work, establishing BII as an informative psychological construct that is associated with various outcomes. it is important, however, to discuss the qualitative differences and similarities between biculturals and multiracials. Bicultural and multiracials' identity sense-making process is relatively different for several reasons. For bicultural, they must contend with their own cultural (and often racial; e.g., Asian) identity as well as a second cultural identity (e.g., being American). However, they usually have cultural ingroups (e.g., other Asian-Americans) with whom they have shared group memberships and similar acculturation background and experience. Their bicultural membership is also commonly recognized by other cultural/racial groups in the society. In some cases, bicultural identities may be invisible and private to the general public (e.g., Finnish immigrant in the U.S.), which may invite less intrusive social interactions from other monoculturals.

In contrast, multiracials are descendants of at least two different monoracial parents. Therefore, they must face unique challenges associated with two or more racial[1] identities that are often accompanied with different cultures (e.g., Black-Asian). Due to different racial combination and unique personal experience, multiracials and their multiracial-combinations

[1] Race is a social construct that often refers to arbitrary physical differences (Betancourt & López, 1993). Ethnicity refers to groups with common nationality, culture, or language (Betancourt & López, 1993). We recognize that race as a concept may not be as meaningful as ethnicity in describing intergroup differences as it is often not associated with unique cultures. However, the literature on multiracials utilizes the term race to refer to how sociohistorical differences (i.e., census classification) may influence society's perceptions of biracials. This is meaningful to our understanding of multiracials' identity integration process; therefore, we will continue to use race as a key concept in this dissertation.

experience different identity sense-making process (e.g., White-Asian vs. White-Black) that could be largely influenced by inter-racial relationships in context. Previous research and anecdotal evidence have made it clear that monoracials may show different acknowledgement and acceptance of multiracials as part of their racial ingroup due to cultural and historical reasons (Albuja et al., 2019a; Franco & Franco, 2016). Therefore, the heterogeneity among multiracials is large which causes multiracial not to consider other multiracials as part of their racial ingroup. The most significant difference between biculturals and multiracials, is that multiracials look different, even from their monoracial parents. This invites questions from others as they try and make sense of multiracials' racial membership. Multiracials may also receive less scaffolding as they navigate their multiple racial identities at home, as their family members may consist of largely monoracial members (e.g., monoracial parents) (Shein & Zhou, 2023).

Both biculturals and multiracials may similarly experience external pressure from others to identify a certain way (Coleman & Carter, 2007). To illustrate, biculturals may be experience pressure from their parents to identify more strongly with their cultural heritage (e.g., Asian background) (Kosmitzki, 1996), while peers and the larger society may exert pressure on biculturals to identify with a different cultural identity (e.g., being American). Similarly, multiracials may experience pressure from the majority monoracial population. To illustrate, monoracials who endorse hypodescent beliefs may perceive and categorize White-Black multiracials as simply Black Americans (J. M. Chen et al., 2018). On the other hand, Black monoracials may also reinforce their racial boundaries and regard White-Black multiracials as too White (Franco & Franco, 2016).

While there are similarities between the bicultural and multiracial experience, compared to BII, multiracials need to resolve and negotiate these tension intrapersonally and

interpersonally to achieve high levels of Multiracial Identity Integration (MII),. Therefore, understanding how multiracials can achieve MII may help us better understand the psychological process that multiracials must undergo to achieve a healthy and positive racial identity. While they differ, the existing research on BII can help inform our study of MII.

Multiracial Identity Integration

MII is defined as the individual difference in perceived compatibility between multiple racial identities (Cheng & Lee, 2009). MII similarly consist of two related but distinct components[2], namely racial harmony and racial blendedness which captures perceived racial identity complementarity, and perceived racial identity overlap respectively. Although the concept of MII has been adopted in the growing racial identity research in the past decade, the empirical investigation of the construct of MII as well as the exploration for the antecedents and outcomes remain limited.

MII and Psychological Well-being Outcomes

Research on multiracials has illustrated that MII similarly predicts multiracials' psychological well-being outcomes. Marks et al. (2020) found that MII mediate the positive relationship between racial discrimination and depression. MII was also found to be positively associated with self-esteem (Raitman & Danielson, 2022). Other studies showed that, MII predicted multiracials' psychological well-being outcomes (Jackson et al., 2012). Lower levels of MII were associated with lower levels of psychological distress and negative affect (Jackson et al., 2012). MII harmony (and not blendedness) also buffered the negative effects of perceived

[2] Cheng and Lee (2009) referred to the two constructs as racial conflict and racial distance after adapting their MII scale from the BIIS-1. Following Huynh et al.'s (2011, 2018) reconceptualization of the BII scale in BIIS-2, we felt that it was appropriate to similarly rename the two dimensions to racial harmony and racial blendedness respectively.

racism on multiracials' psychological adjustment (Jackson et al., 2012). Together, this suggests that like BII, MII is also positively associated with psychological well-being outcomes.

MII and Cognitive Capacity Outcomes

While MII blendedness has been touted as the cognitive component of MII, the current literature on II and measurement of MII (Cheng & Lee, 2009) are both limited in its assessment of the link between blendedness and cognitive capacity outcomes. The current MII scale, adapted from the BIIS-1 scale, has four items that captures perceived distance between their racial identities (e.g., I am a person with a multiracial identity (reversed-scored)). Previous report of the scale's psychometric properties indicate that compared to the MII harmony subscale, the blendedness subscale possess a low reliability (i.e., Albuja et al., 2020; Marks et al., 2020), which may have impeded attempts to investigate the link between MII and cognitive capacity outcomes. Developing the MII blendedness scale to probe the relationship between MII and cognitive capacity outcomes will contribute to our investigation into MII.

To the best of our knowledge, there are currently no published research on MII and cognitive capacity outcomes such as cognitive complexity, creativity, and cognitive flexibility. Research on BII has shown that higher levels of BII predicted Asian Americans' creative performance in tasks that draws upon participants' identity relevant knowledge (Cheng et al., 2008a). This suggests that higher levels of MII may also lead to positive cognitive capacity outcomes. First, different racial membership is associated with different racial or cultural frames. multiracials that internalized their various racial identities are likely to engage in cultural frame switching in response to various racial cues (e.g., speaking to a White vs. Black person). Previous research has shown that engaging in cultural frame switching can positively benefit

one's cognitive complexity due to the daily practice in detecting, processing, and organizing different information (Benet-Martínez et al., 2006).

Second, multiracials primed with their multiple racial identities displayed more creativity and cognitive flexibility (Gaither et al., 2015). This is because, thinking about one's racial identity can facilitates an integrated self-view that increases multiracials' cognitive flexibility—the awareness of other options and alternatives, as well as the willingness to flexibly adapt to different situations (Brewster et al., 2013; Gaither et al., 2015; Kim & Omizo, 2006). This suggests that multiracials who can identify with their various racial membership simultaneously and integrate them may display higher levels of cognitive flexibility and creativity (Pauker, Meyers, et al., 2018).

Lastly, multicultural experiences and identification has been shown to boost cognitive capacities such as creativity and cognitive flexibility (Cheng et al., 2008a; Gaither et al., 2015). It is important ot note that mere identification with different identities is insufficient, rather higher levels of II predicted better creative performance (Cheng et al., 2008a). This can be attributed to increased accessibility of different knowledge domains leading to increased creativity and cognitive flexibility (Cheng et al., 2008a; Gaither et al., 2015).

The current review illustrates that the research into MII, MII blendedness, and cognitive capacity is sparse. However, existing II findings suggest that multiracials with higher MII may also reap the same positive benefits in terms of cognitive complexity, creativity, and cognitive flexibility. Identification with different racial groups would increase multiracials' repertoire of cultural frames. Higher levels of MII may lead multiracials to attend and respond to different racial cues. The daily practice of frame switching that multiracials engage may contribute to increased cognitive capacity.

MII and Interpersonal Outcomes

Past research on BII and their interpersonal outcomes have shown that biculturals who were more successful at integrating their bicultural identities were better at drawing social support. It was suggested that individual identification with different cultural or racial groups would mirror actual interpersonal interactions (Gudykunst, 2001; Mok et al., 2007). As the theory of symbolic interactionism suggests, social interactions with others can enact a strong influence on one's identity (Cooley et al., 2018; Franco & O'Brien, 2018; Rockquemore et al., 2009). This suggests that multiracials who can achieve high (vs. low) MII, may seek out a more diverse social network consisting of different monoracial and multiracial individuals, and their social networks would also be more integrated mirroring their integrated racial identity.

Together, the current findings provide clear implication that multiracials who are more successful at integrating both racial identities may experience more positive psychological well-being, cognitive capacity, and potentially stronger and more diverse interpersonal relations Hence, we proposed that overall MII would be positively associated with various psychological outcomes. More specifically, MII would be positively associated with multiracials' psychological well-being, and cognitive capacity. Lastly, we explore the relationship between MII and multiracials' social network (H1c).

H1a: MII would be positively associated with multiracials' psychological well-being.

H1b: MII would be positively associated with cognitive capacity.

H1c: MII would be positively associated with interconnectedness of social network.

Antecedents to MII

How can multiracials achieve high levels of MII? Previous literature has largely investigated outcomes associated with a multiracial identity (Binning et al., 2009; Fisher et al.,

2014). Similarly with II, most research also focus on the consequences of II (Benet-Martínez et al., 2006; Huynh et al., 2018). To illustrate, previous research on MII has only independently assessed multiracials' MII levels (Cheng & Lee, 2009) or examined MII as an individual difference to explain the negative link between experiences of racial discrimination and depression (Jackson et al., 2012; Marks et al., 2020). Little has been done to investigate important antecedents that may lead to different MII levels and the downstream psychological outcomes.

New insights on the potential antecedents of MII may be generated via the sociological theory of symbolic interactionism. As previously mentioned, symbolic interactionism proposes that while individuals work to actively shape their identities, social interactions with others can influence on one's identity (Cooley et al., 2018; Franco & O'Brien, 2018; Rockquemore et al., 2009). Identities are not shaped in isolation within an individual. Rather, it is co-created by individuals and their experiences with others. This suggests that the development of MII may not rest solely on how multiracials integrate their dual racial identity. Instead, the various ways that monoracials make sense of multiracials' racial identity, and how they convey that to multiracials, may inform multiracials on how they should shape their own identities.

The interracial interaction between monoracial and multiracial is critical to our understanding of MII for two reasons. First, globalization has increased the racial diversity in most major cosmopolitan city (Lee & Sharp, 2017). Secondly, the growing multiracial population (Vespa et al., 2020)—as a result of globalization—will lead to increased interracial interactions between monoracials and multiracials. For multiracials, encountering a monoracial is an everyday occurrence, however for the majority monoracial population, encounters with multiracials are infrequent and these interactions may (in)directly impact multiracials' MII.

Impact of Identity Denial on Multiracials on MII

A small but growing literature on identity denial specific to the interracial interaction between multiracial and monoracials may contribute to the development of MII. Identity denial refers to the rejection of one's identity (Albuja et al., 2019a; Cárdenas et al., 2021; Cheryan & Monin, 2005). Existing research has shown that experiences with identity denial can lead to devastating effects on multiracials' psychological well-being and identity sense-making (Albuja et al., 2019a; Franco & Franco, 2016; Franco & O'Brien, 2018)

Minority stress theory postulates that a history of stigma, prejudice, and discrimination against one's minority status creates a stressful social environment for minorities (Meyer, 2003). Therefore, social situations and interactions with others is a stressful experience for individuals with minority status (Meyer, 2003) and this is associated with poorer psychological (J. A. Hayes et al., 2011) and physical health outcomes (Ramirez & Paz Galupo, 2019). When applied to multiracials, experiences with identity denial signals to them that society has a poor evaluation of them as multiracials (Franco & O'Brien, 2018; Sanchez, 2010). This can impose pressure on multiracials to identify with certain racial groups before multiracials get a chance to explore and integrate their identities (Campbell & Troyer, 2007; Franco & O'Brien, 2018; Sanchez, 2010). Racial identity denial is particularly damaging because it is rooted in a "historical classification of racial groups as exclusive, essentialized, and hierarchical" (Franco & O'Brien, 2018; Rockquemore & Laszloffy, 2003).

The internalization of these experiences has been shown to contribute to an internal racial identification struggle (Campbell & Troyer, 2007; Franco & O'Brien, 2018; Meyer, 2003) where multiracials become cognizant of a misalignment between their racial identity and other's perception of their racial identity (J. A. Hayes et al., 2011; Sanchez, 2010). In an examination of

the impact of identity denial with a bicultural and biracial sample, two studies by Albuja et al. (2019a) revealed that identity denial was negatively associated with identity autonomy—the freedom to choose their own identities—and perceived compatibility between their cultural or racial identities (Albuja et al., 2019a). Cheng and Lee (2009) also found that recall of negative multiracial experiences is associated with lower levels of MII. Additionally, identity denial was found to be negatively related to MII (Albuja et al., 2019a). Therefore, experiences with identity denial can affect how multiracials manage their distinct racial identities and grow to perceive them as contradictory (low harmony) and separate (low blendedness) identities, leading to lower MII.

Together, it suggests that experiences with racial identity denial may be detrimental to multiracials' identity integration of their distinct racial identities. Identity denial can negatively impact multiracials' feelings about their multiracial identity, leading to lower levels of MII harmony (Albuja et al., 2019a). At the same time, when their racial identities are challenged, multiracials may construe their racial identities as separate (Franco et al., 2016), leading to lower levels of MII blendedness. Therefore, we hypothesize that experiences with identity denial will lead to lower MII.

H2: Experiences with racial identity denial would be associated with lower MII.

Distinguishing Identity Inquiry from Identity Denial

The literature is clear that identity denial— the rejection of one's identity (Albuja et al., 2019b)—is inherently prejudicial. Our review of the literature has shown that it is associated with negative psychological outcomes (Albuja et al., 2019a; Franco & Franco, 2016; Franco & O'Brien, 2018; Townsend et al., 2009). Certainly, individuals with prejudicial intent may engage in interracial interactions to deny other's identity. Yet, considering the growing multiracial

population (Vespa et al., 2020) and increasing diversity in most major cosmopolitan city (Lee & Sharp, 2017), often, interracial interactions begin with monoracials' genuine curiosity and epistemic motivation to understand and categorize multiracials (J. M. Chen, 2018). In an opinion piece, Ahmad (2013) shared that in his experience with interracial interactions, others naturally develop a genuine curiosity about his ethnicity. This is a natural step as monoracials interact with a racially ambiguous individual. Therefore, the most commonly asked and received question by monoracials and multiracials respectively includes "where are you from?" and "what are you?" (Albuja et al., 2019b; Cheryan & Monin, 2005). These innocuous questions may facilitate self-disclosure by multiracials that could lead to positive interactions.

Still, previous research has conceptualized these questions as identity questioning—doubts about one's social or ethnic identity (Albuja et al., 2019b). According to Albuja et al. (2019b), identity questioning although ambiguous, can be interpreted as a challenge to one's identity. As microaggressions lie in the eye of the beholder, the ambiguity surrounding the intent of identity questioning could also be perceived as microaggression —subtle snubs, slights, or insults directed at multiracials to implicit communicate hostility (Burdsey, 2011; Lilienfeld, 2017). We contend that the operational definition of identity questioning as an acceptance threat put forth by previous researchers (e.g., Albuja et al., 2019b) suggests an inherently prejudicial intent which can lead to similar detrimental outcomes as identity denial. Indeed, when questions about multiracials' identity is perceived to be hostile and threatening, multiracials are likely to perceive these questions as being motivated by prejudicial intentions (Albuja et al., 2019b; Cheryan & Monin, 2005). This is because, there is a right and wrong way to ask and make sense of multiracials' racial membership (see Ahmad, 2013; J. M. Chen, 2018). While genuine curiosity may drive questions such as "where are you really from", and "what are you" (Ahmad,

2013; Cheryan & Monin, 2005), these questions are often extremely intrusive when one is on the receiving end (J. M. Chen, 2018). Albuja, Sanchez, et al. (2019b) have shown that multiracials who are more likely to perceive identity questioning as prejudicial also report more concern with others' acceptance of them, greater stress, and more depressive symptoms. However, little work has been conducted to examine the positive interracial interaction that can stem from positive curiosity regarding one's identity. Therefore, we propose that a new construct – identity inquiry, motivated by individual's epistemic motivation to understand and categorize others, may facilitate multiracials' MII. Of note, the absence of prejudicial intent sets identity inquiry apart from identity denial (and questioning).

Previous research has shown that within a monoracial sample, curiosity can facilitate interpersonal closeness and personal growth between strangers (Kashdan et al., 2004). Based on symbolic interactionism, this suggests that identity inquiry by others may also lead multiracials to experience interpersonal closeness with monoracials via self-disclosure and personal growth. Beyond personal benefits, identity inquiry can facilitate positive interracial relations between monoracials and multiracials, by building friendships, and even lowering essentialist beliefs (Pauker, Carpinella, et al., 2018). This can reduce perceived intergroup threat for multiracials (Schmid, Hewstone, et al., 2014; Schmid, Ramiah, et al., 2014). Various studies also suggest that multiracials' self-disclosure that stems from genuine curiosity may lead to increased trust and positive social interracial interactions (Albuja et al., 2019b; Aron et al., 1997; Vittengl & Holt, 2000). This suggests that identity inquiry may positively influence multiracials' identity sense-making. Moreover, previous research on the valence of bicultural and multiracials' experiences found that the valence of biculturals' past experiences predicts II levels (Benet-Martínez et al., 2002; Cheng & Lee, 2013b). Multiracials MII levels increased (decreased) after they were tasked

to recall positive (negative) multiracial experiences (Cheng & Lee, 2009). Therefore, we predict that experiences with racial identity inquiry would be positively associated with MII.

H3: Experiences with racial identity inquiry would be associated with higher MII.

Mediating Role of MII

In addition to MII, multiracials' experience with identity denial can negatively impact various psychological outcomes. Franco et al. (2016) found that in the face of identity denial, multiracials experienced feelings of hurt, confusion, and isolation (Franco et al., 2016). Identity denial is also positively associated with anxiety levels, stress, and depression (Albuja et al., 2019a; Coleman & Carter, 2007; Sanchez, 2010), suggesting a negative link between identity denial and psychological well-being outcomes.

While the literature has yet to explore the link between identity denial and cognitive capacity outcomes, research on social rejection has shown that it can negatively affect cognitive capacity outcomes (Richman & Leary, 2009). Experiences with rejection can compromise attentional focus (Inzlicht et al., 2006), deplete cognitive resources, and result in poorer cognitive performance (Richman & Leary, 2009; Schmader & Johns, 2003). Therefore, it is reasonable to propose that experiences with identity denial may also negatively impact cognitive capacity outcomes for multiracials. Together, experiences with identity denial are associated with deleterious effects on their physical (Cheryan & Monin, 2005; Guendelman et al., 2011), psychological well-being (Albuja et al., 2019a; Wang et al., 2013), and some cognitive outcomes (Townsend et al., 2009).

H4a: Experiences with racial identity denial would be negatively associated with multiracials' psychological well-being.

H4b: Experiences with racial identity denial would be negatively associated with multiracials' cognitive capacity.

In line with the current literature, we hypothesized that experiences with racial identity denial would be negatively associated with multiracials' psychological outcomes. Moreover, according to previous suggestions of symbolic interactionism and minority stress theory, multiracials who experienced identity invalidation may start to reconceptualize and shift their identity to protect themselves from future instances of identity denial (Franco et al., 2016). This suggests that experiences with identity denial may be an important antecedent to MII. We hypothesized that multiracials negotiation and sense-making of their racial identities in response to identity denial may mediate the effect of identity denial on various psychological well-being and cognitive outcomes.

H5a: MII would mediate the relationship between identity denial and psychological well-being outcomes.

H5b: MII would mediate the relationship between identity denial and cognitive capacity.

Lastly, the positive proposed relationship between identity inquiry and MII (H3) suggest that multiracials who experienced identity inquiry may also experience a positive downstream psychological well-being, and cognitive capacity outcomes. While we believe that MII may similarly mediate the positive relationship between identity inquiry and various outcomes, there are no preliminary evidence (to the best of our knowledge) that has explored the link between identity inquiry and psychological well-being or cognitive capacity outcomes. Social contact hypothesis (Allport et al., 1954) may provide some insights on why identity inquiry may lead to positive outcomes. Research on social contact theory has shown that under the right circumstances (equal status of the group, intergroup cooperation, common goal, and authority

support), contact between two group can reduce prejudice (Adesokan et al., 2011; Dovidio et al., 2003; Pettigrew, 2008; Pettigrew & Tropp, 2006). Previous studies have shown that African-Americans like Whites who were trying their best to not be prejudiced (Pettigrew, 2008; Shelton et al., 2005). Positive curiosity that underlies identity inquiry may encourage monoracials to seek out multiracials. This cautious approach may lead multiracials to respond more positively. When interracial contact starts out positively, this may lead to multiracials' self-disclosure about their multiracial identity and experiences. This exchange can increase monoracials' empathy for and knowledge of multiracials, both of which were important mediators that of the intergroup contact and prejudice reduction (Al Ramiah & Hewstone, 2013; Pettigrew, 2008; Pettigrew & Tropp, 2006).

It is also possible that identity inquiry may not have a direct effect on various psychological well-being and cognitive outcomes. Nonetheless, positive interest in multiracials' identity would signal to multiracials that others acknowledge and are interested in getting to know their multiracial identity. The reduction of perceived intergroup threat may positively influence how multiracials feel and think about their racial identity, thereby increasing their MII (H3). Thereafter, higher levels of MII will be associated with a more positive psychological well-being (H1a) and cognitive capacity (H1b) outcomes. Hence, we believe that MII will mediate the link between identity inquiry and various psychological well-being and cognitive capacity outcomes (Figure 1).

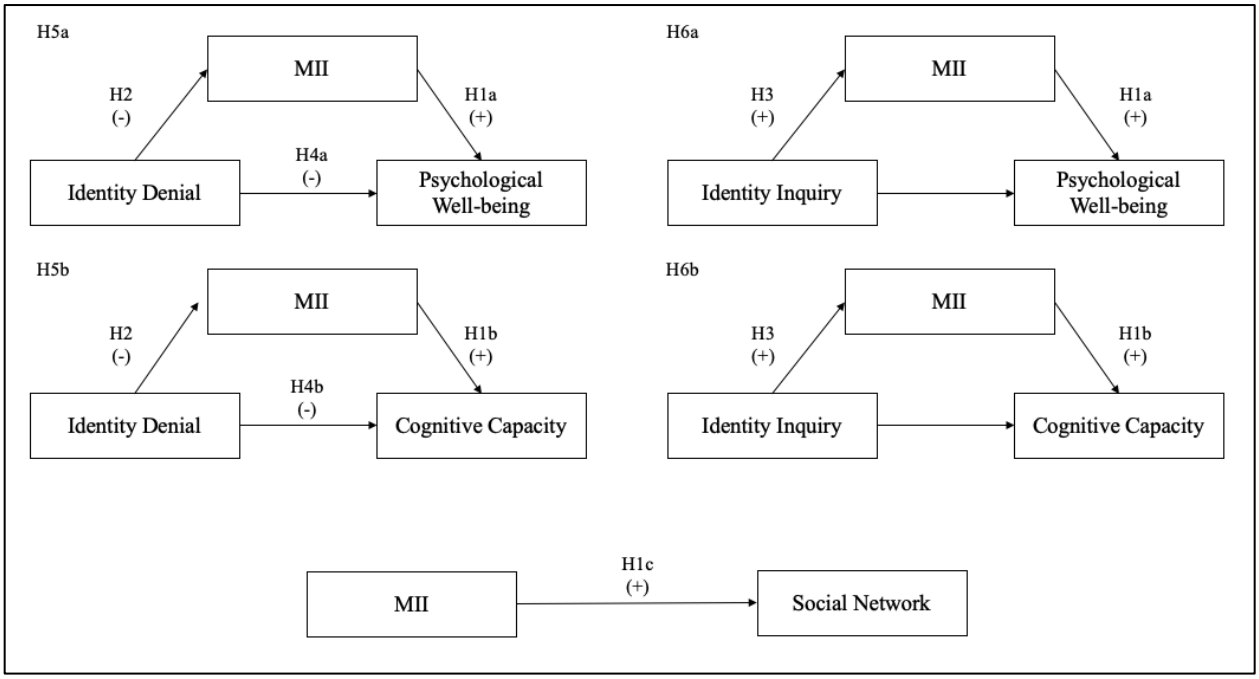
H6a: MII would mediate the relationship between identity inquiry and psychological well-being.

H6b: MII would mediate the relationship between identity inquiry and cognitive capacity.

In sum, we suggest that achieving a healthy and positive racial identity may be the key to understanding positive outcomes associated with being multiracial.

Figure 1

Proposed Hypotheses and Mediation Models



Study 1: Consequences of MII

Study 1 addressed our first research question: "How do multiracials navigate their seemingly conflicting racial identities". We examined the relationship between MII and various psychological outcomes. It was proposed that MII would be positively associated with multiracials' psychological well-being (H1a) and cognitive capacity outcomes (H1b). Additionally, Study 1 also explored a new MII scale. Previous measure of MII was adapted from the BIIS-1 scale, generating four items each for racial conflict (harmony), and racial distance (blendedness) (Cheng & Lee, 2009). Subsequent use of the scale revealed that the blendedness subscale possessed low reliability (Albuja et al., 2020; Marks et al., 2020). These psychometric issues may limit researchers' ability to investigate the link between MII blendedness and

cognitive capacity outcomes. The original BIIS-1 scale was revised to a 17-item BIIS-2 scale (Huynh et al., 2018) due to scale reliability issues. Therefore, we also explored the use of an extended version of the MII scale by adapting the BIIS-2 scale (Huynh et al., 2018).

Methods

Participants

Three-hundred multiracial Americans were recruited for this study. A priori power analyses of .95 power via G*Power (Faul et al., 2007, 2009) revealed that a sample size of 191 is sufficient to detect a small to medium effect (f^2 = .10). Participants were recruited using Qualtrics panel service and remunerated accordingly for their participation. Six participants were excluded based on incomplete responses; hence, the final sample size was 294 (M_{age} = 47.17, *SD* = 15.13, 19.39% male). Most participants were biracials (64%) of White-Native-American (17%) and White-Latinx (10%) descent.

Procedure and Materials

Multiracial Identity Integration

To assess participants' perceived MII we administered the 8-item MII scale ($\alpha_{harmony}$ = 0.78, $\alpha_{blendedness}$ = 0.34) (Cheng & Lee, 2013b; Appendix A) as well as a new 15-item Multiracial Identity Integration Scale-2 (MIIS-2) ($\alpha_{harmony}$ = 0.88, $\alpha_{blendedness}$ = 0.65) adapted from BIIS-2 scale (Huynh et al., 2018; Appendix B). Sample items on the old and new MII scale include "I am conflicted between my different racial identities" (reversed scored) and "I keep everything about my different racial identities separate" (reversed scored). Responses to the MII scale were made on a 5-point Likert scale (1 = *completely disagree*, 5 = *completely agree*). Higher scores indicated higher levels of racial harmony, blendedness, and MII.

Psychological Well-being Outcomes

Anxiety. To assess trait levels of anxiety, we used the trait anxiety subscale on the State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983; Appendix C). The STAI-Trait is a 20-item scale that assesses trait anxiety. Trait anxiety items include, "I worry too much over something that really doesn't matter". Responses were made on a 4-point Likert scale (1 = *almost never,* 4 = *almost always*), $\alpha = 0.94$.

Depressive Symptoms. Depressive symptoms were assessed via the 10-item Center for Epidemiological Studies Depression Scale (Radloff, 1977; Appendix D). A sample item includes "I have trouble keeping my mind on what I am doing". Responses were made on a 4-point Likert scale (1 = *rarely or none of the time,* 4 = *most of the time*), $\alpha = 0.95$.

Satisfaction With Life. Subjective well-being was assessed with Diener et al.'s (1985) Satisfaction With Life Scale (SWLS) (Appendix E). The SWLS consist of 5-items which includes the sample item "The conditions of my life are excellent". Responses were made on a 7-point Likert scale (1 = *strongly disagree,* 7 = *strongly agree*), $\alpha = .91$.

Self-esteem. Self-esteem was assessed by Rosenberg's (1965) Self-esteem Scale (Appendix F). A sample item on the 10-item scale includes "On the whole, I am satisfied with myself". Responses were made on a 4-point Likert scale (1 = *strongly disagree,* 4 = *strongly agree*), $\alpha = 0.90$.

Multiracial Pride. Multiracial pride was assessed by a 4-item Multiracial Pride scale (Cheng & Lee, 2009; Appendix G). Items include "I like being a multiracial person", "I am proud of being a multiracial person, "There are more advantages than disadvantages to being a multiracial person", and "There are many good things about being a multiracial person". Responses were made on a 5-point Likert scale (1 = *completely disagree*, 5 = *completely agree*), $\alpha = 0.86$.

Cognitive Capacity Outcomes

Cognitive Complexity. To assess cognitive complexity, we adopted Tadmor and Tetlock's (2006) cognitive complexity paradigm. Participants were presented with four open-ended questions. Two questions assessed participants' multiracial complexity (e.g., "What does it mean to you to be multiracial? How would you define yourself as a multiracial? Let's say, on a scale from 1 (*not at all*) to 7 (*completely*), how would you rate yourself? Why?"). Two other questions assessed participants' generalized complexity (e.g., "Some people feel that organizations waste too much time listening to different points of view and opinions during group meetings. Others feel they don't spend enough time. How do you feel? What do you think should be the right balance?"). Following Tadmor and Tetlock's (2006) paradigm, participants were asked to write a short paragraph in response to each question. The presentation of the questions was randomized.

Responses were coded on a 7-point scale (1 = *absence of differentiation and integration*, 3 = *presence of differentiation but absence of integration*, 5 = *presence of both differentiation and integration*, 7 = *differentiation as well as specification of higher-order integrative principles*) by two independent coders (inter-rater[3] $r = 0.59$, $p < .001$).

Creativity. To measure multiracials' general creativity, we administered Guilford's (1967) Alternative Uses Tasks. Participants were asked to list as many alternative transport options as possible[4]. Responses were scored on three components: flexibility, originality, and fluency. Flexibility was assessed based on number of unique categories generated for each use.

[3] Interrater reliability rater here reflects the Pearson's *r* correlation coefficient between the ratings of two independent coders. According to the previous suggestions(Koo & Li, 2016), interrater reliability between 0.5 – 0.75 indicated moderate reliability .

[4] Participants also completed a second alternative uses task where they were asked to generate multiple uses of a paperclip. Please refer to Study 1 Supplementary Analyses for supplementary analyses.

Originality was assessed in relation to other responses on a 3-point Likert scale (1 = *very unoriginal*, 3 = *very original*), unique and unusual responses will be awarded a higher originality score. Fluency was assessed via number of responses. Flexibility was coded by one experienced coder while originality was assessed by two independent coders (inter-rater $r = 0.60$, $p < .001$).

Next, as previous research has shown that biculturals are most creative when the task requires them to draw from different cultural frames (Cheng et al., 2008a), we also assessed creativity with a second gift-giving task. Participants were asked to generate five corporate gift ideas for a company with multiracial clients. We similarly assessed these responses based on flexibility, originality, and fluency. Flexibility was once again coded by one experienced coder while originality was assessed by two independent coders (inter-rater $r = 0.55$, $p < .001$).

Cognitive Flexibility. The 12-item Cognitive Flexibility Scale (Martin & Rubin, 1995; Appendix H) was administered to participants to assess their cognitive flexibility. A sample item includes "I can communicate an idea in many different ways". Responses were made on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*), $\alpha = 0.84$.

Demographics. Lastly, participants reported key demographic variables such as age and gender (Appendix I). Descriptive statistics and correlations are presented in Table 2.

Study 1 Results

Preliminary Analyses

The scale properties of the original MII scale (Cheng & Lee, 2009) revealed that while the racial harmony (vs. conflict) subscale possessed acceptable reliability ($\alpha = 0.78$), the racial blendedness (vs. distance) subscale possessed less than ideal reliability ($\alpha = 0.34$). The second item of the MII racial blendedness scale was found to be negatively related to the rest of the

Table 2

Means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	46.87	15.18																	
2. Gender	1.79	0.44	-.04																
3. MII Harmony	3.98	0.92	**.40**	.02															
4. MII Blendedness	3.77	0.86	.03	.05	**.12**														
5. Trait Anxiety	2.13	0.68	**-.30**	-.06	**-.39**	.01													
6. Depressive Symptoms	2.07	0.73	**-.28**	-.10	**-.39**	-.02	**.88**												
7. SWLS	4.13	1.63	**.14**	-.03	**.23**	-.08	**-.64**	**-.53**											
8. Self-esteem	2.96	0.66	**.29**	.05	**.36**	**.04**	**-.82**	**-.74**	**.63**										
9. Multiracial Pride	4.13	0.86	.06	.03	**.25**	**.42**	**-.25**	**-.21**	**.17**	**.26**									
10. Cognitive Complexity (G)	1.81	1.19	-.02	.07	.02	.08	-.04	-.08	-.01	-.01	-.06								
11. Cognitive Complexity (MS)	1.96	0.66	-.06	.08	-.11	**.14**	-.01	-.06	.00	.03	**.12**	**.14**							
12. Flexibility (G)	4.54	0.84	.05	**.12**	**.14**	.11	-.11	**-.17**	-.00	.08	.07	.03	.02						
13. Originality (G)	1.29	0.21	-.01	**-.15**	-.01	.04	.11	**.13**	**-.12**	**-.15**	-.06	.06	.07	-.09					
14. Fluency (G)	4.88	0.60	.09	.05	**.19**	**.15**	-.06	-.10	-.08	.05	-.00	.03	**.14**	**.71**	**.15**				
15. Flexibility (MS)	3.41	1.38	.06	**.17**	.09	**.16**	-.05	-.09	-.06	.04	.11	**.27**	**.17**	**.32**	**.17**	**.36**			
16. Originality (MS)	1.52	0.32	**-.13**	.04	**-.13**	.08	.05	-.03	-.07	-.07	.04	.09	**.18**	**.17**	**.16**	**.12**	**.36**		
17. Fluency (MS)	4.21	1.28	-.07	.09	-.04	.09	.03	.01	**-.14**	-.05	.04	**.21**	**.15**	**.30**	**.16**	**.41**	**.71**	**.40**	
18. Cognitive Flexibility	4.67	0.71	**.15**	.06	**.39**	**.16**	**-.53**	**-.45**	**.26**	**.49**	**.36**	**.14**	.07	**.11**	-.09	**.12**	**.20**	**.12**	**.15**

Note. M and *SD* are used to represent mean and standard deviation, respectively. Boldface indicates $p < .05$.

subscale. However, the scale property remained unacceptable (α = 0.47) even when the second item was removed.

Contrastingly, the new MIIS-2 possessed more acceptable reliabilities. The racial harmony subscale was highly reliable (α = 0.88). While the racial blendedness subscale paled in comparison (α = 0.65), this was a considerable improvement from the original MII distance subscale, and it was within an acceptable range (Ursachi et al., 2015). Therefore, we only used the MII harmony and MII blendedness subscales from the MIIS-2 in subsequent analyses.

Main Analyses

Psychological Well-being Outcomes

In Study 1, we predicted that MII would be positively associated with multiracials' psychological well-being (H1a) and cognitive capacity outcomes (H1b). To test H1a, several multiple regression analyses were conducted. First we examined the relationship between MII harmony and various psychological well-being outcomes. Results revealed that MII harmony was negatively associated with multiracials' self-report trait anxiety (B = -0.29, SE = 0.04, t(292) = -7.31, p < .001) and depressive symptoms (B = -0.31, SE = 0.04, t(292) = -7.16, p < .001). As trait anxiety and depressive symptoms reflect poorer psychological well-being, the negative relationship evidenced here support our first hypothesis. MII harmony was found to be positively associated with satisfaction with life (B = 0.41, SE = 0.10, t(292) = 4.09, p < .001), self-esteem (B = 0.26, SE = 0.04, t(292) = 6.65, p < .001), and multiracial pride (B = 0.23, SE = 0.05, t(292) = 4.35, p < .001). The positive relations between MII harmony and various psychological well-being outcomes support H1a.

Second, we examined the relationship between MII blendedness and various psychological well-being outcomes. Results revealed a nonsignificant relation between MII

blendedness and multiracials' trait anxiety (B = -0.01, SE = 0.05, t(292) = 0.18, p = .859) and depressive symptoms (B = -0.01, SE = 0.05, t(292) = -0.29, p = .773). The relationship between MII blendedness and multiracials' satisfaction with life (B = -0.15, SE = 0.11, t(292) = -1.37, p = .171) and self-esteem (B = 0.03, SE = 0.04, t(292) = 0.67, p = .506) were also found to be nonsignificant. However, we found a significant relationship between MII blendedness and multiracial pride, B = 0.42, SE = 0.05, t(292) = 7.87, p < .001. Findings here partially supported our hypothesis that MII is positively associated with multiracials' psychological well-being (H1a). A summary of the findings is presented in Table3.

Table 3

Summary of findings for H1a and H1b.

Predictor	Psychological Well-being Outcomes									
	Trait Anxiety		Depressive Symptoms		SWLS		Self-esteem		Multiracial Pride	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	**-0.29**	**<.001**	**-0.31**	**<.001**	**0.41**	**<.001**	**0.26**	**<.001**	**0.23**	**<.001**
MII Blendedness	0.01	.859	-0.01	.773	-0.15	.171	0.03	.506	**0.42**	**<.001**
	General: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency		Cognitive Flexibility	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	0.02	.782	**0.13**	**.019**	0.02	.782	**0.12**	**.001**	**0.31**	**<.001**
MII Blendedness	0.10	.272	0.11	.055	0.03	.167	**0.11**	**.011**	**0.13**	**.005**
	Multiracial-specific: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency			
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*		
MII Harmony	-0.08	.054	**0.20**	**.045**	-0.02	.307	0.06	.544	—	—
MII Blendedness	0.11	.179	**0.26**	**.012**	0.02	.193	0.14	.146	—	—

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.

Cognitive Capacity Outcomes

To test H1b, the hypothesized positive relation between MII and cognitive capacity outcomes, we conducted several regression analyses. Results revealed a significant relation between MII harmony and general creative flexibility (B = 0.13, SE = 0.05, t(292) = 2.37, p

= .019), general creative fluency (*B* = 0.12, *SE* = 0.04, *t*(292) = 3.24, *p* = .001), multiracial-specific flexibility (*B* = 0.20, *SE* = 0.10, *t*(292) = 2.01, *p* = .045) and cognitive flexibility (*B* = 0.31, *SE* = 0.04, *t*(292) = 7.30, *p* < .001). The relationships between MII harmony and general cognitive complexity (*B* = 0.02, *SE* = 0.09, *t*(259) = 0.28, *p* = .782), multiracial-specific cognitive complexity (*B* = -0.08, *SE* = 0.04, *t*(292) = -1.94, *p* = .054), general creative originality (*B* = -0.002, *SE* = 0.01, *t*(289) = -0.13, *p* = .894), multiracial-specific creative originality (*B* = -0.02, *SE* = 0.02, *t*(259) = -1.03, *p* = .307) and multiracial-specific creative fluency (*B* = 0.06, *SE* = 0.09, *t*(292) = 0.61, *p* = .544) were nonsignificant.

Next, the link between MII blendedness and cognitive capacity outcomes was examined. MII blendedness was positively associated with general creative fluency (*B* = 0.11, *SE* = 0.04, *t*(292) = 2.55, *p* = .011), multiracial-specific creative flexibility (*B* = 0.26, *SE* = 0.10, *t*(292) = 2.52, *p* = .012) and cognitive flexibility (*B* = 0.13, *SE* = 0.05, *t*(292) = 2.81, *p* = .005), supporting H1b. While the relationships between MII blendedness and general cognitive complexity (*B* = 0.10, *SE* = 0.09, *t*(259) = 1.10, *p* = .272), multiracial-specific cognitive complexity (*B* = 0.11, *SE* = 0.80, *t*(292) = 1.35, *p* = .179), general creative flexibility (*B* = 0.11, *SE* = 0.06, *t*(292) = 1.92, *p* = .055), general creative originality (*B* = 0.03, *SE* = 0.02, *t*(286) = 1.38, *p* = .167), multiracial-specific creative originality (*B* = 0.02, *SE* = 0.02, *t*(259) = 1.31, *p* = .193) and multiracial-specific creative fluency (*B* = 0.14, *SE* = 0.10, *t*(292) = 1.46, *p* = .146) were nonsignificant (Table 3).

Study 1 Discussion

The goal of Study 1 was three-fold: to explore the use of the MIIS-2 and investigate the relationship between MII and various psychological well-being as well as cognitive capacity outcome. First, comparing the scale properties between the existing MII scale (Cheng & Lee, 2009) and the MIIS-2 scale, it is clear that an update was necessary to continue our investigation

into multiracials' MII. The longer new scale was more reliable ($\alpha_{harmony}$ = .88; $\alpha_{blendedness}$ = .65) compared to the original MII scale ($\alpha_{harmony}$ =.78; $\alpha_{blendedness}$ = .34). This may help to further future research on MII that may have otherwise been impeded by the original MII blendedness' poor reliability.

Second, findings from Study 1 replicated existing link between MII harmony and psychological well-being outcomes (Cheng & Lee, 2009; Marks et al., 2020; Pauker, Meyers, et al., 2018), higher levels of MII harmony are positively associated with various psychological well-being outcomes such as satisfaction with life, multiracials' self-esteem, and lower depressive symptoms. Comparatively, MII blendedness was not associated with any of the affective outcomes. It is clear that compared to MII blendedness, MII harmony—the affective component of MII—is more closely associated with psychological well-being outcomes (Benet-Martínez & Haritatos, 2005; S. X. Chen et al., 2008; Schwartz et al., 2015; Stroink & Lalonde, 2009).

Third, our hypothesis that MII is positively associated with cognitive capacity outcomes received some support (H1b). MII was not associated with general cognitive complexity, although MII blendedness was significantly associated with multiracial-specific cognitive complexity. The overall null relations suggest that MII may not be associated with a more cognitively complex thinking style unlike what was found with a bicultural sample (Tadmor et al., 2012). When creativity outcomes were examined, a positive relationship was found between MII harmony and general creative flexibility and fluency while MII blendedness was associated with general creative fluency. The findings reflect enhanced divergent thinking. Previous research has suggested that biculturals perform more creatively when they are faced with challenges that requires them to tap into their cultural frame (Cheng et al., 2008a).

However, in our study, we found that MII harmony and blendedness was only associated with multiracial-specific creative flexibility. This meant that multiracials that achieve higher levels of integration can engage in more divergent thinking to produce multiple ideas in different categories, only when the task requires them to tap into their cultural frameworks. These findings are complementary to the positive link between MII harmony and psychological well-being, as positive (negative) affect facilitates (inhibits) divergent thinking (Benet-Martínez et al., 2006; Vosburg, 1998). For multiracials that experience little conflict and construe both cultural frames as integrated, it is likely that ideas and information that contribute to creative flexibility are more readily accessible.

Together, the findings from our analysis of multiracials' creativity does partially support our hypothesis and replicates previous findings that MII is positively associated with creativity (e.g., Gaither et al., 2015; Tadmor et al., 2012). This suggests that achieving higher levels of MII may afford multiracials to think flexibility and come up with more unique ideas (fluency). Lastly, MII was significantly associated with cognitive flexibility, supporting our hypothesis that higher levels of MII can lead to positive cognitive outcomes.

Study 2: Antecedents of MII

Study 1 has shown that MII is positively associated with psychological well-being and some cognitive capacity outcomes. Henceforth, Study 2 sought to address the antecedents of MII and examine the full proposed model. First, we examined the impact of identity denial and inquiry on multiracials' MII. It was proposed that experiences with identity denial would negatively impact multiracials' MII (H2) while experiences with identity inquiry would positively enrich multiracials' MII (H3). Second, we hypothesized that experiences with identity denial would negatively impact multiracials' psychological well-being and cognitive outcomes

(H4a and H4b). Lastly, we hypothesized the MII would mediate the link between identity denial and inquiry, and various psychological outcomes (H5a, H5b, H6a, and H6b).

Methods

Participants

Eight hundred and four multiracial Americans were recruited for this study. A priori Monte Carlo Power Analysis (Schoemann et al., 2017) of .95 power revealed that a sample size of 235 was sufficient to detect a mediation pattern between experiences of identity denial and psychological well-being outcomes. However, as power analyses could not be conducted with other key variables (e.g., identity inquiry, cognitive capacity outcomes) due to limited existing studies with correlational information, we over sampled to ensure that we had enough power to detect a significant effect. Participants were recruited via two channels—either via Qualtrics panel service and remunerated accordingly for their participation, or via an online crowdsourcing platform Connect and remunerated in cash (USD3.50). A total of 464 participants were excluded as they did not identify with two or more racial groups, or they were not Americans. A final sample of 340 multiracial Americans (M_{age} = 39.26, *SD* = 13.21, 43.53% male) was retained for subsequent analyses. Most participants were biracial (66%) of White-Latinx (15%) and White-Black (11%) descent.

Procedure and Materials

Identity Denial and Inquiry

To assess participants' experience with identity denial, we administered the 4-item identity denial scale (Albuja et al., 2019a; Cheryan & Monin, 2005). Sample items for the identity questioning subscale includes "How often are you asked where you are from/about your racial appearance", while a sample item for the identity denial subscale include "How often are

you told you are not American" (Appendix J). Responses were made on a 7-point Likert scale (1 = *never*, 7 = *always*), $\alpha = 0.91$.

To assess identity inquiry, we administered an adapted positive curiosity intent scale by Albuja et al. (2019b). A sample item includes "How often do people want to get to know you because of your racial appearance?" (Appendix K). Responses were made on a 7-point Likert scale (1 = *never*, 7 = *always*), $\alpha = 0.94$.

Multiracial Identity Integration

We used the same MIIS-2 as in Study 1 ($\alpha_{harmony} = 0.88$, $\alpha_{blendedness} = 0.70$) (Appendix B).

Outcomes

We used the same psychological well-being outcomes: Trait Anxiety ($\alpha = 0.94$), Depressive Symptoms ($\alpha = 0.94$), Satisfaction with Life ($\alpha = 0.93$), Self-Esteem ($\alpha = 0.91$), Multiracial Pride ($\alpha = 0.86$). The same cognitive capacity measures were used in this study: Cognitive Complexity (inter-rater $r = 0.80$, $p < .001$), General Creativity (originality inter-rater $r = 0.59$, $p < .001$), Multiracial-specific Creativity (originality inter-rater $r = 0.40$, $p < .001$), Cognitive Flexibility ($\alpha = 0.86$).

Demographics

Lastly, participants will report key demographic variables such as age and gender (Appendix I). Descriptive statistics and correlations are presented in Table 4.

Study 2 Results

The goal of Study 2 was three-folds. First, we predicted that experiences with identity denial would be negatively associated with MII (H2) while experiences with identity inquiry would be positively associated with MII (H3). Second, we hypothesized a negative link between experiences of identity denial and multiracials' psychological well-being (H4a) and cognitive

Table 4

Means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Age	39.26	13.21																			
2. Gender	1.57	0.52	**.21**																		
3. MII Harmony	3.79	0.88	**.27**	.03																	
4. MII Blendedness	3.78	0.80	.03	.09	**.32**																
5. Identity Denial	2.99	1.74	**-.24**	.02	**-.53**	**-.14**															
6. Identity Inquiry	3.65	1.44	**-.27**	-.00	**-.24**	.04	**.45**														
7. Trait Anxiety	2.09	0.65	-.07	**.19**	**-.29**	**-.17**	**.24**	-.03													
8. Depressive Symptoms	1.91	0.65	-.07	.09	**-.36**	**-.22**	**.32**	.00	**.84**												
9. SWLS	4.17	1.67	.03	-.07	**.28**	**.17**	**-.17**	.10	**-.63**	**-.57**											
10. Self-esteem	2.95	0.66	.06	-.05	**.34**	**.23**	**-.24**	.06	**-.82**	**-.77**	**.65**										
11. Multiracial Pride	4.05	0.84	.02	.01	**.33**	**.45**	-.10	.09	**-.31**	**-.28**	**.38**	**.34**									
12. Cognitive Complexity (G)	1.54	0.81	**-.21**	-.05	**-.14**	-.06	.11	.07	-.04	-.05	.04	.02	-.00								
13. Cognitive Complexity (MS)	1.32	0.48	**-.23**	**-.12**	**-.23**	.00	**.20**	.03	.06	.07	-.07	-.09	-.04	**.49**							
14. Flexibility (G)	4.29	1.08	-.06	.05	**.12**	**.19**	-.06	.05	-.09	**-.15**	-.04	**.11**	.09	.09	.10						
15. Originality (G)	1.40	0.28	.04	-.10	-.07	-.05	-.01	-.06	.07	.04	-.02	-.09	-.08	.04	.01	**-.21**					
16. Fluency (G)	4.84	0.83	.04	.03	**.12**	**.18**	-.02	-.02	-.03	-.09	-.02	.05	**.14**	**.11**	**.12**	**.70**	**.13**				
17. Flexibility (MS)	3.52	1.35	-.10	-.02	-.01	.04	.05	**.11**	-.05	-.03	.01	-.01	.08	**.19**	**.21**	**.39**	.03	**.45**			
18. Originality (MS)	1.30	0.29	**.15**	-.02	-.04	-.02	-.04	.01	-.01	.04	-.00	.06	.00	.02	.07	**-.15**	**.13**	.01	-.06		
19. Fluency (MS)	4.61	1.18	-.10	-.03	-.02	**.14**	.06	**.11**	-.09	-.09	.06	.03	.10	**.18**	**.19**	**.48**	.00	**.58**	**.68**	.09	
20. Cognitive Flexibility	4.65	0.71	.08	.06	**.39**	**.41**	**-.19**	.04	**-.48**	**-.46**	**.35**	**.49**	**.44**	.02	-.01	**.20**	-.02	**.20**	**.12**	-.01	**.13**

Note. M and *SD* are used to represent mean and standard deviation, respectively. (G) and (MS) are used to represent general and multiracial-specific, respectively. Boldface indicates $p < .05$.

capacity (H4b) outcomes. Third, we proposed that the negative (positive) relationship between identity denial (inquiry) and various psychological well-being and cognitive capacity outcomes would be mediated by MII (H5a, H5b, H6a, and H6b). All analyses were performed using *R* 4.1.2 (R Core Team, 2021).

To examine the relationship between MII and various psychological well-being outcomes, we conducted several regression analyses. First, we examined the relationship between MII harmony and various psychological well-being outcomes. The results revealed a significant relationship between MII harmony and trait anxiety (B = -0.22, SE = 0.04, t(335) = -5.64, p < .001), as well as depressive symptoms (B = -0.27, SE = 0.04, t(335) = -7.01, p < .001). MII harmony was positively associated with multiracials' satisfaction with life (B = 0.53, SE = 0.10, t(335) = 5.27, p < .001), self-esteem (B = 0.26, SE = 0.04, t(335) = 6.69, p < .001), and multiracial pride (B = 0.32, SE = 0.05, t(335) = 6.37, p < .001) (Table 5)

Table 5

Summary of findings for H1a and H1b

Predictor	Psychological Well-being Outcomes									
	Trait Anxiety		Depressive Symptoms		SWLS		Self-esteem		Multiracial Pride	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	**-0.22**	**<.001**	**-0.27**	**<.001**	**0.53**	**<.001**	**0.26**	**<.001**	**0.32**	**<.001**
MII Blendedness	**-0.14**	**.001**	**-0.18**	**<.001**	**0.36**	**.001**	**0.19**	**<.001**	**0.47**	**<.001**
	General: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency		Cognitive Flexibility	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	-0.13	.011	**0.13**	**.035**	-0.02	.205	**0.09**	**.033**	**0.31**	**<.001**
MII Blendedness	-0.06	.247	**0.24**	**<.001**	-0.02	.323	**0.16**	**<.001**	**0.36**	**<.001**
	Multiracial-specific: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency			
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*		
MII Harmony	**-0.13**	**<.001**	0.02	.788	-0.01	.477	**0.19**	**.011**	—	—
MII Blendedness	0.00	.999	0.06	.475	-0.01	.690	**0.19**	**.011**	—	—

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.

Next, we entered MII blendedness as the predictor. There was a significant relationship between MII blendedness and trait anxiety (B = -0.14, SE = 0.04, t(335) = -3.22, p = .001), as well as depressive symptoms (B = -0.18, SE = 0.04, t(335) = -4.21, p < .001). MII blendedness was also positively associated with multiracials' satisfaction with life (B = 0.36, SE = 0.11, t(335) = 3.21, p = .001), self-esteem (B = 0.19, SE = 0.04, t(335) = 4.37, p < .001), and multiracial pride (B = 0.47, SE = 0.05, t(335) = 0.22, p < .001).

Our examination into the link between MII and psychological well-being outcomes revealed that MII is positively associated with all psychological well-being outcomes examined in Study 2. The results replicated our findings from Study 1 between MII harmony and various psychological well-being outcomes. Beyond that, we found that MII blendedness was also positively associated with psychological well-being outcomes in Study 2, further supporting H2 (Table 5).

MII and Cognitive Outcomes (H1b)

Next, we examined the relationship between MII and various cognitive capacity outcomes (cognitive complexity, creativity, and cognitive flexibility) by conducting several regression analyses (Table 5). First, we examined the relationship between MII harmony and various cognitive capacity outcomes. MII harmony was positively associated with general creative flexibility (B = 0.13, SE = 0.06, t(335) = 2.12, p = .035), general creative fluency (B = 0.09, SE = 0.04, t(326) = 2.14, p = .033), multiracial-specific creative fluency (B = 0.19, SE = 0.07, t(335) = 2.57, p = .011) and cognitive flexibility (B = 0.31, SE = 0.04, t(335) = 7.64, p < .001). We also found a significant relationship between MII harmony and general cognitive complexity (B = -0.13, SE = 0.05, t(335) = -2.55, p = .011) and multiracial-specific cognitive complexity (B = -0.13, SE = 0.02, t(335) = -4.37, p < .001, higher MII was associated with lower

levels of cognitive complexity. On the other hand, MII harmony was not associated with general creative originality (B = -0.02, SE = 0.02, t(326) = -1.27, p = .205) , multiracial-specific creative flexibility (B = -0.02, SE = 0.08, t(335) = -0.27, p = .788), and multiracial-specific creative originality (B = -0.01, SE = 0.02, t(315) = -0.71, p = .477).

Next, we examined the relationship between MII blendedness and various cognitive outcomes. We found a significant relationship between general creative flexibility (B = 0.24, SE = 0.07, t(335) = 3.60, p <.001), general creative fluency (B = 0.16, SE = 0.05, t(33%) = 3.39, p = < .001), multiracial-specific fluency (B = 0.19, SE = 0.07, t(335) = 2.57, p = .011), and cognitive flexibility (B = 0.36, SE = 0.04, t(335) = 8.19, p < .001). MII blendedness was not associated with general cognitive complexity (B = -0.06, SE = 0.06, t(335) = -1.16, p = .247), multiracial-specific cognitive complexity (B = 0.00, SE = 0.00, t(335) = 0.02, p = .999), general creative originality (B = -0.02, SE = 0.02, t(335) = -1.00, p = .323), multiracial-specific flexibility (B = 0.06, SE = 0.09, t(335) = 0.72, p = .475), and multiracial-specific originality (B = -0.01, SE = 0.02, t(315) = -0.40, p = .690).

Identity Denial, Identity Inquiry, and MII (H2 & H3)

Next, we found that multiracials' experience with identity denial was negatively associated with MII harmony (B = -0.27, SE = 0.02, t(335) = -11.59, p < .001) and MII blendedness (B = -0.07, SE = 0.02, t(335) = -2.66, p = .008), supporting H2. However, we found that instead of the hypothesized positive relationship, identity inquiry experiences were negatively associated with MII harmony, B = -0.15, SE = 0.03, t(335) = -4.49, p < .001. The relationship between identity inquiry and MII blendedness was nonsignificant, B = 0.02, SE = 0.03, t(335) = 0.69, p = .491. The results here failed to support H3 (Table 6).

Table 6
Summary of findings for H2 and H3

Predictor	MII Harmony		MII Blendedness	
	B	*p*	*B*	*p*
Identity Denial	**-0.27**	**<.001**	**-0.07**	**.008**
Identity Inquiry	**-0.15**	**<.001**	0.02	.491

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.

Identity Denial and Psychological Well-being/Cognitive Capacity Outcomes (H4a & H4b)

An examination of H4a—the relationship between identity denial and various psychological well-being—revealed a significant support for our hypothesis (Table 7). Experiences of identity denial was positively associated with trait anxiety ($B = 0.09$, $SE = 0.02$, $t(335) = 4.62$, $p < .001$) and depressive symptoms ($B = 0.12$, $SE = 0.02$, $t(333) = 6.15$, $p < .001$). The relationship between identity denial experiences and multiracials' satisfaction with life ($B = -0.16$, $SE = 0.05$, $t(335) = -3.11$, $p = .002$) and self-esteem ($B = -0.09$, $SE = 0.02$, $t(335) = -4.48$, $p < .001$) were negative. We did not find a significant relationship between experiences of identity denial and multiracial pride, $B = -0.05$, $SE = 0.03$, $t(335) = -1.87$, $p = .063$.

Table 7
Summary of findings for H4a and H4b

Predictor	Psychological Well-being Outcomes									
	Trait Anxiety		Depressive Symptoms		SWLS		Self-esteem		Multiracial Pride	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
Identity Denial	**0.09**	**<.001**	**0.12**	**<.001**	**-0.16**	**.002**	**-0.09**	**<.001**	-0.05	.063
	General: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency		Cognitive Flexibility	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
Identity Denial	0.05	.052	-0.04	.255	-0.002	.820	-0.01	.747	**-0.08**	**<.001**
	Multiracial-specific: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency			
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*		
Identity Denial	**0.06**	**<.001**	0.04	.346	-0.01	.512	0.04	.289	—	—

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.

Analyses into the relationship between identity denial and various cognitive capacity outcomes (H4b) revealed mixed findings. Identity denial was associated with multiracial-specific cognitive complexity (B = 0.06, SE = 0.01, t(335) = 3.79, p < .001) and cognitive flexibility (B = -0.08, SE = 0.02, t(335) = -3.58, p < .001), supporting H4b. There was a nonsignificant relationship between identity denial and general cognitive complexity (B = 0.05, SE = 0.03, t(335) = 1.95, p = .052), general creative flexibility (B = -0.04, SE = 0.03, t(335) = -1.14, p = .255), general creative originality (B = -0.002, SE = 0.01, t(335) = -0.23, p = .820), general creative fluency B = -0.01, SE = 0.02, t(335) = -0.32, p = .747), multiracial-specific creative flexibility (B = 0.04, SE = 0.04, t(335) = 0.94, p = .346), multiracial-specific creative originality (B = -0.01, SE = 0.01, t(315) = -0.66, p = .512), and multiracial-specific creative fluency (B = 0.04, SE = 0.03, t(335) = 1.06, p = .289).

MII as Mediator (H5 & H6)

The goal of Study 2 was chiefly to examine the mediating role of MII on the relationship between identity denial/inquiry on various psychological well-being and cognitive outcomes. All mediation analyses were performed using the *lavaan* package (Rosseel, 2012) (Table 8).

Identity Denial, MII, and Psychological Well-being Outcomes

Our results indicated that MII harmony mediated the relationship between identity denial, and psychological well-being outcomes such as trait anxiety (B = 0.05, SE = 0.01, p < .001, 95% CI_{boot} [0.02, 0.07]; Figure 2A), depressive symptoms (B = 0.05, SE = 0.01, p < .001, 95% CI_{boot} [0.03, 0.8], Figure 2B), satisfaction with life (B = -0.13, SE = 0.03, p < .001, 95% CI_{boot} [-0.20, -0.07]; Figure 2C), self-esteem (B = -0.06, SE = 0.01, p < .001, 95% CI_{boot} [-0.09, 0.04]; Figure 2D), and multiracial pride (B = -0.10, SE = 0.02, p < .001, 95% CI_{boot} [-0.14, -0.06]; Figure 2E).

Similarly, MII blendedness mediated the relationship between identity denial, and psychological well-being outcomes such as depressive symptoms (B = 0.01, SE = 0.01, p = .037, 95% CI_{boot} [0.001, 0.02]; Figure 3A), self-esteem (B = -0.01, SE = 0.01, p = .028, 95% CI_{boot} [-0.02, -0.001]; Figure 3B), and multiracial pride (B = -0.03, SE = 0.01, p = .011, 95% CI_{boot} [-0.06, -0.01]; Figure 3C).

However, the relationship between identity denial and trait anxiety (B = 0.01, SE = 0.004, p = .060, 95% CI_{boot} [-0.00, 0.02]), as well as identity denial and satisfaction with life (B = -0.02, SE = 0.01, p = .053, 95% CI_{boot} [-0.04, 0.00]) via MII blendedness was not significant.

Figure 2

MII Harmony as the Mediator between Identity Denial and Psychological Well-being Outcomes

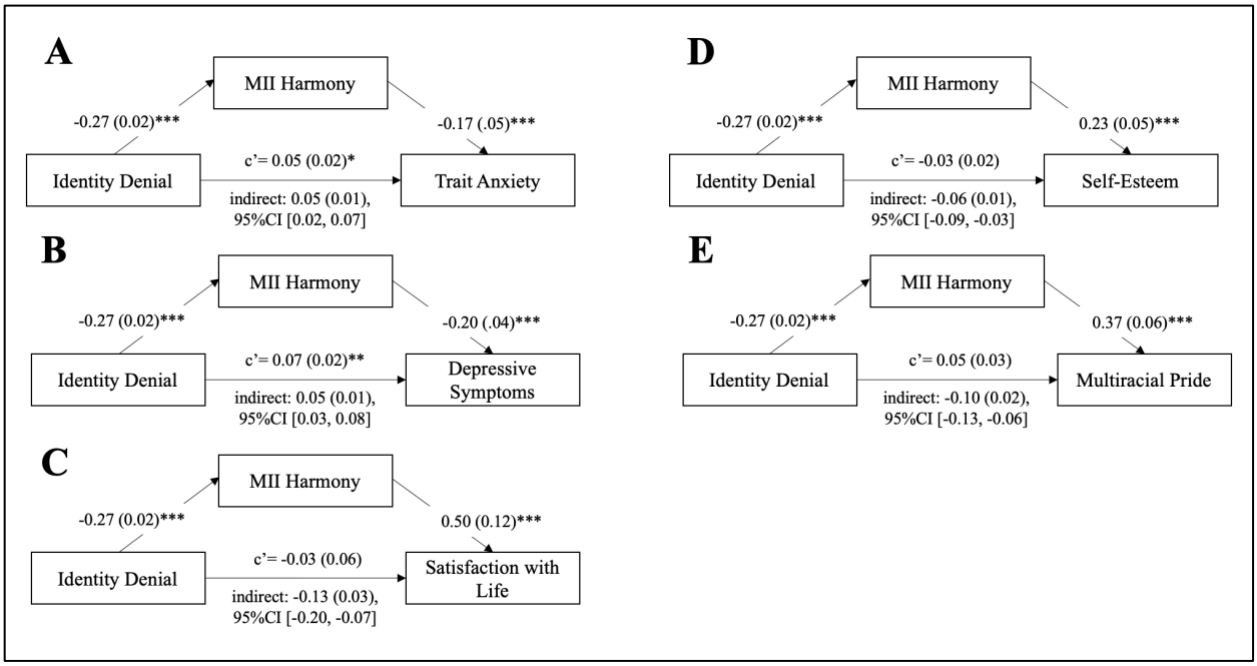
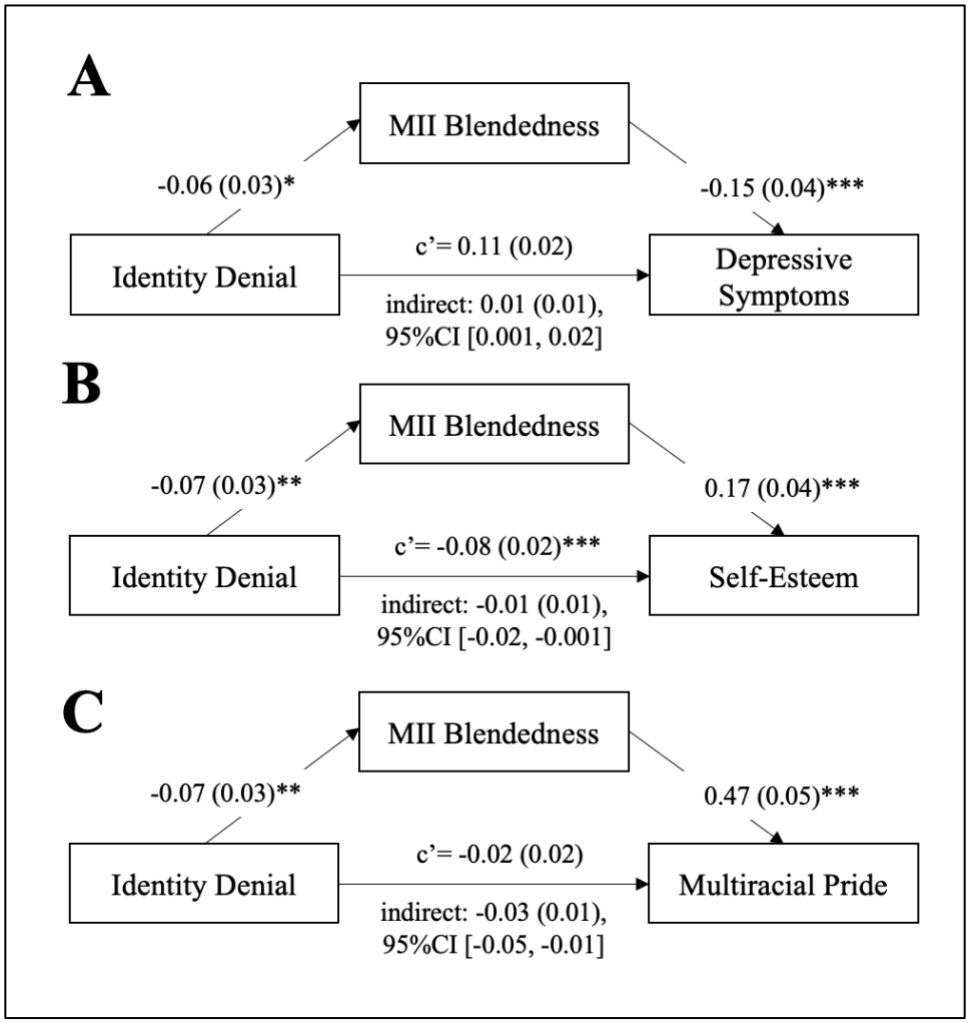


Figure 3

MII Blendedness as the Mediator between Identity Denial and Psychological Well-being Outcomes

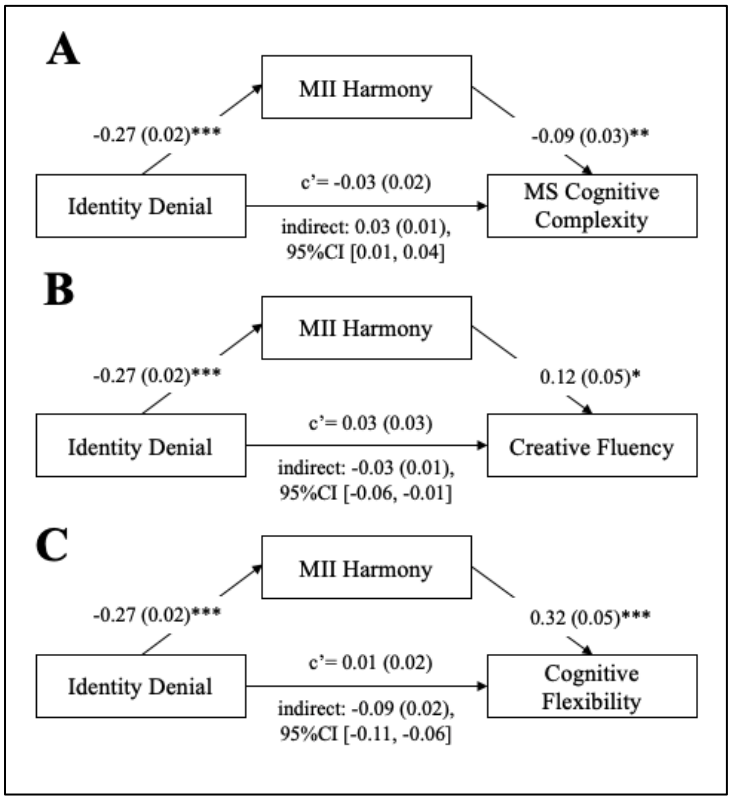


Identity Denial, MII, and Cognitive Capacity Outcomes

Our results indicated that MII harmony mediated the relations between identity denial and multiracial-specific cognitive complexity (B = 0.03, SE = 0.01, p = .007, 95% CI_{boot} [0.01, 0.04]; Figure 4A), creative fluency (B = -0.03, SE = 0.01, p = .022, 95% CI_{boot} [-0.06, -0.01]; Figure 4B), as well as cognitive flexibility (B = -0.09, SE = 0.02, p < .001, 95% CI_{boot} [-0.12, -0.06]; Figure 4C).

Figure 4

MII Harmony as the Mediator between Identity Denial and Cognitive Capacity Outcomes



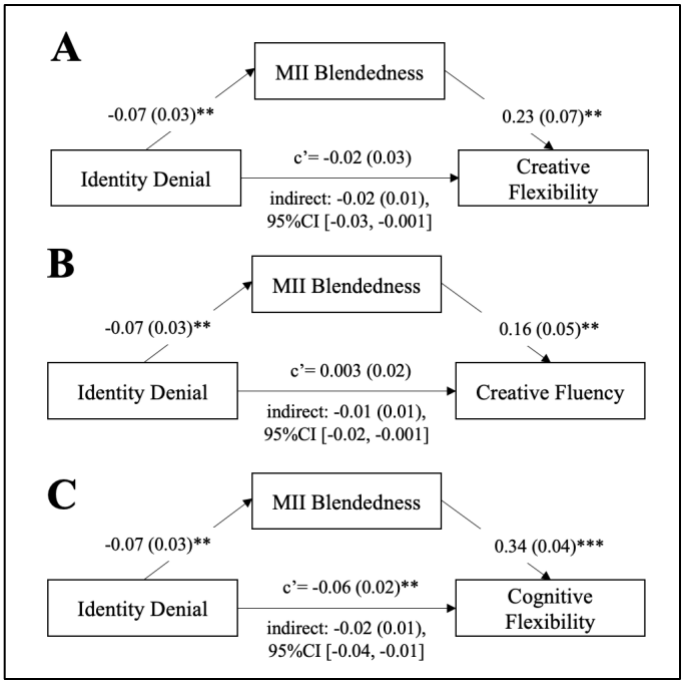
However, MII harmony did not mediate the relationship between identity denial and general cognitive complexity (B = 0.03, SE = 0.02, p = .078, 95% CI_{boot} [-0.003, 0.06]), general creative flexibility (B = -0.04, SE = 0.02, p = .077, 95% CI_{boot} [-0.07, 0.004]), general creative originality (B = -0.01, SE = 0.01, p = .099, 95% CI_{boot} [-0.002, -0.01]), multiracial-specific creative flexibility (B = -0.01, SE = 0.03, p = .780, 95% CI_{boot} [-0.06, 0.04]), multiracial-specific creative originality (B = 0.01, SE = 0.01, p = .213, 95% CI_{boot} [-0.004, 0.02]), and multiracial-specific fluency (B = -0.01, SE = 0.02, p = .729, 95% CI_{boot} [-0.05, 0.04]).

Analyses with MII blendedness as the mediator revealed similar support for its mediating role between identity denial and creative flexibility (B = -0.02, SE = 0.01, p = .034, 95% CI_{boot} [-0.03, -0.001]; Figure 5A), fluency (B = -0.01, SE = 0.01, p = .036, 95% CI_{boot} [-0.02, -0.001];

Figure 5B), and cognitive flexibility (B = -0.02, SE = 0.01, p = .012, 95% CI_{boot} [-0.04, -0.01]; Figure 5C).

Figure 5

MII Blendedness as the Mediator between Identity Denial and Cognitive Capacity Outcomes



The relationship between identity denial and general cognitive complexity (B = 0.003, SE = 0.004, p = .395, 95% CI_{boot} [-0.004, 0.01]), multiracial-specific cognitive complexity (B = -0.001, SE = 0.002, p = .588, 95% CI_{boot} [-0.01, 0.003]), general creative originality (B = 0.001, SE = 0.001, p = .335, 95% CI_{boot} [-0.001, 0.004]), multiracial-specific creative flexibility (B = -0.01, SE = 0.01, p = .411, 95% CI_{boot} [-0.02, 0.01]), multiracial-specific creative originality (B = 0.002, SE = 0.002, p = .267, 95% CI_{boot} [-0.001, 0.01]), as well as multiracial-specific fluency (B = -0.01, SE = 0.01, p = .055, 95% CI_{boot} [-0.03, 0.00]) via MII blendedness was not significant.

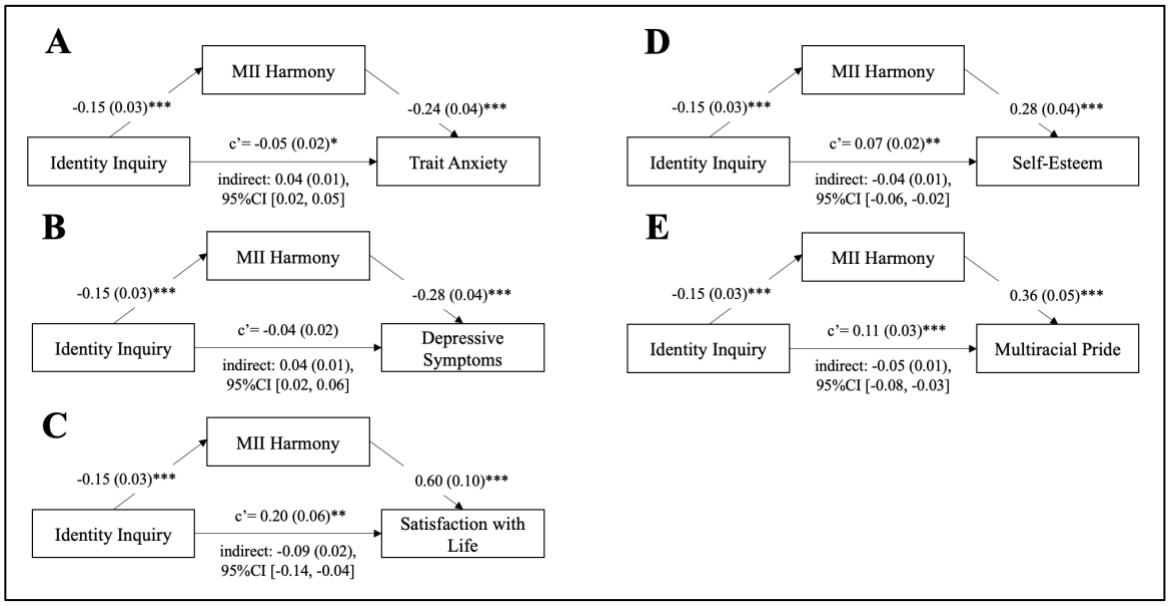
Identity Inquiry, MII, and Psychological Well-being Outcomes

Next, the mediating relationship between identity inquiry and psychological well-being outcomes via MII harmony revealed a significant mediation. The psychological well-being

outcomes include trait anxiety (B = 0.04, SE = 0.01, p < .001, 95% CI_{boot} [0.02, 0.05]; Figure 6A), depressive symptoms (B = 0.04, SE = 0.01, p < .001, 95% CI_{boot} [0.02, 0.06]; Figure 6B), satisfaction with life (B = -0.09, SE = 0.02, p < .001, 95% CI_{boot} [-0.14, -0.04]; Figure 6C), self-esteem (B = -0.04, SE = 0.01, p < .001, 95% CI_{boot} [-0.06, -0.02]; Figure 6D), and multiracial pride (B = -0.05, SE = 0.01, p < .001, 95% CI_{boot} [-0.08, -0.03]; Figure 6E).

Figure 6

MII Harmony as the Mediator between Identity Inquiry and Psychological Well-being Outcomes



Lastly, as the relationship between identity inquiry and MII blendedness was found to be nonsignificant (a path, p > .05) the mediating relationship between identity inquiry and psychological well-being outcomes via MII blendedness also yielded nonsignificant results (p > .05).

Identity Inquiry, MII, and Cognitive Capacity Outcomes

Mediational analyses with identity inquiry and cognitive capacity outcomes via MII harmony revealed a generally nonsignificant relationship. Identity inquiry was not associated with general creative flexibility, general creative originality, general creative fluency,

multiracial-specific creative flexibility, multiracial-specific creative fluency, nor multiracial-specific fluency, $p > .05$. However, we found that MII harmony mediated the relationship between identity inquiry and general cognitive complexity ($B = 0.02$, $SE = 0.01$, $p = .039$, 95% 95% CI_{boot} [0.001, 0.03]; Figure 7A), multiracial-specific cognitive complexity ($B = 0.02$, $SE = 0.01$, $p = .002$, 95% 95% CI_{boot} [0.01, 0.03]; Figure 7B), and cognitive flexibility($B = -0.05$, $SE = 0.01$, $p < .001$, 95% CI_{boot} [-0.07, -0.03]; Figure 7C).

Analyses with identity inquiry and cognitive capacity outcomes via MII blendedness revealed a nonsignificant relationship for all cognitive capacity outcomes, $p > .05$. A summary of the findings is reported in Table 8.

Figure 7

MII Harmony as the Mediator between Identity Inquiry and Cognitive Capacity Outcomes

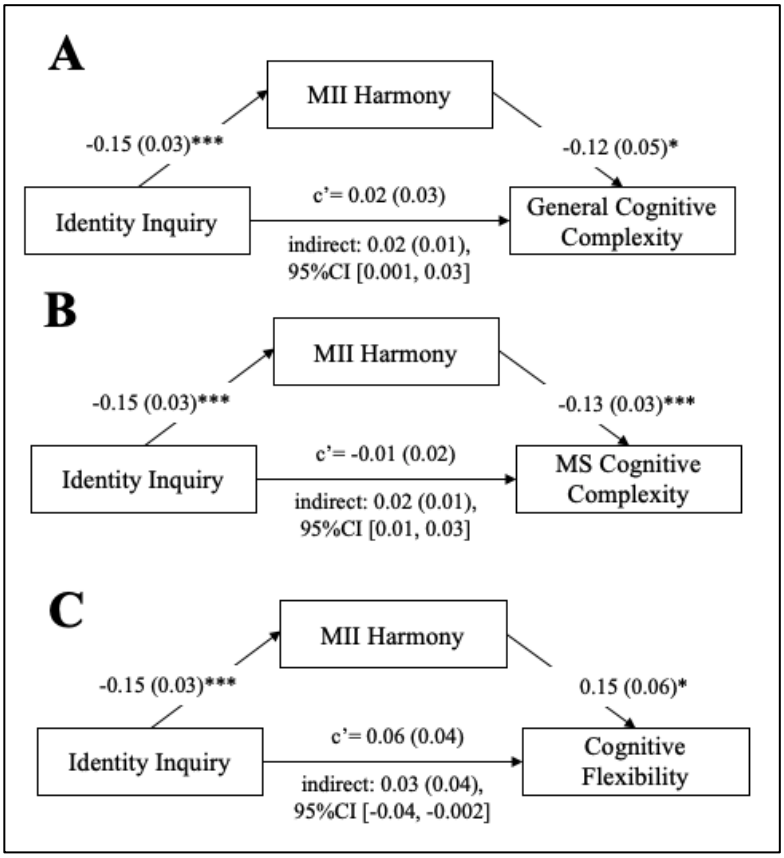


Table 8
Summary of results for all mediation analyses

Predictor	Mediator	Outcome	*a*	*b*	*c'*	Indirect Effect	95% CI	Mediation
			B(SE)	*B(SE)*	*B(SE)*	*B(SE)*		
Denial	Harmony	Trait Anxiety	**-0.27(0.02)**	**-0.17(0.05)**	**0.05(0.02)**	**0.05(0.01)**	**[0.02, 0.07]**	Partial
Denial	Harmony	Depressive Symptoms	**-0.27(0.02)**	**-0.20(0.04)**	**0.07(0.02)**	**0.05(0.01)**	**[0.03, 0.08]**	Partial
Denial	Harmony	SWLS	**-0.27(0.02)**	**0.50(0.12)**	-0.03(0.06)	**-0.13(0.06)**	**[-0.20, -0.07]**	Full
Denial	Harmony	Self-esteem	**-0.27(0.02)**	**0.23(0.05)**	-0.03(0.02)	**-0.03(0.02)**	**[-0.09, -0.03]**	Full
Denial	Harmony	Multiracial Pride	**-0.27(0.02)**	**0.37(0.06)**	0.05(0.03)	**0.05(0.03)**	**[-0.13, -0.06]**	Full
Denial	Blendedness	Trait Anxiety	**-0.07(0.03**	**-0.11(0.04)**	**0.08(0.02)**	0.01(0.004)	[-0.00, 0.02]	
Denial	Blendedness	Depressive Symptoms	**-0.06(0.03)**	**-0.15(0.04)**	0.11(0.02)	**0.01(0.02)**	**[0.001, 0.02]**	Full
Denial	Blendedness	SWLS	**-0.07(0.03)**	**0.32(0.11)**	**-0.14(0.05)**	-0.02(0.01)	[-0.04, 0.00]	
Denial	Blendedness	Self-esteem	**-0.07(0.03)**	**0.17(0.04)**	**-0.08(0.02)**	**-0.08(0.02)**	**[-0.02, -0.001]**	Partial
Denial	Blendedness	Multiracial Pride	**-0.07(0.03)**	**0.47(0.05)**	-0.02(0.02)	**-0.02(0.02)**	**[-0.05, -0.01]**	Full
Denial	Harmony	Cognitive Complexity (G)	**-0.27(0.02)**	-0.11(0.06)	0.02(0.03)	0.03(0.02)	[-0.003, 0.06]	
Denial	Harmony	Cognitive Complexity (MS)	**-0.27(0.02)**	**-0.09(0.03)**	0.03(0.02)	**0.03(0.01)**	**[0.01, 0.04]**	Full
Denial	Harmony	Flexibility (G)	**-0.27(0.02)**	0.13(0.07)	-0.001(0.04)	-0.04(0.02)	[-0.07, 0.004]	
Denial	Harmony	Originality (G)	**-0.27(0.02)**	-0.03(0.02)	-0.01(0.01)	-0.01(0.01)	[-0.002, 0.02]	
Denial	Harmony	Fluency (G)	**-0.27(0.02)**	**0.12(0.05)**	-0.01(0.03)	**-0.03(0.01)**	**[-0.06, -0.01]**	Full
Denial	Harmony	Flexibility (MS)	**-0.27(0.02)**	0.03(0.10)	0.05(0.05)	-0.01(0.03)	[-0.06, 0.05]	
Denial	Harmony	Originality (MS)	**-0.27(0.02)**	-0.03(0.02)	-0.01(0.01)	0.01(0.01)	[-0.004, 0.02]	
Denial	Harmony	Fluency (MS)	**-0.27(0.02)**	0.03(0.08)	0.04(0.04)	-0.01(0.02)	[-0.05, 0.04]	
Denial	Harmony	Cognitive Flexibility	**-0.27(0.02)**	**0.32(0.05)**	0.01(0.02)	**-0.09(0.02)**	**[-0.11, -0.06]**	Full
Denial	Blendedness	Cognitive Complexity (G)	**-0.07(0.03)**	-0.05(0.06)	0.05(0.03)	0.003(0.00)	[-0.004, 0.01]	
Denial	Blendedness	Cognitive Complexity (MS)	**-0.07(0.03)**	0.02(0.03)	**0.06(0.02)**	-0.001(0.00)	[-0.01, 0.003]	

Table 8 *(continued)*

Predictor	Mediator	Outcome	*a*	*b*	*c'*	Indirect Effect	95% CI	Mediation
			B(SE)	*B(SE)*	*B(SE)*	*B(SE)*		
Denial	Blendedness	Flexibility (G)	**-0.07(0.03)**	**0.23(0.07)**	-0.02(0.03)	**-0.02(0.01)**	**[-0.03, -0.001]**	Full
Denial	Blendedness	Originality (G)	**-0.07(0.03)**	-0.02(0.02)	-0.003(0.01)	0.001(0.00)	[-0.001, 0.00]	
Denial	Blendedness	Fluency (G)	**-0.07(0.03)**	**0.16(0.05)**	0.003(0.02)	**0.003(0.02)**	**[-0.02, -0.001]**	Full
Denial	Blendedness	Flexibility (MS)	**-0.07(0.03)**	0.08(0.09)	-0.04(0.04)	-0.01(0.01)	[-0.02, 0.01]	
Denial	Blendedness	Originality (MS)	**-0.07(0.03)**	-0.03(0.02)	-0.01(0.01)	0.002(0.00)	[-0.001, 0.01]	
Denial	Blendedness	Fluency (MS)	**-0.07(0.03)**	**0.21(0.08)**	0.05(0.03)	-0.01(0.01)	[-0.03, 0.00]	
Denial	Blendedness	Cognitive Flexibility	**-0.07(0.03)**	**0.34(0.04)**	**-0.06(0.02)**	**-0.02(0.01)**	**[-0.04, -0.01]**	Partial
Inquiry	Harmony	Trait Anxiety	**-0.15(0.03)**	**-0.24(0.04)**	**-0.05(0.02)**	**0.04(0.01)**	**[0.02, 0.05]**	Partial
Inquiry	Harmony	Depressive Symptoms	**-0.15(0.03)**	**-0.28(0.04)**	-0.04(0.02)	**-0.04(0.01**	**[0.02, 0.06]**	Full
Inquiry	Harmony	SWLS	**-0.15(0.03)**	**0.60(0.10)**	**0.20(0.06)**	**-0.09(0.02)**	**[-0.14, -0.04]**	Partial
Inquiry	Harmony	Self-esteem	**-0.15(0.03)**	**0.28(0.04)**	**0.07(0.02)**	**-0.04(0.01)**	**[-0.06, -0.02]**	Partial
Inquiry	Harmony	Multiracial Pride	**-0.15(0.03)**	**0.36(0.05)**	**0.11(0.03)**	**-0.05(0.01)**	**[-0.08, -0.03]**	Partial
Inquiry	Blendedness	Trait Anxiety	0.02(0.03)	**-0.14(0.04)**	-0.01(0.02)	-0.003(0.004)	[-0.01, 0.01]	
Inquiry	Blendedness	Depressive Symptoms	0.02(0.03)	**-0.18(0.04)**	0.01(0.02)	-0.004(0.01)	[-0.02, 0.01]	
Inquiry	Blendedness	SWLS	0.02(0.03)	**0.35(0.11)**	0.11(0.06)	0.01(0.01)	[-0.01, 0.03]	
Inquiry	Blendedness	Self-esteem	0.02(0.03)	**0.19(0.04)**	0.03(0.02)	0.004(0.01)	[-0.01, 0.02]	
Inquiry	Blendedness	Multiracial Pride	0.02(0.03)	**0.47(0.05)**	0.05(0.03)	0.01(0.01)	[-0.02, 0.04]	
Inquiry	Harmony	Cognitive Complexity (G)	**-0.15(0.03)**	**-0.12(0.05)**	0.02(0.03)	**0.02(0.01)**	**[0.001, 0.03]**	Full
Inquiry	Harmony	Cognitive Complexity (MS)	**-0.15(0.03)**	**-0.13(0.03)**	-0.01(0.02)	**0.02(0.01)**	**[0.01, 0.03]**	Full
Inquiry	Harmony	Flexibility (G)	**-0.15(0.03)**	**0.15(0.06)**	-0.02(0.01)	**-0.02(0.01)**	**[-0.04, -0.002]**	Full
Inquiry	Harmony	Originality (G)	**-0.15(0.03)**	-0.03(0.02)	-0.02(0.01)	0.004(0.00)	[-0.001, 0.01]	
Inquiry	Harmony	Fluency (G)	**-0.15(0.03)**	**0.09(0.04)**	0.004(0.03)	-0.01(0.01)	[-0.03, 0.00]	

Table 8 *(continued)*

Predictor	Mediator	Outcome	*a*	*b*	*c'*	Indirect Effect	95% CI	Mediation
			B(SE)	*B(SE)*	*B(SE)*	*B(SE)*		
Inquiry	Harmony	Flexibility (MS)	**-0.15(0.03)**	0.02(0.08)	**0.11(0.05)**	-0.00(0.01)	[-0.03, 0.02]	
Inquiry	Harmony	Originality (MS)	**-0.14(0.03)**	-0.01(0.02)	0.001(0.01)	0.002(0.00)	[-0.004, 0.01]	
Inquiry	Harmony	Fluency (MS)	**-0.15(0.03)**	0.02(0.07)	**0.09(0.04)**	-0.00(0.01)	[-0.02, 0.02]	
Inquiry	Harmony	Cognitive Flexibility	**-0.15(0.03)**	**0.15(0.06)**	0.06(0.04)	**0.03(0.04)**	**[-0.04, -0.002]**	Full
Inquiry	Blendedness	Cognitive Complexity (G)	0.02(0.03)	-0.07(0.06)	0.04(0.03)	-0.00(0.002)	[-0.01, 0.003]	
Inquiry	Blendedness	Cognitive Complexity (MS)	0.02(0.03)	-0.001(0.03)	0.01(0.02)	-0.00(0.001)	[-0.001, 0.001]	
Inquiry	Blendedness	Flexibility (G)	0.02(0.03)	**0.24(0.07)**	0.03(0.04)	0.01(0.01)	[-0.01, 0.02]	
Inquiry	Blendedness	Originality (G)	0.02(0.03)	-0.02(0.02)	-0.01(0.01)	0.00(0.001)	[-0.002, 0.00]	
Inquiry	Blendedness	Fluency (G)	0.02(0.03)	**0.16(0.05)**	-0.01(0.03)	0.003(0.04)	[-0.01, 0.01]	
Inquiry	Blendedness	Flexibility (MS)	0.02(0.03)	0.06(0.09)	**0.10(0.05)**	0.001(0.003)	[-0.004, 0.01]	
Inquiry	Blendedness	Originality (MS)	0.03(0.03)	-0.01(0.02)	0.003(0.03)	-0.00(0.001)	[-0.001, 0.001]	
Inquiry	Blendedness	Fluency (MS)	0.02(0.03)	**0.19(0.07)**	0.08(0.04)	0.004(0.01)	[-0.01, 0.02]	
Inquiry	Blendedness	Cognitive Flexibility	0.02(0.03)	**0.36(0.04)**	0.01(0.02)	0.01(0.01)	[-0.01, 0.03]	

Note. B represents regression coefficients. Standard errors are shown in parentheses. (G) and (MS) are used to represent general and multiracial-specific, respectively. Boldface indicates $p < .05$.

Study 2 Discussion

Study 2 examined the relationship between identity denial, identity inquiry, MII, psychological well-being, and cognitive capacity outcomes . First and foremost, the MIIS-2 scale possessed good scale reliability ($\alpha_{harmony}$ = .88; $\alpha_{blendedness}$ = .70), suggesting that it is a better and more reliable measure of MII compared to the original MII scale (Cheng & Lee, 2009).

Second, the positive relationship between MII harmony and psychological well-being outcomes (H1a) were replicated. In addition, MII blendedness was found to be positively associated with all psychological well-being outcomes too, supporting H1a. It is clear that MII harmony is closely associated with psychological well-being outcomes, however, this new finding between MII blendedness and psychological well-being outcomes, contrary to Study 1, suggests that further examination into this relationship is warranted.

Third, we received partial support for our hypotheses that MII was associated with cognitive complexity, creativity, and cognitive flexibility. MII harmony and blendedness were both positively associated with general creative flexibility, general creative fluency, multiracial-specific fluency, and cognitive flexibility. Together, this indicates that feeling positive about and cognitively integrating one's multiracial identities can lead to positive cognitive outcomes. Our results here continue to replicate previous findings that an integrated identity contributes to an increased awareness of other options and alternatives leading to increased creative fluency (Cheng et al., 2008a), flexibility (Gaither et al., 2015), and overall cognitive flexibility (Gaither et al., 2015). However, we found a negative relationship between MII harmony and general cognitive complexity. Higher levels of MII were associated with lower levels of cognitive complexity. While this finding was counter to our proposed direction, it is consistent with Benet-Martínez et al.'s (2006) findings. The authors found that in a sample of bicultural individuals,

lower levels of BII were associated with higher cognitive complexity. Perceptions of conflict led low BIIs to think and express themselves and their cultures in more multidimensional and cognitive complex ways.

Fourth, identity denial was negatively associated with MII, supporting H2. While it was initially hypothesized that experience with identity inquiry may positively impact multiracials' MII (H3), we found the same negative association between experiences with identity inquiry and MII harmony. This suggests that any identity-related questions regardless of positive/negative intent may be perceived by multiracials as a negative experience that amounts to microaggression (Lilienfeld, 2017). This suggests that experiences with identity inquiry maybe still negative for multiracials and therefore also negatively impact multiracials' MII. As Albuja et al. (2019b) suggested, some multiracials are more likely to perceive questions about one's multiracial identity as prejudicial, this negatively impacts their psychological well-being. Once individuals perceive prejudice, they often report less enjoyable interracial interactions (Shelton et al., 2005). Perhaps even the positive curiosity expressed by others may not supersede multiracials' own perceived prejudicial intent or even their identity acceptance concerns.

Fifth, experiences with identity denial were negatively associated with psychological well-being outcomes (H4a), general cognitive complexity, and cognitive flexibility (H4b). This suggests that identity denial is incredibly detrimental, and it affects not just how multiracials feels about themselves, but it can also impact cognitive outcomes.

Lastly, we tested our full proposed model (H5 & H6). We found that MII harmony mediated the link between identity denial and all psychological well-being outcomes. MII blendedness also mediated the link between identity denial and all psychological well-being outcomes except for trait anxiety, supporting H5a. In addition, MII also mediated the link

between identity denial and general creative fluency, as well as cognitive flexibility, partially supporting H5b. Finally, the link between identity denial and general creative flexibility was mediated by MII blendedness.

On the other hand, the relationship between identity inquiry and psychological well-being outcomes (H6a) were only mediated via MII harmony and not MII blendedness. Of note, we found a negative link between identity inquiry and MII harmony, but a positive link between MII harmony and psychological well-being outcomes. This indicates that experiences with identity inquiry, albeit stemming from positive curiosity, is negatively associated with how multiracials feel about their multiracial identities. Lower levels of MII harmony would lead to lower psychological well-being. Additionally, identity inquiry was only associated with cognitive flexibility via MII harmony (H6b). Nonetheless, while the indirect effect of identity inquiry on psychological well-being and cognitive flexibility outcomes was negative, the direct effect—after accounting for both *a* and *b* paths was positive—and total effects were overwhelmingly positive. The positive total effects (direct + indirect) suggests that identity inquiry is positively associated with multiracials' psychological well-being. The inconsistent mediation suggests that there are other unidentified paths that underlie the relationship between identity inquiry, MII harmony, and psychological well-being. The current findings reflect the complexity associated with multiracial experiences, which begs further attempts at identifying other moderators and mediators to fully understand how identity inquiry may impact multiracials' experiences.

Together, the results suggests that experiences with either identity denial or identity inquiry can lead to the same negative outcomes. MII is the psychological mechanism underlying identity denial and inquiry's impact on psychological well-being outcomes. While these

experiences also affect multiracials' cognitive outcomes, there are other unidentified factors that underlie the identity denial/inquiry and cognitive capacity link.

Study 3

Previous research on II has shown that II may be malleability (Cheng & Lee, 2013a). Cheng and Lee (2013a) found that recall of positive (negative) bicultural experiences and momentarily increase (decrease) biculturals' BII. Therefore, we wondered if experimentally manipulating experiences of identity denial and identity inquiry may impact and change multiracials' MII. We proposed that experiences with identity denial would negatively impact multiracials' MII (H2) while identity inquiry would positively influence multiracials' MII (H3).

Methods

Participants

Two hundred and ninety-nine multiracial Americans were recruited for this study via online crowdsourcing platform Connect. A priori power analyses of .95 power via G*Power (Faul et al., 2007, 2009) revealed that a sample size of 279 is sufficient to detect a medium to large effect (f^2 = .25). Participants completed the study in exchange for cash remuneration (USD$1.50). Eleven participants were excluded for incomplete data, the final sample was 288 (M_{age} = 34.97, *SD* = 10.06, 56.2% male). Most participants were biracial (82%) and of White-Native-American (12%) and White-Black (11%) descent.

Procedure and Materials

Identity Denial and Inquiry Manipulation

To manipulate experience of identity denial and inquiry, we adapted Cheng and Lee's (2009) manipulation of positive and negative multiracial experiences. Participants were randomly assigned to one of three conditions (identity denial vs. identity inquiry vs. control). In

the identity denial condition, participants were asked to list up to three prior instances where their multiracial identity was denied. In the identity inquiry condition, participants were similarly asked to list up to three prior instances where others experience positive curiosity regarding their multiracial identity. Lastly, in the control condition, participants were asked to list down up to three things on their to-do list for the week.

Manipulation Check

To ensure that our manipulations of identity denial and identity inquiry were effective, conducted several manipulation checks.

Need to Belong Threat. First, we assessed participants' perceived acceptance threat to their need to belong. Participants responded to four items on the Williams' (2009) need-threat scale (Appendix L). A sample item includes "I feel rejected" and "I felt like an outsider". Responses were made on a 5-point Likert scale (1 = *not at all*, 5 = *extremely*), $\alpha = 0.85$.

Perceived Discrimination. Second, we administered an adapted version of Phinney et al.'s (1998) perceived ethnic discrimination sale as a manipulation check. A sample item on the 4-item scale includes "I don't feel accepted by other Americans" (Appendix M). Responses were made on a 5-point Likert scale (1 = *almost never*, 5 = *very often*), $\alpha = 0.91$.

M*ultiracial Identity Integration*

We used the same MIIS-2 ($\alpha_{harmony} = .89$; $\alpha_{blendedness} = .68$) (Appendix B) as in Study 1 and Study 2.

Demographics

Lastly, participants reported key demographic variables such as age and gender (Appendix I) before they were debriefed. Descriptive statistics and correlations are presented in Table 9.

Table 9

Means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2	3	4	5
1. Age	34.97	10.06					
2. Gender	1.43	0.52	.08				
3. NTBT	2.65	1.03	-.05	-.02			
4. Perceived Discrimination	2.38	1.00	-.04	.07	**.61**		
5. MII Harmony	3.67	0.89	.10	-.08	**-.33**	**-.57**	
6. MII Blendedness	3.88	0.72	.03	.03	-.09	**-.15**	**.43**

Note. M and *SD* are used to represent mean and standard deviation, respectively. Boldface indicates $p < .05$.

Study 3 Results and Discussion

Preliminary Analyses

To ensure that our denial and inquiry recall manipulations were successful, an ANOVA was conducted with conditions (1 = denial, 2 = inquiry, 3 = control) as the predictor and need to belong threat as the outcome criterion. Analyses revealed a significant effect of conditions on need to belong threat, $F(2, 285) = 53.33$, $p < .001$. Multiracials who recalled identity denial instances ($M = 3.43$, $SD = 0.90$) reported more threats to their need to belong compared to participants in the identity inquiry ($M = 2.14$, $SD = 0.81$, $t(174) = 10.03$, $p < .001$), or control condition ($M = 2.44$, $SD = 0.91$, $t(198) = 7.71$, $p < .001$). Participants in the identity inquiry condition reported significantly lower need to belong threats compared to the control condition, $t(198) = -2.44$, $p = .017$.

Similar results were found when perceived discrimination was entered as the outcome variable. There was a significant effect of condition on perceived discrimination, $F(2, 185) = 11.81$, $p < .001$. Participants in the identity denial condition ($M = 2.79$, $SD = 0.86$) reported more perceived discrimination compared to those in the identity inquiry ($M = 2.13$, $SD = 0.94$, $t(174) = 4.86$, $p < .001$) or control condition ($M = 2.25$, $SD = 1.07$, $t(198) = 3.86$, $p < .001$). However, there were no differences in perceived discrimination between participants in the identity inquiry

and control condition, $t(198) = -0.84$, $p = .402$. The preliminary findings provide support that the experimental manipulation was successful in priming identity denial and identity inquiry.

Main Analyses

We predicted that exposure to the identity denial manipulation would negatively impact participants' MII (H2) while participants exposed to the identity inquiry manipulation will be experience a positive boost in their MII (H3). To examine our hypotheses, we first conducted an ANOVA with experimental conditions (predictor) and MII harmony (outcome). Results revealed that our experimental manipulation did not lead to significant changes in multiracials' MII harmony, $F(2, 284) = 1.59$, $p = .205$. Next, when MII blendedness was entered as the outcome variable, we similarly found a nonsignificant relation, $F(2, 285) = 1.15$, $p = .319$.

While the analyses showed that recall of identity denial or identity inquiry instances may influence multiracials' need to belongingness threat and perceived discrimination, this may stop short of changing how multiracials feel and manage their different racial identities. A potential theoretical implication suggests that MII once developed, may be less susceptible to changes, and may be better considered as an individual difference (Huynh et al., 2018).

Study 4

Previous attempt to nudge MII were unsuccessful. The potential stability of MII as an individual difference and its impact on various psychological outcomes suggests that MII may serve a highly adaptive function as the lens in which multiracials interpret various ambiguous interactions. As previously mentioned, questions about one's race such as "where are you from", or "what are you" (Cheryan & Monin, 2005) are ambiguous because the multiracial recipient are often blind to the intent (e.g., prejudicial or positive curiosity) behind these questions (Albuja et

al., 2019b). However, we contend that MII may be adaptive as it could guide multiracials' interpretation and response to these questions and interactions. According to the transactional model, responses to prejudice depends on personal, situational, and structural factors (Major et al., 2003). As higher (lower) MII is associated with better (poorer) psychological outcomes, MII as a lens may lead multiracials to interpret and approach these interactions in different ways.

Therefore, in Study 4, we investigated how multiracials' MII would influence their interpretation of identity-related questions. Based on our findings in Study 1 and 2, we propose that multiracials with lower (higher) levels of MII are more (less) likely to interpret innocuous identity-related questions as identity denial (vs. inquiry). That is, MII would moderate the perceived intent of identity-related questions and multiracials' interpretation of those questions as identity denial or identity inquiry. Additionally, we explore MII's relation to multiracials' interpersonal outcomes (H1c).

Methods

Participants

Two hundred and sixty-two multiracial Americans was recruited for this study. Nine participants were excluded for failing an attention check. A final sample of 254 was retained (M_{age} = 33.95, *SD* = 8.97, 55.5% male). A priori power analyses of .95 power via G*Power (Faul et al., 2007, 2009) revealed that a sample size of 279 was sufficient to detect a medium to large effect (f^2 = .25). Participants were recruited via online crowdsourcing platform Connect and remunerated with cash (USD$1.50). Most participants were biracials (82%) and were of White-Latinx (15%) and White-Native-American (10%) descent.

Procedure

Participants first provided self-report of their social network, and MII. Next, participants were randomly assigned to either a control or a manipulation condition. In the control condition, participants were told to imagine meeting someone new for the first time at a social event and were asked "what do you enjoy doing in your spare time". In the experimental condition, participants were asked "where are you from?". Thereafter, participants responded to measures of identity denial and identity inquiry before being debriefed.

Materials

Interpersonal Outcomes

We adopted Mok et al.'s (2007) egocentric network procedure to assess participants' social network. Participants were tasked to list down five of their closest friends, and five other people with whom they interact most closely as classmates, or colleagues. Participants then indicated the ethnicity of all listed individuals in their network. Based on the information provided, we calculated participants' close/other friends network size (number of individuals in their close/other friendship network) and close/other friends density which denotes integration of participants' social network (number of possible connections divided by total possible number of possible connections) using a social network analysis with the *egor* package (Brandes et al., 2008). The ethnicity of participants' friends was also coded to derive a measure of diversity (number of unique ethnicities amongst listed friends), and multiracial friends (number of multiracial friends)[5].

Multiracial Identity Integration

To assess participants' perceived Multiracial Identity Integration, we administered the same MIIS-2 ($\alpha_{harmony}$ = .89; $\alpha_{blendedness}$ = .69) (Appendix B) as in Studies 1 and 2.

[5] When analysed as a percentage of total number of friends reported, the results remained the same.

Identity Denial and Inquiry

To assess participants' perceived identity denial, we adapted the 4-item identity denial scale (Albuja et al., 2019a; Cheryan & Monin, 2005) used in Study 2. A sample item includes "To which extent did you feel like you were told that you are not one of the racial groups that you belong to?". Responses were made on a 7-point Likert scale (1 = *not at all*, 7 = *to a large extent*), $\alpha = 0.93$.

We similarly adapted the same identity inquiry scale (Albuja et al., 2019b) as in Study 2. A sample item reads "To which extent did you feel like others wanted to get to know your multiracial background better?". Responses were made on a 7-point Likert scale (1 = *not at all*, 7 = *to a large extent*), $\alpha = 0.94$.

Manipulation Check

To ensure that our manipulations of identity denial and identity inquiry were effective, participants were asked to recall the questions that were posed to them.

Demographics

Lastly, participants reported key demographic variables such as age and gender before they were debriefed. Descriptive statistics and correlations are presented in Table 10.

Study 4 Results

Interpersonal Outcomes

We hypothesized that multiracials' with higher levels of MII would report a stronger and more interconnected network of social support. To assess H1c, we ran several regression analyses with MII as the predictor and social network indicators as the outcome variable (Table 11).

Table 10

Means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	33.95	8.97													
2. Gender	1.46	0.52	.07												
3. Network Size (C)	4.05	1.46	**-.19**	-.07											
4. Density (C)	1.00	0.00	NA	NA	NA										
5. Diversity (C)	2.72	1.03	.10	.05	.00	NA									
6. Multiracial (C)	0.27	0.63	.07	**.26**	-.07	NA	**.30**								
7. Network Size (O)	3.98	1.55	-.09	-.10	**.44**	NA	-.03	**-.12**							
8. Density (O)	1.00	0.00	NA	NA	NA	NA	NA	NA	NA						
9. Diversity (O)	2.45	1.02	-.00	**.14**	**.16**	NA	**.45**	.06	.08	NA					
10. Multiracial	0.11	0.42	.07	**.18**	.04	NA	.01	**.36**	-.06	NA	**.21**				
11. MII Harmony	3.79	0.88	**.21**	-.03	**-.18**	NA	.01	.01	**-.19**	NA	-.04	-.07			
12. MII Blendedness	3.75	0.79	**.16**	**.14**	-.09	NA	.10	**.15**	-.07	NA	.10	.03	**.19**		
13. Identity Denial	2.40	1.59	**-.15**	-.04	.12	NA	-.06	-.01	**.17**	NA	.06	**.15**	**-.46**	**-.21**	
14. Identity Inquiry	3.35	1.62	-.07	-.08	**.15**	NA	-.10	-.07	.11	NA	.03	.02	-.12	.03	**.39**

Note. M and *SD* are used to represent mean and standard deviation, respectively. (C) and (O) are used to represent close friends and other friends, respectively. Boldface indicates $p < .05$. All participants had equally dense social network, therefore there were no variance

Table 11
Summary of findings for H1c

Predictor	Close Friends							
	Network Sizes		Density		Diversity		Multiracial	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	**-0.30**	**.004**	-0.00	.860	0.01	.900	0.01	.861
MII Blendedness	-0.17	.152	0.00	.573	0.00	.573	**0.12**	**.020**
	Other Friends							
	Network Sizes		Density		Diversity		Multiracial	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*
MII Harmony	**-0.33**	**.002**	0	.860	-0.05	.497	-0.03	.286
MII Blendedness	-0.14	.244	0.00	.555	0.13	.096	0.02	.628

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.

First we examine multiracials' MII and their relations with their close friends. We found that MII harmony was negatively associated with their close friends' network size, B = -0.30, SE = 0.10, $t(252)$ = -2.91, p = .004. MII harmony was however not associated with the density of their close friend network (B = -0.00, SE = 0.00, $t(235)$ = -0.18, p = .860), overall ethnic diversity (B = 0.01, SE = 0.07, $t(252)$ = 0.13, p = .900), and number of multiracials in their close friends network (B = 0.01, SE = 0.04, $t(252)$ = 0.18, p = .861).

MII blendedness was positively associated with the number of multiracials in their close friend's network (B = 0.12, SE = 0.05, $t(252)$ = 2.35, p = .020), supporting H1c. The relationship between MII blendedness and participants' close friend network size (B = -0.17, SE = 0.12, $t(252)$ = -1.44, p = .152), density (B = 0.00, SE = 0.00, $t(235)$ = 0.56, p = .573), and ethnic diversity (B = 0.00, SE = 0.00, $t(235)$ = 0.57, p = .573) was nonsignificant.

Next, we examine multiracials' MII and their relations with their other friends. There was a significant negative relationship between MII harmony and other friends network size, B = -0.33, SE = 0.11, $t(252)$ = -3.09, p = .002. The relationship between MII harmony and MII

blendedness with other measures of participants' social network all revealed a nonsignificant relationship, $p > .05$. We did not find support for H1c.

Experimental Analyses

We hypothesized that MII would moderate multiracials' interpretation of identity-related questions as identity denial or inquiry. We predicted that participants with higher (vs. lower) MII levels would report less (vs. more) perceived identity denial and more (vs. less) identity inquiry after exposure to the experimental condition ("where are you from") (H2). To assess our hypothesis, we conducted several simple moderations with our experimental condition (1 = control, 2 = experimental) as the independent variable, MII as the moderator, and identity denial/inquiry as the outcome variable. Analyses were conducted with Hayes (2017) PROCESS Model 1.

First, we examined the relationship between experimental condition (criterion), MII harmony (moderator), and identity denial (outcome). While the experimental conditions (B = 0.58 , SE = 0.17 , p = .009, 95% CI_{boot} [0.24, 0.93]) and MII harmony (B = -0.82, SE = 0.10, p < .001, 95% CI_{boot} [-1.01, -0.62]) independently predicted for perceived identity denial, MII harmony failed to moderate multiracials' perceptions of identity-related questions (B = 0.23, SE = 0.20, p = .235, 95% CI_{boot} [-0.15, 0.62]).

Second, we examined the relationship between experimental condition (criterion), MII harmony (moderator) and identity inquiry (outcome). Similarly, we found that the experimental conditions (B = 1.33, SE = 0.18, p < .001, 95% CI_{boot} [0.97, 1.69]) and MII harmony (B = -0.21, SE = 0.10, p = .043, 95% CI_{boot} [-0.42, -0.01]) independently predicted for perceived identity inquiry. However, the interaction between MII harmony and experimental condition was nonsignificant, B = -0.16, SE = 0.21, p = .447, 95% CI_{boot} [-0.57, 0.25].

Third, we examined the relationship between experimental condition (criterion), MII blendedness (moderator) and identity denial (outcome). Experimental conditions (B = 0.59, SE = 0.19, p = .003, 95% CI_{boot} [0.21, 0.97]) and MII blendedness (B = -0.40, SE = 0.12, p = .001, 95% CI_{boot} [-9.64, -0.16]) independently predicted for perceived identity denial. However, the interaction between experimental condition and MII blendedness was nonsignificant, B = 0.001, SE = 0.25, p = .996, 95% CI_{boot} [-0.49, 0.49].

Lastly, we examined the relationship between experimental condition (criterion), MII blendedness (moderator) and identity inquiry (outcome). We found a significant main effect of experimental condition on perceived identity inquiry, B = 1.34, SE = 0.19, p < .001, 95% CI_{boot} [0.98, 1.70]. The main effect of MII blendedness (B = 0.09, SE = 0.12, p = .474, 95% CI_{boot} [-0.15, 0.32]) and the moderating effects (B = 0.22, SE = 0.24, p = .350, 95% CI_{boot} [-0.25, 0.69]) yielded nonsignificant results.

Study 4 Discussion

First, we found a negative relationship with MII harmony and close friends network size as well as other friends network size. This finding, although significant, did not support our initial hypothesis that higher levels of MII would be associated with a stronger and more diverse social network (H1c). This may suggest that multiracials who experience more harmony between their multiracial identities may require less friends to form a strong social support network. On the other hand, the relationship between MII blendedness and number of biracial close friends were found to be significant, supporting H1c. Being able to cognitive integrate multiple racial identities may lead multiracials high in MII blendedness to seek out more like-minded multiracial peers, mirroring their personal identification (Gudykunst, 2001; Mok et al., 2007).

However, we did not find support for out hypothesis that multiracials with higher levels of MII would have a more integrated and diverse social network (H1c). Although MII harmony and blendedness were associated with some measures of social network, the overall results suggest that MII is not associated with the interconnectedness of one's social network. A potential explanation for the null results could rest in the range restriction with our dataset. Most if not all participants could indicate up to five close (59%) and other friends (61%). This may have restricted our ability to examine how interconnected participants' social network are.

Next, the experimental manipulation was successful in inducing perceived identity denial experiences. Independently, MII is negatively associated with perceived experiences of identity denial and inquiry, replicating Studies 1 and 2. Nonetheless, our findings failed to support our hypothesis that MII may moderate multiracials' interpretation of identity-related questions. Since our manipulations were successful in inducing perceived identity denial/inquiry, it suggests that regardless of MII, multiracials may successfully interpret identity-related questions such as "where are you from" on a wide spectrum from identity inquiry to identity denial. MII as a lens appears to enact little to no influence on the interpretation of such questions. As previously mentioned, Albuja et al., (2019b) has found that perceived prejudicial intent once formed can lead to identity acceptance threat that undermines multiracials' psychological well-being. Therefore, understanding multiracials' perceived prejudicial intent (e.g., Pettigrew, 2008; Shelton et al., 2005) may help to illuminate how identity inquiry may impact one's MII. As our experimental manipulation in Study 3 did not impact MII, we decided to conduct one more experimental study to examine the impact of identity denial and identity inquiry on MII.

General Discussion

Research in multiracial identities were previously focused on examining the consequences associated with varying degrees of multiracial identity integration. Early researchers have found that compared to monoracials, multiracials experience more discrimination, and poorer psychological outcomes (Binning et al., 2009; Jackson et al., 2012; Sanchez, 2010). However, little work has been done to examine the upside of possessing multiracial membership and integrating these identities. This dissertation investigated different psychological well-being, cognitive capacity, and social network outcomes that may be associated with a healthy and positive multiracial identity. Additionally, an investigation into the key antecedents that may shape multiracials' MII was also conducted.

Psychological Well-being and Cognitive Capacity Outcomes

Across all four studies, we found that the MIIS-2 was a better measure of MII compared to the original eight-item scale by Cheng and Lee (2009). Using the new measure, we found that MII harmony (Study 1 and 2) and MII blendedness (Study 2) was positively associated with various psychological well-being outcomes, replicating previous research (Fisher et al., 2014; Marks et al., 2020; Rockquemore, 2002; Sanchez, 2010). A healthy and strong multiracial identity is associated with better psychological well-being (H1a).

While the relationship between MII and overall cognitive capacity outcomes (H1b) were not as strong as the link between MII and psychological well-being, a clear link between MII and creative fluency as well as cognitive flexibility was replicated in both Studies 1 and 2. Previous research on multiracials' cognitive capacity outcomes also highlighted this positive link (Cheng et al., 2008a; Gaither et al., 2015). A more integrated multiracial identity increases one's awareness of other options and alternatives, promoting creative flexibility, fluency, and cognitive flexibility. As our results indicated, higher (vs. lower) MII may not lead to more original

answers, but these multiracials were able to think in different ways. Of note, we did not see an increase in creative output when participants were tasked to tap into different cultural frames (Cheng et al., 2008a; Saad et al., 2013). In fact, several participants reported that there should not be any difference in multiracial (vs. monoracial) gift idea because they should be treated in the same way. This suggests that there are important qualitative differences between the experience of being multiracial and bicultural. Multiracials may not see themselves as completely outgroup members as they possess the same superordinate identity (i.e., American) in the society, but biculturals may often have to prove their allegiance and competency as an American.

The relationship between MII and social network (H1c) did not reveal any notable findings related to participants' strength and diversity within their social network. As previously mentioned this could be attributed to a range restriction in our sample (i.e., network size, density). Future research can provide more than five options to better examine the link between MII and multiracials' social network.

Identity Denial and Identity Inquiry

Next, Studies 2 – 4 also examined two key antecedents of MII, namely identity denial and identity inquiry. It was initially hypothesized that identity denial would be negatively associated with MII (H2) while identity inquiry would be positively associated with MII (H3). We hoped to contribute to the literature on identity denial and questioning (Albuja et al., 2019a, 2019b; Cheryan & Monin, 2005; Franco et al., 2016) by introducing a new and positive construct identity inquiry. We differentiated identity questioning and identity inquiry by the absence of prejudicial intention underlying identity inquiry. Previous research has shown that identity denial is clearly imbued with prejudicial intent (Albuja et al., 2019a; Franco & Franco, 2016). Although identity questioning may stem from genuine curiosity, it can also arise as an initial first step for

others to engage in identity denial (Cheryan & Monin, 2005). The ambiguous nature of identity questioning may still allow monoracials to disguise their prejudicial intent behind seemingly innocuous questioning, which may still contribute to multiracials' experience of acceptance threat and psychological rejection (Albuja et al., 2019b; Cheryan & Monin, 2005). The proposed identity inquiry construct intended to capture positive and genuine curiosity, absent of prejudicial intent, that monoracials and other may express to multiracials in their attempt to better make sense and categorize them. We proposed that experiences with identity inquiry can positively benefit MII as this will signal a positive interest and acceptance of their multiracial identity.

In Study 2, identity denial has a detrimental impact on multiracials' MII, supporting H2. While we found support for a significant link between identity inquiry and MII harmony (H3), it appears that positive curiosity about multiracials' identity can also be detrimental to multiracials' MII. In accordance with the microaggression literature, it is precisely because these comments or questions are ambiguous in nature, which leaves room for recipients to interpret it as identity invalidation. Previous anecdotal reports support this negative relationship. Most multiracials would prefer that others not even mention or ask them about their race (Ahmad, 2013; Ravishankar, 2020; Tran et al., 2016). Instead, they would prefer to self-disclose their own ethnic background when they feel comfortable (Ahmad, 2013; Ravishankar, 2020). While monoracials may be well-intentioned and possess positive curiosity, perceived prejudicial intent is a much stronger influence on multiracials' interpretation of these identity inquiry as microaggression or genuine curiosity (Albuja et al., 2019b; Cheryan & Monin, 2005; Shelton et al., 2005). Therefore, redefining monoracials' intent may be futile as almost every comment can be perceived as microaggression, even after the fact (Lilienfeld, 2017). The elusive nature of microaggression makes it hard to generalize across multiracial experiences. This suggests that

future research should perhaps focus on a more tangible construct such as perceived prejudicial intent as an important moderator.

The detrimental effects of identity denial extend to psychological well-being as well, supporting previous research (Albuja et al., 2019a; Cheryan & Monin, 2005; Franco & Franco, 2016; Townsend et al., 2009). Identity denial was also detrimental to several cognitive capacity outcomes such as general cognitive complexity and cognitive flexibility. When others deny multiracials of their precious identities, the negative impact is rather extensive. Multiracials experience lower levels of identity integration, psychological well-being (H4a), and even lowered ability to think in complex and flexible ways (H4b). On the other hand, while identity inquiry was negatively associated with MII, our exploratory analyses (see Study 2 Supplementary Analyses) indicated that the negative impact is less extensive as the relationship between identity inquiry and psychological well-being outcomes were nonsignificant.

Mediating Role of MII

We used both symbolic interactionism and minority stress theory to guide our investigation into the mediating role of MII. Both theories suggest that monoracials play a key role in shaping how multiracials develop and make sense of their multiracial identity. When put together, MII harmony mediated the relationship between identity denial and all psychological well-being outcomes (H5a). MII blendedness mediated some psychological outcomes (see Table 8). MII also mediated the relationship between identity denial and general creative fluency and cognitive flexibility (H5b). MII is an important psychological mechanism that underlie experiences with identity denial and various outcomes.

Identity inquiry and psychological well-being outcomes were similarly mediated by MII harmony, but not blendedness (H6a). MII harmony only mediated the link between identity

inquiry and cognitive flexibility (H6b). This continues to support our conclusion that experiences with identity inquiry is detrimental, but it has a considerable smaller impact on both MII, and cognitive capacity outcomes compared to identity denial. Experiences with identity inquiry negatively impacts how multiracials feel about their racial identities and their psychological well-being, but it does little to change how they think about their identities and other cognitive outcomes. Future research could examine the role of perceived prejudicial intent, to buffer against the negative impact of identity inquiry on MII and psychological outcomes. Our results also suggests that monoracials should avoid asking multiracials about their ethnicity despite their epistemic motivation to make sense of others.

Experimental Studies

Both experimental studies attempted to manipulate identity denial (Study 3) and identity inquiry (Study 3 & 4). Study 3 examined how experiences with identity denial/inquiry may directly impact MII while Study 4 examined how MII may moderate interpretation of innocuous questions. In both studies, we found that while our manipulation worked to induce experiences of identity denial and inquiry, it did not affect multiracials' MII. A potential explanation for this null finding is that while MII may be malleable, once developed, it is a rather stable individual difference (Huynh et al., 2011). Therefore, while experiences with identity denial and identity inquiry may temporarily impact multiracials' affect, it may not nudge multiracials' MII once formed. On the one hand, this stability in MII suggests that once multiracial successfully integrate their MII before a critical age, little can be done to lower it. On the other hand, this also means that the negative outcomes associated with one's failure to achieve an integrated identity may persists. Therefore, future research could examine the relationship between identity denial, identity inquiry, and MII from a developmental and longitudinal perspective. This could

potentially help pinpoint a critical age before MII is fully developed so that we can provide timely interventions.

Alternatively, as we had initially hypothesized that identity inquiry would enact a positive effect on MII, our manipulation only utilized recall of identity denial and identity inquiry primes. Considering the potentially negative effects of identity inquiry on MII, the manipulation utilized in our experiments may not facilitate any further negative changes for individuals with low MII. Multiracials with high MII may feel secure in their racial identities such that recall these experiences may not alter their MII levels. Future research could consider manipulating positive primes to examine how that may enhance MII for multiracials with both low and high MII. Recall of positive experience has been found to increase multiracials' MII (Cheng & Lee, 2009). Future research should consider the use of positive primes.

Limitations and Future Research

First and foremost, we were unable to examine the link between identity denial, identity and inquiry and the interconnectedness of multiracials' social network due to limited resource (i.e., survey length). Consequently, we were also unable to examine the mediating role of MII between identity denial/inquiry and the strength and diversity of participants' social network. Moreover, our analyses were also limited by the range restriction in our social network measures. Future research could allow participants to list down more than five close/other friends to better assess these important relations.

Secondly, a potential limitation that may have undermined some of our results were the general low quality of the open-ended responses. Cognitive complexity and all creativity task required participants to respond rather extensively. Feedback provided for our study from participants, recruited online via crowdsourcing sites, suggested that these open-ended questions

were too much work for them as these were not the norm for studies published on the same sites. Independent coders for our study also flagged the overall low quality of the open-ended responses, as participants were not motivated and further incentivised to provide quality responses. Perhaps future research involving the same measures could be conducted in a more controlled setting (e.g., in person) to ensure the quality of responses.

Conclusion

This dissertation examined key antecedents and consequences associated with the unique process that multiracials undergo to achieve a MII. MII was positively associated with psychological well-being and several cognitive capacity outcomes. Experiences with both identity denial and identity inquiry are detrimental to multiracials' psychological well-being, and to a smaller extent, their cognitive capacity outcomes. MII is an important psychological mechanism that underlie the antecedent and consequences of identity denial/inquiry. This dissertation shed light on the upside of being multiracial when one achieves a healthy MII.

References

Adesokan, A. A., Ullrich, J., van Dick, R., & Tropp, L. R. (2011). Diversity beliefs as moderator of the contact–prejudice relationship. *Social Psychology*, *42*(4), 271–278. https://doi.org/10.1027/1864-9335/a000058

Ahmad, M. (2013, July 20). *How to Ask Someone About Their Ethnicity Without Being an Asshole*. Jezebel. https://jezebel.com/how-to-ask-someone-about-their-ethnicity-without-being-758679070

Al Ramiah, A., & Hewstone, M. (2013). Intergroup contact as a tool for reducing, resolving, and preventing intergroup conflict: Evidence, limitations, and potential. *American Psychologist*, *68*(7), 527–542. https://doi.org/10.1037/a0032603

Albuja, A. F., Sanchez, D. T., & Gaither, S. E. (2019a). Identity denied: Comparing american or white identity denial and psychological health outcomes among bicultural and biracial people. *Personality and Social Psychology Bulletin*, *45*(3), 416–430. https://doi.org/10.1177/0146167218788553

Albuja, A. F., Sanchez, D. T., & Gaither, S. E. (2019b). Identity questioning: Antecedents and consequences of prejudice attributions. *Journal of Social Issues*, josi.12322. https://doi.org/10.1111/josi.12322

Albuja, A. F., Sanchez, D. T., & Gaither, S. E. (2020). Intra-race intersectionality: Identity denial among dual-minority biracial people. *Translational Issues in Psychological Science*, *6*(4), 392–403. https://doi.org/10.1037/tps0000264

Allport, G. W., Clark, K., & Pettigrew, T. (1954). *The nature of prejudice*.

Aron, A., Melinat, E., Aron, E. N., Vallone, R. D., & Bator, R. J. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings.

Personality and Social Psychology Bulletin, *23*(4), 363–377. https://doi.org/10.1177/0146167297234003

Benet-Martínez, V., & Haritatos, J. (2005). Bicultural identity integration (bii): Components and psychosocial antecedents. *Journal of Personality*, *73*(4), 1015–1050. https://doi.org/10.1111/j.1467-6494.2005.00337.x

Benet-Martínez, V., Lee, F., & Cheng, C.-Y. (2021). Bicultural identity integration: Components, psychosocial antecedents, and outcomes. In *Handbook of advances in culture and psychology* (pp. 244–284). Oxford University Press. https://doi.org/10.1093/oso/9780190079741.003.0006

Benet-Martínez, V., Lee, F., & Leu, J. (2006). Biculturalism and cognitive complexity: Expertise in cultural representations. *Journal of Cross-Cultural Psychology*, *37*(4), 386–407.

Benet-Martínez, V., Leu, J., Lee, F., & Morris, M. W. (2002). Negotiating biculturalism: Cultural frame switching in biculturals with oppositional versus compatible cultural identities. *Journal of Cross-Cultural Psychology*, *33*(5), 492–516.

Betancourt, H., & López, S. R. (1993). The study of culture, ethnicity, and race in American psychology. *American Psychologist*, *48*(6), 629–637. https://doi.org/10.1037/0003-066X.48.6.629

Binning, K. R., Unzueta, M. M., Huo, Y. J., & Molina, L. E. (2009). The interpretation of multiracial status and its relation to social engagement and psychological well-being. *Journal of Social Issues*, *65*(1), 35–49. https://doi.org/10.1111/j.1540-4560.2008.01586.x

Brandes, U., Lerner, J., Lubbers, M. J., McCarty, C., & Molina, J. L. (2008). Visual statistics for collections of clustered graphs. *2008 IEEE Pacific Visualization Symposium*, 47–54. https://doi.org/10.1109/PACIFICVIS.2008.4475458

Brewster, M., Moradi, B., Deblaere, C., & Velez, B. (2013). Navigating the borderlands: The roles of minority stressors, bicultural self-efficacy, and cognitive flexibility in the mental health of bisexual individuals. *Journal of Counseling Psychology*, *60*. https://doi.org/10.1037/a0033224

Burdsey, D. (2011). That Joke Isn't Funny Anymore: Racial Microaggressions, Color-Blind Ideology and the Mitigation of Racism in English Men's First-Class Cricket. *Sociology of Sport Journal*, *28*(3), 261–283.

Campbell, M. E., & Troyer, L. (2007). The implications of racial misclassification by observers. *American Sociological Review*, *72*(5), 750–765. https://doi.org/10.1177/000312240707200505

Cárdenas, D., Verkuyten, M., & Fleischmann, F. (2021). "You are too ethnic, you are too national": Dual identity denial and dual identification. *International Journal of Intercultural Relations*, *81*, 193–203. https://doi.org/10.1016/j.ijintrel.2021.01.011

Chen, J. M. (2018, November 27). *Why People Ask, "What Are You?"* Psychology Today. https://www.psychologytoday.com/us/blog/race-in-new-world/201811/why-people-ask-what-are-you

Chen, J. M., Pauker, K., Gaither, S. E., Hamilton, D. L., & Sherman, J. W. (2018). Black + white = not white: A minority bias in categorizations of black-white multiracials. *Journal of Experimental Social Psychology*, *78*, 43–54. https://doi.org/10.1016/j.jesp.2018.05.002

Chen, S. X., Benet-Martínez, V., & Bond, M. H. (2008). bicultural identity, bilingualism, and psychological adjustment in multicultural societies: Immigration-based and globalization-

based acculturation. *Journal of Personality*, *76*(4), 803–838. https://doi.org/10.1111/j.1467-6494.2008.00505.x

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. https://doi.org/10.1111/j.1540-4560.2008.01587.x

Cheng, C.-Y., & Lee, F. (2013a). The malleability of bicultural identity integration (BII). *Journal of Cross-Cultural Psychology*, *44*(8), 1235–1240. https://doi.org/10.1177/0022022113490071

Cheng, C.-Y., & Lee, F. (2013b). The malleability of bicultural identity integration (BII). *Journal of Cross-Cultural Psychology*, *44*(8), 1235–1240.

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 outcomes. In *The Oxford handbook of multicultural identity* (pp. 276–299). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199796694.013.025

Cheng, C.-Y., Sanchez-Burks, J., & Lee, F. (2008a). Connecting the dots within: Creative performance and identity integration. *Psychological Science*, *19*(11), 1178–1184. https://doi.org/10.1111/j.1467-9280.2008.02220.x

Cheng, C.-Y., Sanchez-Burks, J., & Lee, F. (2008b). Taking advantage of differences: Increasing team innovation through identity integration. *Research on Managing Groups and Teams*, *11*, 55–73.

Cheryan, S., & Monin, B. (2005). Where are you really from?: Asian americans and identity denial. *Journal of Personality and Social Psychology*, *89*(5), 717–730. https://doi.org/10.1037/0022-3514.89.5.717

Coleman, V. H., & Carter, M. M. (2007). Biracial self-identification: Impact on trait anxiety, social anxiety, and depression. *Identity, 7*(2), 103–114. https://doi.org/10.1080/15283480701326018

Cooley, E., Brown-Iannuzzi, J. L., Agboh, D., Enjaian, B., Geyer, R., Lue, N., & Wu, S. (2018). The fluid perception of racial identity: The role of friendship groups. *Social Psychological and Personality Science*, *9*(1), 32–39. https://doi.org/10.1177/1948550617703171

Darling, E., Molina, K., Sanders, M., Lee, F., & Zhao, Y. (2008a). Belonging and achieving: The role of identity integration. In *Advances in Motivation and Achievement* (Vol. 15, pp. 241–273). Elsevier. https://doi.org/10.1016/S0749-7423(08)15008-7

Darling, E., Molina, K., Sanders, M., Lee, F., & Zhao, Y. (2008b). Belonging and achieving: The role of identity integration. In M. L. Maehr, S. A. Karabenick, & T. C. Urdan, *Advances in motivation and achievement* (Vol. 15, pp. 241–273). JAI Press.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71. https://doi.org/10.1207/s15327752jpa4901_13

Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). Intergroup contact: The past, present, and the future. *Group Processes & Intergroup Relations*, *6*(1), 5–21. https://doi.org/10.1177/1368430203006001009

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using g* power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fisher, S., Reynolds, J. L., Hsu, W.-W., Barnes, J., & Tyler, K. (2014). Examining multiracial youth in context: Ethnic identity development and mental health outcomes. *Journal of Youth and Adolescence*, *43*(10), 1688–1699. https://doi.org/10.1007/s10964-014-0163-2

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

Franco, M. G., Katz, R., & O'Brien, K. M. (2016). Forbidden identities: A qualitative examination of racial identity invalidation for black/white biracial individuals. *International Journal of Intercultural Relations*, *50*, 96–109. https://doi.org/10.1016/j.ijintrel.2015.12.004

Franco, M. G., & O'Brien, K. M. (2018). Racial identity invalidation with multiracial individuals: An instrument development study. *Cultural Diversity and Ethnic Minority Psychology*, *24*(1), 112–125. https://doi.org/10.1037/cdp0000170

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

Gaither, S. E., Remedios, J. D., Sanchez, D. T., & Sommers, S. R. (2015). thinking outside the box: Multiple identity mind-sets affect creative problem solving. *Social Psychological and Personality Science*, *6*(5), 596–603. https://doi.org/10.1177/1948550614568866

Gudykunst, W. B. (2001). *Asian American Ethnicity and Communication* (1st ed.). SAGE.

Guendelman, M. D., Cheryan, S., & Monin, B. (2011). Fitting in but getting fat: Identity threat and dietary choices among u.s. immigrant groups. *Psychological Science, 22*(7), 959–967. https://doi.org/10.1177/0956797611411585

Guilford, J. P. (1967). *The nature of human intelligence*. McGraw-Hill.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hayes, J. A., Chun-Kennedy, C., Edens, A., & Locke, B. D. (2011). Do double minority students face double jeopardy? Testing minority stress theory. *Journal of College Counseling*, *14*(2), 117–126. https://doi.org/10.1002/j.2161-1882.2011.tb00267.x

Huynh, Q.-L., Benet-Martínez, V., & Nguyen, A.-M. D. (2018). Measuring variations in bicultural identity across us ethnic and generational groups: Development and validation of the bicultural identity integration Scale—Version 2 (BIIS-2). *Psychological Assessment*, *30*(12), 1581.

Huynh, Q.-L., Nguyen, A.-M. D., & Benet-Martínez, V. (2011). Bicultural identity integration. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of Identity Theory and Research* (pp. 827–842). Springer. 10.1007/978-1-4419-7988-9_35

Inzlicht, M., McKay, L., & Aronson, J. (2006). Stigma as ego depletion: How being the target of prejudice affects self-control. *Psychological Science, 17*(3), 262–269. https://doi.org/10.1111/j.1467-9280.2006.01695.x

Jackson, K. F., Yoo, H. C. (Brandon), Guevarra, R. Jr., & 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

Kashdan, T. B., Rose, P., & Fincham, F. D. (2004). Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities. *Journal of Personality Assessment*, *82*(3), 291–305. https://doi.org/10.1207/s15327752jpa8203_05

Kim, B. S. K., & Omizo, M. M. (2006). Behavioral acculturation and enculturation and psychological functioning among asian american college students. *Cultural Diversity and Ethnic Minority Psychology*, *12*, 245–258. https://doi.org/10.1037/1099-9809.12.2.245

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Kosmitzki, C. (1996). The Reaffirmation of Cultural Identity in Cross-Cultural Encounters. *Personality and Social Psychology Bulletin*, *22*(3), 238–248. https://doi.org/10.1177/0146167296223002

Lee, B. A., & Sharp, G. (2017). Ethnoracial diversity across the rural-urban continuum. *The ANNALS of the American Academy of Political and Social Science*, *672*(1), 26–45. https://doi.org/10.1177/0002716217708560

Lilienfeld, S. O. (2017). Microaggressions: Strong Claims, Inadequate Evidence. *Perspectives on Psychological Science*, *12*(1), 138–169. https://doi.org/10.1177/1745691616659391

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

Major, B., McCoy, S., Kaiser, C., & Quinton, W. (2003). Prejudice and self-esteem: A transactional model. *European Review of Social Psychology*, *14*(1), 77–104. https://doi.org/10.1080/10463280340000027

Marks, L. R., Thurston, I. B., Kamody, R. C., & Schaeffer-Smith, M. (2020). The role of multiracial identity integration in the relation between racial discrimination and depression in multiracial young adults. *Professional Psychology: Research and Practice, 51*(4), 317–324. https://doi.org/10.1037/pro0000315

Martin, M. M., & Rubin, R. B. (1995). A new measure of cognitive flexibility. *Psychological Reports*, *76*(2), 623–626. https://doi.org/10.2466/pr0.1995.76.2.623

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

Mok, A., Morris, M. W., Benet-Martínez, V., & Karakitapoğlu-Aygün, Z. (2007). Embracing american culture: Structures of social identity and social networks among first-generation biculturals. *Journal of Cross-Cultural Psychology*, *38*(5), 629–635. https://doi.org/10.1177/0022022107305243

Pauker, K., Carpinella, C., Meyers, C., Young, D. M., & Sanchez, D. T. (2018). The role of diversity exposure in whites' reduction in race essentialism over time. *Social Psychological and Personality Science*, *9*(8), 944–952.

Pauker, K., Meyers, C., Sanchez, D. T., Gaither, S. E., & Young, D. M. (2018). A review of multiracial malleability: Identity, categorization, and shifting racial attitudes. *Social and Personality Psychology Compass*, *12*(6), e12392. https://doi.org/10.1111/spc3.12392

Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *International Journal of Intercultural Relations*, *32*(3), 187–199. https://doi.org/10.1016/j.ijintrel.2007.12.002

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–783. https://doi.org/10.1037/0022-3514.90.5.751

Phinney, J. S., Madden, T., & Santos, L. J. (1998). Psychological variables as predictors of perceived ethnic discrimination among minority and immigrant adolescents. *Journal of Applied Social Psychology*, *28*(11), 937–953. https://doi.org/10.1111/j.1559-1816.1998.tb01661.x

Poston, W. S. C. (1990). The biracial identity development model: A needed addition. *Journal of Counseling & Development*, *69*(2), 152–155. https://doi.org/10.1002/j.1556-6676.1990.tb01477.x

R Core Team. (2021). *R: a language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.gbif.org/tool/81287/r-a-language-and-environment-for-statistical-computing

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Raitman, M. R., & Danielson, D. K. (2022). Living with multiple cultural identities and its effects on self- esteem. *Journal of Interpersonal Relations, Intergroup Relations and Identity*, *15*. https://doi.org/10.33921/OPQR5682

Ramirez, J. L., & Paz Galupo, M. (2019). Multiple minority stress: The role of proximal and distal stress on mental health outcomes among lesbian, gay, and bisexual people of color. *Journal of Gay & Lesbian Mental Health*, *23*(2), 145–167. https://doi.org/10.1080/19359705.2019.1568946

Ravishankar, R. A. (2020, October 22). What's wrong with asking "where are you from?" *Harvard Business Review*. https://hbr.org/2020/10/whats-wrong-with-asking-where-are-you-from

Renn, K. A. (2000). Patterns of situational identity among biracial and multiracial college students. *The Review of Higher Education*, *23*(4), 399–420. https://doi.org/10.1353/rhe.2000.0019

Renn, K. A. (2008). Research on biracial and multiracial identity development: Overview and synthesis. *New Directions for Student Services*, *2008*(123), 13–21. https://doi.org/10.1002/ss.282

Richman, L. S., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review*, *116*(2), 365–383. https://doi.org/10.1037/a0015250

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review*, *6*(2), 88–106. https://doi.org/10.1207/S15327957PSPR0602_01

Rockquemore, K. A. (2002). Negotiating the color line: The gendered process of racial identity construction among black/white biracial women. *Gender & Society*, *16*(4), 485–503. https://doi.org/10.1177/0891243202016004005

Rockquemore, K. A., & Brunsma, D. L. (2007). *Beyond Black: Biracial Identity in America*. Rowman & Littlefield Publishers.

Rockquemore, K. A., Brunsma, D. L., & Delgado, D. J. (2009). Racing to theory or retheorizing race? Understanding the struggle to build a multiracial identity theory. *Journal of Social Issues*, *65*(1), 13–34. https://doi.org/10.1111/j.1540-4560.2008.01585.x

Rockquemore, K. A., & Laszloffy, T. A. (2003). Multiple realities: A relational narrative approach in therapy with black–white mixed-race clients. *Family Relations, 52*(2), 119–128. https://doi.org/10.1111/j.1741-3729.2003.00119.x

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton University Press. https://www.jstor.org/stable/j.ctt183pjjh

Rosseel, Y. (2012). lavaan: An r package for structural equation modeling. *Journal of Statistical Software*, *48*, 1–36. https://doi.org/10.18637/jss.v048.i02

Saad, C. S., Damian, R. I., Benet-Martínez, V., Moons, W. G., & Robins, R. W. (2013). Multiculturalism and creativity: Effects of cultural context, bicultural identity, and ideational fluency. *Social Psychological and Personality Science*, *4*(3), 369–375. https://doi.org/10.1177/1948550612456560

Sanchez, D. T. (2010). How do forced-choice dilemmas affect multiracial people? The role of identity autonomy and public regard in depressive symptoms. *Journal of Applied Social Psychology*, *40*(7), 1657–1677. https://doi.org/10.1111/j.1559-1816.2010.00634.x

Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working memory capacity. *Journal of Personality and Social Psychology*, *85*, 440–452. https://doi.org/10.1037/0022-3514.85.3.440

Schmid, K., Hewstone, M., Küpper, B., Zick, A., & Tausch, N. (2014). Reducing aggressive intergroup action tendencies: Effects of intergroup contact via perceived intergroup threat. *Aggressive Behavior*, *40*(3), 250–262. https://doi.org/10.1002/ab.21516

Schmid, K., Ramiah, A. A., & Hewstone, M. (2014). Neighborhood ethnic diversity and trust: the role of intergroup contact and perceived threat. *Psychological Science*, *25*(3), 665–674. https://doi.org/10.1177/0956797613508956

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, *8*(4), 379–386. https://doi.org/10.1177/1948550617715068

Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., Benet-Martínez, V., Meca, A., Zamboanga, B. L., Lorenzo-Blanco, E. I., Rosiers, S. E. D., Oshri, A., Sabet, R. F., Soto, D. W., Pattarroyo, M., Huang, S., Villamar, J. A., Lizzi, K. M., & Szapocznik, J. (2015). Longitudinal trajectories of bicultural identity integration in recently immigrated Hispanic adolescents: Links with mental health and family functioning: Trajectories of bicultural identity. *International Journal of Psychology*, *50*(6), 440–450. https://doi.org/10.1002/ijop.12196

Shein, B., & Zhou, X. (2023). Understanding the relations between family cultural socialization and bicultural identity integration in burmese college students of refugee background. *Asian American Journal of Psychology*. https://doi.org/10.1037/aap0000316

Shelton, J., Richeson, J., & Salvatore, J. (2005). Expecting to be the target of prejudice: implications for interethnic interactions. *Personality and Social Psychology Bulletin*, *31*, 1189–1202. https://doi.org/10.1177/0146167205274894

Shih, M., & Sanchez, D. T. (2005). Perspectives and research on the positive and negative implications of having multiple racial identities. *Psychological Bulletin*, *131*(4), 569–591. https://doi.org/10.1037/0033-2909.131.4.569

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). Manual for the state-trait anxiety inventory. In *Palo Alto, CA: Consulting Psychologists Press;* Consulting Psychologists Press.

Stroink, M., & Lalonde, R. (2009). Bicultural identity conflict in second-generation asian canadians. *The Journal of Social Psychology*, *149*, 44–65. https://doi.org/10.3200/SOCP.149.1.44-65

Tadmor, C. T., Galinsky, A. D., & Maddux, W. W. (2012). Getting the most out of living abroad: Biculturalism and integrative complexity as key drivers of creative and professional success. *Journal of Personality and Social Psychology*, *103*(3), 520–542. https://doi.org/10.1037/a0029360

Tadmor, C. T., & Tetlock, P. E. (2006). Biculturalism: A model of the effects of second-culture exposure on acculturation and integrative complexity. *Journal of Cross-Cultural Psychology*, *37*(2), 173–190. https://doi.org/10.1177/0022022105284495

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

Tran, A. G. T. T., Miyake, E. R., Martinez-Morales, V., & Csizmadia, A. (2016). "What are you?" Multiracial individuals' responses to racial identification inquiries. *Cultural Diversity & Ethnic Minority Psychology*, *22*(1), 26–37. https://doi.org/10.1037/cdp0000031

Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How reliable are measurement scales? External factors with indirect influence on reliability estimators. *Procedia Economics and Finance*, *20*, 679–686. https://doi.org/10.1016/S2212-5671(15)00123-9

Vespa, J., Armstrong, D. M., & Medina, L. (2020). *Demographic Turning Points for the United States* (Population Estimates and Projections No. P25-1144). U.S. Census Bureau. https://www.census.gov/library/publications/2020/demo/p25-1144.html

Vittengl, J. R., & Holt, C. S. (2000). Getting acquainted: The relationship of self-disclosure and social attraction to positive affect. *Journal of Social and Personal Relationships*, *17*(1), 53–66. https://doi.org/10.1177/0265407500171003

Vosburg, S. K. (1998). The effects of positive and negative mood on divergent-thinking performance. *Creativity Research Journal*, *11*(2), 165–172. https://doi.org/10.1207/s15326934crj1102_6

Wang, J., Minervino, C., & Cheryan, S. (2013). Generational differences in vulnerability to identity denial: The role of group identification. *Group Processes & Intergroup Relations*, *16*(5), 600–617. https://doi.org/10.1177/1368430212461963

Williams, K. D. (2009). Ostracism: A temporal need-threat model. In M. P. Zanna, *Advances in experimental social psychology* (Vol. 41, pp. 275–314). Elsevier.

Appendix A
MII Scale (Cheng & Lee, 2009)

Using the following scale, please indicate how much you agree or disagree with the following statements:

1	2	3	4	5
Completely Disagree				Completely Agree

Racial Conflict

1. I am conflicted between my different racial identities.
2. I feel like someone moving between the different racial identities.
3. I feel torn between my different racial identities.
4. I do not feel any tension between my different racial identities. (reverse scored)

Racial Distance

1. My racial identity is best described by a blend of all the racial groups to which I belong. (reverse scored)
2. I keep everything about my different racial identities separate.
3. I am a person with a multiracial identity. (reverse scored)
4. In any given context, I am best described by a single racial identity.

Appendix B
MIIS-2

Using the following scale, please indicate how much you agree or disagree with the following statements:

1	2	3	4	5
Strongly Disagree				Strongly Agree

MII Harmony

1. I find it easy to harmonize my racial identities.
2. I rarely feel conflicted about being multiracial.
3. I find it easy to balance all of my racial identities.
4. I do not feel trapped between my different racial identities.
5. I feel torn between my racial identities. (reverse-coded)
6. Being multiracial means having different forces pulling on me at the same time. (reverse-coded)
7. I feel that my racial identities are incompatible. (reverse-coded)
8. I feel conflict between different ways of doing things associated with my various racial membership. (reverse-coded)
9. I feel like someone moving between different racial groups. (reverse-coded)
10. I feel caught between my racial identities. (reverse-coded)

MII Blendedness

11. I cannot ignore any one of my racial identities.
12. I relate better to a combined multiracial identity than to a single racial identity.
13. I feel part of a combined racial identity.
14. I do not blend my racial identities. (reverse-coded)
15. I keep my racial identities separate. (reverse-coded)

Appendix C
State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983)

A number of statements which people have used to describe themselves are given below. Read each statement and then select the appropriate response to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

0	1	2	3
Almost Never	Somewhat	Moderately so	Almost Always

Trait Anxiety

1. I feel pleasant.
2. I feel nervous and restless.
3. I feel satisfied with myself.
4. I wish I could be as happy as others seem to be.
5. I feel like a failure.
6. I feel rested.
7. I am “calm, cool, and collected”.
8. I feel that difficulties are piling up so that I cannot overcome them.
9. I worry too much over something that really doesn’t matter.
10. I am happy.
11. I have disturbing thoughts.
12. I lack self-confidence.
13. I feel secure.
14. I make decisions easily.
15. I feel inadequate.
16. I am content.
17. Some unimportant thought runs through my mind and bothers me.
18. I take disappointments so keenly that I can’t put them out of my mind.
19. I am a steady person.
20. I get in a state of tension or turmoil as I think over my recent concerns and interests.

Appendix D
Center for Epidemiological Studies Depression Scale (Radloff, 1977)

Below is a list of the ways you might have felt or behaved. Please tell us how often you have felt this way during in the last month.

0	1	2	3
Rarely or None of the Time	Some or a Little of the Time	Occasionally or a Moderate Amount of Time	Most or All of the Time

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people. (reverse-coded)
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future. (reverse-coded)
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy. (reverse-coded)
13. I talked less than usual.
14. I felt lonely.
15. People were unfriendly.
16. I enjoyed life. (reverse-coded)
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get "going".

Appendix E
Satisfaction with Life Scale (Diener et al., 1985)

Below are five statements with which you may agree or disagree. Using the 1 – 7 scale below, indicate your agreement with each item by selecting the appropriate number. Please be open and honest in your responding.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1. In most ways, my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Appendix F
Self-esteem Scale (Rosenberg, 1965)

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all. (reverse-coded)
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of. (reverse-coded)
6. I certainly feel useless at times. (reverse-coded)
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself. (reverse-coded)
9. All in all, I am inclined to feel that I am a failure. (reverse-coded)
10. I take a positive attitude toward myself.

Appendix G
Multiracial Pride (Cheng & Lee, 2009)

Using the following scale, please indicate how much you agree or disagree with the following statements:

1	2	3	4	5
Completely Disagree				Completely Agree

1. I like being a multiracial person.
2. I am proud of being a multiracial person.
3. There are more advantages than disadvantages to being a multiracial person.
4. There are many good things about being a multiracial person.

Appendix H
Cognitive Flexibility Scale (Martin & Rubin, 1995)

The following statements deal with your beliefs and feelings about your own behavior. Read each statement and respond by selecting the number that best represents your agreement with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

1. I can communicate an idea in many different ways.
2. I avoid new and unusual situations. (reverse-coded)
3. I feel like I never get to make decisions. (reverse-coded)
4. I can find workable solutions to seemingly unsolvable problems.
5. I seldom have choices when deciding how to behave. (reverse-coded)
6. I am willing to work at creative solutions to problems.
7. In any given situation, I am able to act appropriately.
8. My behavior is a result of conscious decisions that I make.
9. I have many possible ways of behaving in any given situation.
10. I have difficulty using my knowledge on a given topic in real life situations. (reverse-coded)
11. I am willing to listen and consider alternatives for handling a problem.
12. I have the self-confidence necessary to try different ways of behaving.

Appendix I
Demographics

Gender: ___ Male ___ Female ___ Neither reflects my gender identity

___ Prefer not to disclose

Age: _____

Education level:

Occupation: _____ (1 of the dropdown options will be University Student, upon which the next 2 questions will appear)

- University: _____ (Drop-down options will be provided with an Others option)
- Year: ___Freshman (1st year) ___Sophomore (2nd year) ___Junior (3rd year)
  ___Senior (4th year)
- Major(s): (Please do not abbreviate)
  _____

Ethnicity:

___ African American
___ Asian:
___ Chinese (from PRC, Hong-Kong, Taiwan, etc.)
___ Pacific Islander (e.g., Philippines, Samoa)
___ Indian
___ Japanese
___ Korean
___ Southeast Asian (e.g., Vietnam, Cambodia)
___ Other Asian (specify): _____
___ Caucasian
___ Latino/Hispanic (e.g., Latin-America & Spain):
___ Mexican
___ Other (specify):_____
_ Middle Eastern
___ Native American
___ African
_ Other (specify):_____

Please report how strong you identify with your ethnic group with the following scale (1= not at all, 5= very much)

Are you an American citizen or permanent resident? Yes No

If not, what is your nationality: _____

Where were you born (town & country)?_____

Country of permanent residence: _____

Mother's place of birth (town & country): _____

Father's place of birth: _____

If you were born in the US, are you (mark only one):

___2nd generation American
(at least one parent born outside the North America and all grandparents born outside the North America)
___3rd generation American (both parents born in the North America and all grandparents born outside
the North America)
____4th generation American (both parents born in the North America; at least one grandparent born in the
North America)
___5th generation American (both parents and all grandparents born in the North America)
___Other (explain: _____)

How often are you exposed to a culture other than the mainstream American culture? (circle one)

0	1	2	3	4	5	6	7	8	9	10
Never										Very often

Think of this ladder (above) as representing where different people in America stand. At the top of the ladder are people who are best off – those who have the most money, the most education and the most respected job prospects. At the bottom are the people who are the worst off – who the least money, the least education, and the least respected or no job prospects. The higher you are on this ladder the closer you are to the people at the very top; the lower you are, the closer you are to the people on the very bottom. Compared to others in America, where would you place yourself on this ladder. Please choose an option below.

1	2	3	4	5	6	7	8	9	10
Lowest									Very often

What is your political orientation?

_____Very Liberal _____Liberal _____Somewhat Liberal

_____Neutral

_____Somewhat Conservative _____Conservative _____Very Conservative

What do you think is the purpose of this study?

_____

_____

_____

_____

Appendix J
Identity Denial Scale (Albuja et al., 2019a)

Using the 1 – 7 scale below, indicate how frequently you experience the following scenarios.

1	2	3	4	5	6	7
Never						Always

1. How often are you told you are not one of the racial groups that you belong to?
2. How often are you told you cannot identify as one of the racial groups that you belong to?
3. How often are you told you should racially identify differently?
4. How often are you told you should identify with one racial identity over another?

Appendix K
Identity Inquiry Scale (Albuja et al., 2019a, 2019b)

Using the 1 – 7 scale below, indicate how frequently you experience the following scenarios.

1	2	3	4	5	6	7
Never						Always

1. How often are you asked about your racial appearance?
2. How often are you asked about your racial ancestry?
3. How often do others want to get to know your multiracial background better?
4. How often are others genuinely interested in learning more about you?
5. How often are others genuinely interested in learning more about your racial ancestry?
6. How often are others curious about racial differences?
7. How often are others trying to figure out what racial group(s) you are from?
8. How often are others genuinely interested in learning more about your personal racial identity?
9. How often are others genuinely interested in learning more about your racial upbringing?

Appendix L
Need to Belong Threat (Williams, 2009)

For each question, please select the response that best represent the feelings you were experiencing as you recalled previous identity denial/inquiry experiences.

1	2	3	4	5
Not At All				Extremely

1. I feel “disconnected”.
2. I feel rejected.
3. I feel like an outsider.
4. I feel I belonged to the group. (reverse-coded)
5. I feel the other players interacted with me a lot. (reverse-coded)

Appendix M
Perceived Discrimination (Phinney et al., 1998)

Please indicate the how frequent does the following occur to you. Please respond to these statements as to how you feel at this moment. There are no right or wrong answers. Please be open and honest in your responses.

1	2	3	4	5
Almost Never	Seldom	Sometimes	Often	Very Often

How often does the following occur?

1. I feel that others behave in an unfair or negative way toward my ethnic group.

Because of my ethnic background:

2. I feel that I am not wanted by other monoracials in my society.
3. I don't feel accepted by other monoracials.
4. I feel that other monoracials have something against me.

Study 1 Supplementary Analyses

MII and Creativity (H1b)

Participants were also administered a second creativity task. We administered Guilford's (1967) Alternative Uses Tasks and participants were tasked to list down as many possible uses for a paper clip. Responses were scored on three components: flexibility, originality, and fluency. Flexibility was assessed based on number of unique categories generated for each use. Originality was assessed in relation to other responses on a 3-point Likert scale (1 = *very unoriginal*, 3 = *very original*), unique and unusual responses will be awarded a higher originality score. Fluency was assessed via number of responses. Flexibility was coded by one experienced coder while originality was assessed by two independent coders (inter-rater $r = 0.55$, $p < .001$).

MII and Cognitive Capacity Outcomes

To test H1b, we conducted several regression analyses with MII and creativity with responses from the paper clip task. MII harmony did not predict general creative flexibility ($B = -.14$, $SE = 0.09$, $t(292) = 1.61$, $p = .108$) and general creative fluency ($B = -0.05$, $SE = 0.08$, $t(292) = -0.66$, $p = .508$). However, there was a significant relationship between MII harmony and general creative originality ($B = -0.05$, $SE = 0.02$, $t(286) = -2.23$, $p = .027$), partially support H1b.

When MII blendedness was entered as the predictor, we found a significant association with general creative flexibility ($B = 0.25$, $SE = 0.09$, $t(292) = 2.72$, $p = .007$). However, the relationship between MII blendedness and general creative originality ($B = 0.03$, $SE = 0.02$, $t(286) = 1.38$, $p = .167$) and general creative fluency ($B = 0.13$, $SE = 0.09$, $t(292) = 1.49$, $p = .137$) was nonsignificant.

Study 2 Supplementary Analyses

MII and Creativity (H1b)

Participants were also administered a second alternative uses task (i.e., alternative uses of a paper clip). Regression analyses showed that there were no association between MII harmony and creative flexibility (B = 0.13, SE = 0.08, t(335) = 1.61, p = .109), originality (B = 0.02, SE = 0.02, t(330) = 1.55, p = .123), nor fluency (B = 0.05, SE = 0.07, t(335) = 0.80, p = .424) when responses with the paper clip task were entered as outcome variables. Analyses with MII blendedness and creative flexibility (B = 0.15, SE = 0.09, t(335) = 1.70, p = .090) and originality (B = 0.03, SE = 0.02, t(330) = 1.64, p = .103) yielded the same null relations. Only the relationship between MII blendedness and creative fluency was significant, B = 0.18, SE = 0.07, t(335) = 2.50, p = .013.

Analyses with the responses on the alternative uses – paper clip task revealed that identity denial was not associated with general flexibility (B = 0.03, SE = 0.04, t(335) = 0.75, p = .452), originality (B = -0.002, SE = 0.01, t(335) = -0.25, p = .806), nor fluency (B = 0.03, SE = 0.02, t(335) = 1.18, p = .203).

Identity Denial and Creativity (H4b)

When we examined the relationship between identity denial and creativity with responses from the paper clip task, we found a nonsignificant relationship between identity denial and general creative flexibility (B = 0.03, SE = 0.04, t(335) = 0.75, p = .452) and general creative originality (B = -0.002, SE = 0.01, t(330) = -0.25, p = .806). There was, however, a significant relationship between experiences of identity denial and general creative fluency, B = 0.07, SE = 0.03, t(335) = 2.01, p = .046.

Identity Inquiry and Psychological Well-being/Cognitive Capacity Outcomes

While we did not hypothesize a relationship between identity inquiry and psychological well-being/cognitive capacity outcomes, we ran some exploratory analyses to examine this relationship. Identity inquiry was not associated with any psychological well-being outcomes ($p > .05$) (Table S1).

Next, we examined the relationship between identity inquiry and cognitive capacity outcomes. Identity inquiry was positively associated with multiracial-specific creative flexibility ($B = 0.10$, $SE = 0.05$, $t(335) = 2.10$, $p = .037$), and multiracial-specific creative fluency ($B = 0.09$, $SE = 0.04$, $t(335) = 2.05$, $p = .041$). The relationship between identity inquiry and general creativity, general cognitive complexity, multiracial-specific cognitive complexity, general creativity, multiracial-specific creative originality, and cognitive flexibility were all nonsignificant ($p > .05$) (Table S1).

Additional analyses with responses from the paperclip task also yielded null results for the link between identity inquiry and general creative flexibility ($B = 0.03$, $SE = 0.05$, $t(335) = 0.59$, $p = .556$), general creative originality ($B = -0.01$, $SE = 0.01$, $t(326) = -1.04$, $p = .301$), and general creative fluency ($B = -0.01$, $SE = 0.02$, $t(335) = -0.36$, $p = .717$).

The result suggests that while experiences with identity inquiry may impact MII harmony (H3), it is not associated with multiracials' psychological outcomes. Instead, it may even promote multiracial-specific creative flexibility and fluency. These measures all reflect divergent thinking, suggesting that when multiracial are approached by others with questions about their racial identity, multiracials can think in a complex manner and come up with different ideas and responses by drawing from different cultural frames. Together, the results partially support our hypothesis that experiences with identity inquiry may lead to positive outcomes.

Table S1

Summary of findings for identity inquiry and psychological well-being/cognitive capacity outcomes.

Predictor	Well-being Outcomes									
	Trait Anxiety		Depressive Symptoms		SWLS		Self-esteem		Multiracial Pride	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
Identity Inquiry	-0.02	.539	0.001	.953	0.11	.075	0.03	.235	0.06	.082
	General: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency		Cognitive Flexibility	
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*	*B*	*p*
Identity Inquiry	0.04	.214	0.03	.379	-0.01	.301	-0.01	.717	0.02	.446
	Multiracial-specific: Cognitive Capacity Outcomes									
	Cognitive Complexity		Flexibility		Originality		Fluency			
	B	*p*	*B*	*p*	*B*	*p*	*B*	*p*		
Identity Inquiry	0.01	.470	**0.10**	**.037**	0.002	.838	**0.09**	**.041**	—	—

Note. *B* denotes standardized regression coefficient. Significant results are marked in boldface.