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Construction and Initial Validation of the Multiracial Experiences Measure (MEM)

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Abstract

This article describes the development and validation of the Multiracial Experiences Measure (MEM): a new measure that assesses uniquely racialized risks and resiliencies experienced by individuals of mixed racial heritage. Across two studies, there was evidence for the validation of the 25-item MEM with 5 subscales including Shifting Expressions, Perceived Racial Ambiguity, Creating Third Space, Multicultural Engagement, and Multiracial Discrimination. The 5-subscale structure of the MEM was supported by a combination of exploratory and confirmatory factor analyses. Evidence of criterion-related validity was partially supported with MEM subscales correlating with measures of racial diversity in one's social network, color-blind racial attitude, psychological distress, and identity conflict. Evidence of discriminant validity was supported with MEM subscales not correlating with impression management. Implications for future research and suggestions for utilization of the MEM in clinical practice with multiracial adults are discussed.

Keywords

multiracial experiences; mixed race; risk and resilience; measurement

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According to recent figures from the 2010 U.S. Census, the multiracial population, or persons who identify with two or more races, has grown 32% since 2000, making it one of the fastest growing racial groups in the United States (Humes, Jones, & Ramirez, 2011). Despite the heterogeneity of this diverse and growing population, research confirms that there are common experiences shared by all multiracial individuals associated with negotiating a multifaceted identity within a racialized, monocentric society (Rockquemore, Brunsma, & Delgado, 2009; Shih & Sanchez, 2005; Suyemoto, Boyd, Hall, & Sanchez-Johnsen, 2009). These include experiencing unique forms of discrimination, being marginalized, claiming different identities, and feeling accepted and affirmed in multiple racial and cultural communities (De Anda & Riddel, 1991; Guevarra, 2012; Jackson, 2009; Jackson, 2010; Miville, Constantine, Baysden, & So-Lloyd, 2005). Unfortunately, few empirical studies have investigated the psychological consequences of these uniquely racialized experiences. In order to promote research in this area, the purpose of the present study is to develop a new measure of common risks and resiliencies experienced by multiracial individuals.

Study of Multiracial Experiences

Recent reviews have drawn attention to the dearth of research focusing on psychological experiences of multiracial individuals (Edwards & Pedrotti, 2008; Shih & Sanchez, 2009). In the broader field of social sciences, Shih and Sanchez (2005) only identified 53 empirical studies (28 qualitative studies) conducted in the United States between 1976 and 2004. Specifically in the field of counseling psychology, Edwards and Pedrotti (2008) only identified 18 empirical articles published in counseling journals up to the year 2006. There is indeed a lack of multiracial research in the social sciences despite the longstanding and unique history of multiracial individuals challenged by anti-miscegenation laws and other forms of monoracism, or the systematic and interpersonal oppression of multiracial persons based on underlying beliefs in singular racial categorization (Johnston & Nadal, 2010). Moreover, multiracial Americans are considered one of the fastest growing demographic groups in the United States, with a 32% increase in the mixed race population between 2000 and 2010 (U.S. Census, 2012). Approximately 9 million Americans self-identified with more than one race on the 2010 Census, making up an estimated 3% of the total U.S. population. This is an underestimate of the actual mixed race population, as many mixed race individuals choose to continue to report only one race (i.e., President Barack Obama) (Root, 2002).

The study of mixed race individuals throughout history has dramatically changed, often reflecting societal views and policies during that time (see Renn, 2009, Rockquemore et al., 2009, and Shih & Sanchez, 2005, for details). More recently, multiracial scholars have argued for an *ecological approach* in the study of multiracials, emphasizing layered contexts surrounding the mixed race individual (e.g., Renn, 2003; Rockquemore et al., 2009; Root, 2003; Shih & Sanchez, 2005). Rather than focusing on a particular identity outcome, this approach states mixed race individuals construct different racial identities depending on a variety of ecological factors (Rockquemore, 1999). Individual factors (such as phenotype and self-esteem), interpersonal factors (such as relationships with family and friends), and community factors (such as diversity of social setting, school, work, and community) can

dynamically shape the multiracial experience, identity choice, and psychological function (Hall, 2008; Wijeyesinghe, 2001). Moreover, the ecological approach unpacks the unique challenges and opportunities faced by multiracial individuals, which can be organized by the risk and resilience theory (Masten, 2001).

Risks and Resiliencies of Multiracials

Risk and resilience theory is a common framework in the literature to understand unique experiences of mixed race individuals (Jackson, Wolven, & Aguilera, 2013). It suggests that people may encounter numerous threats or *risks* that negatively affect their well-being and development (Masten, 2001). In response to these risks, they may also demonstrate a remarkable ability to cope, adapt to situations, and sustain their well-being, otherwise referred to as *resilience* (Luthar, Cicchetti, & Becker, 2000; Masten, 2001). It is important to note that these risks and resiliencies are not inherently adaptive or maladaptive; rather the adaptive or maladaptive property of these risks and resiliencies may depend on transactions between the person and their ecological context, including individual, interpersonal, and community factors (Cicchetti & Lynch, 1993; Killian, 2004). Previous research has identified a number of risks and resiliencies for mixed race individuals. Themes that have emerged in recent multiracial research include: (1) experiences of racial discrimination (e.g., Brackett et al., 2006; Collins, 2000; Jackson, 2009; Jackson, Wolven, & Aguilera, 2013), (2) getting questioned by others because of their ambiguous racial appearances (e.g., Gaskins, 1999; Jackson, 2012; Shih & Sanchez, 2005), (3) shifting racial identification in different social settings (e.g., Collins, 2000; Harris & Sim, 2002; Jackson et al., 2013; Sanchez, Shih, & Garcia, 2009), (4) engaging in multiple racial and ethnic communities (e.g., Guevarra, 2012; Kerwin, Ponterotto, Jackson, & Harris, 1993), and (5) creating a safe and affirming space to support their multiracial identity (Guevarra, 2012; Jackson, 2012; Jackson et al., 2013; Miville et al., 2005).

Multiracial Discrimination is a set of unique experiences of racial discrimination and prejudice due to having a mixed racial background. Viewed as a risk factor (Giamo, Schmitt, & Outten, 2012), multiracial discrimination can include a wide range of stressful experiences from denial or rejection of their multiracial identity from strangers and family members (Shih & Sanchez, 2005) to being teased or pressured to act or choose one of their racial backgrounds (Buckley & Carter, 2004). Qualitative studies illustrate how these unique racial stressors can often lead to feelings of hurt, anger, guilt, and shame (Buckley & Carter, 2004; Miville et al., 2005; Winn & Priest, 1993). Quantitative study of multiracial discrimination has been limited, with only a few reporting how multiracial discrimination is positively related to psychological distress and negative affect (Jackson, Yoo, Guevarra, & Harrington, 2012), although the validity and reliability of these discrimination measures are not clear since they were adapted from measures focused on monoracial groups.

Perceived Racial Ambiguity is a set of unique experiences of getting questioned, stared at, or wrongly classified by others due to having an ambiguous racial appearance. Viewed as a risk factor (Jackson, 2012), mixed race individuals sometimes indistinguishable racial features (e.g., eye color, hair texture, skin color) may lead to more questions by strangers regarding their racial background, such as “what are you” or “where are you from” (Miville et al.,

2005; Shih & Sanchez, 2005). Being racially ambiguous increases the likelihood of these individuals becoming objectified or exoticized (Johnston & Nadal, 2010). Several qualitative studies report that these experiences were common among multiracial people and led to feelings of confusion, discomfort, anxiety, hurt, and anger (Gaskins, 1999; Jackson, 2012; Miville et al., 2005).

Shifting Expressions is a set of unique experiences of how mixed race individuals change how they express their racial identity over time and in different social situations and environmental contexts. Viewed as a resilient factor (Collins, 2000), mixed race individuals vary in how they choose to self-identify racially or dress and talk in more racially stereotypical ways in order to fit in certain social situations (Jackson, 2012; Jackson et al., 2013; Rockquemore, 1999; Stephan, 1992). There are numerous studies that illustrate mixed race individuals often switch their racial identities over time and settings (Doyle & Kao, 2007; Harris & Sim, 2002; Hitlin, Brown, & Elder, 2006; Stephan, 1992) and the ability to navigate and negotiate across these different social groups and settings is believed to enhance psychological functioning, developing increased cognitive flexibility and openness (Miville et al., 2005).

Multicultural Engagement is a set of unique experiences of mixed race individuals participating in one's multiple cultural backgrounds with different traditions, values, and beliefs. Viewed as a resilient factor (Guevarra, 2007), mixed race individuals may engage in a variety of cultural activities (e.g., food, music, customs, and history) and develop friendships that best represent their different racial backgrounds. Qualitative studies have illustrated how multicultural engagement may lead individuals to feel more sensitive to cultural cues, appreciative of different viewpoints, acceptance of differences among people, and comfortable in multiple racial/ethnic communities and social relationships (Doyle & Kao, 2007; Guevarra, 2007; Miville et al., 2005; Shih, Bonam, Sanchez, & Peck, 2007; Suyemoto, 2004).

Lastly, *Creating Third Space* is a set of unique experiences of mixed race individuals forming a safe and affirming space to support one's multiracial identity. Viewed as a resilient factor (Rockquemore, 1999), it is less about choosing or balancing one's multiple racial backgrounds; rather, it is the creation of something more than the sum of its parts (Collins, 2000). It is, for instance, attending multiracial specific events and gatherings, connecting and developing relationships with other multiracials in person or internet, and reading and learning more about the unique multiracial experiences (Collins, 2000; Doyle & Kao, 2007; Jackson, 2010; Miville et al., 2005). Studies have shown that creating a third space for multiracial individuals is related to lower stress levels, more social connectedness, psychological well-being, and social engagement (Binning, Unzueta, Huo & Molina, 2009).

Measurement of Multiracial Experiences

In an ever-growing racially diverse society with increased presence of mixed race individuals, there has been an absence in the examination of unique risks and resiliencies of multiracial people in the literature, particularly in quantitative studies. Scholars have speculated that one of many reasons for the paucity of quantitative studies focusing on

multiracial experiences is due to a lack of valid and reliable measures (Edward & Pedrotti, 2008; Shih & Sanchez, 2005). One exception is a new measure developed by Salahuddin and O'Brien (2011). Across two studies using exploratory and confirmatory factor analyses, they developed a new instrument that identified four risk factors (Others' Surprise and Disbelief Regarding Racial Heritage, Lack of Family Acceptance, Multiracial Discrimination, and Challenges With Racial Identity) and two resilient factors (Appreciation of Human Differences and Multiracial Pride) for mixed race adults. The overall evidence of reliability and validity of this new instrument shows potential, although the six-factor structure was not clearly supported based on the confirmatory factor analyses, as several fit indices across the two studies suggested model misspecification (Hu & Bentler, 1999). Moreover, other risks and resiliencies uniquely experienced by multiracial individuals have yet to be measured, including getting questioned by others because of their ambiguous racial appearances, shifting racial identification in different social settings, engaging in multiple racial and ethnic communities, and creating a safe and affirming space to support their multiracial identity (Collins, 2000; Gaskins, 1999; Guevarra, 2012; Harris & Sim, 2002; Jackson et al., 2013; Shih & Sanchez, 2005). Thus, the major goal of this project was to develop another empirically validated measure of unique multiracial experiences to stimulate research in this needed area.

Study 1

The purpose of Study 1 in developing a new measure of multiracial experiences included: 1) identifying most common themes of risks and resiliencies unique to multiracial people in the literature, 2) generating and revising an initial pool of items related to each theme of risks and resiliencies, 3) conducting an exploratory factor analysis to assess the factor structure of the scale items, and 4) assessing for additional evidence of construct validity (including discriminant and criterion-related) and reliability. Regarding discriminant validity, we expected a small and/or non-significant correlation between all identified multiracial experiences of risks and resiliencies and impression management to reduce social desirability bias. In terms of criterion-related validity, we expected a significant negative correlation between identified risks of multiracial experiences and measures of racial diversity in one's social network including friends and community, since experiences of racism and challenges are more likely to occur in racially homogenous environments where mixed race individuals phenotypically stand out (Jackson, 2009); whereas, we expected a significant positive correlation between identified resilient factors and measures of racial diversity, since mixed race individuals ability to explore and develop their racial identity expressions are more likely to be supported and resources offered in diverse communities (Rockquemore & Brunsma, 2001; Renn, 2004). We also expected a significant positive correlation between all identified multiracial experiences of risks and resiliencies and darker skin color. Physical appearance (e.g., skin tone, hair texture and color, eye and nose shape, etc.) of multiracials is assumed to strongly influence identity choices and darker skin color is associated with greater experiences of racism (Hall, 2008) and more frequent opportunities to cope with these stressors (Jackson, 2010). Finally, we expected a significant positive correlation between identified risks of multiracial experiences and psychological distress, while a significant negative correlation between identified resiliencies of multiracial

experiences and psychological distress, guided by risk and resilience theory (Luthar et al., 2000; Masten, 2001).

Scale Construction

The research team, including the lead author (self-identified Asian American), two experts in the field of Multiracial Studies (both self-identified Multiracial), and one undergraduate research assistant (self-identified Multiracial), reviewed the literature, and identified common themes of risks and resiliencies unique to multiracial people. Five themes were identified including three resilient factors (i.e., shifting racial expressions, multicultural engagement, and creating a third space) and two risk factors (i.e., multiracial discrimination and perceived racial ambiguity). An initial pool of 100 items (20 per factor) then was created tapping into a range of experiences related to each of the five risks and resilient factors. Efforts were made to keep items simple and written to over-sample the constructs of interest (Clark & Watson, 1995). Items were also written to focus on behavior (i.e., frequency of some event) and in neutral terms as to avoid social desirability bias. After several revisions, three independent experts in the field of Multiracial Studies reviewed items to assess congruency between items and construct. In collaboration with these experts, the research team further refined the number of items eliminating redundant, inappropriate, and unclear items, resulting in an initial 60-item inventory. All items started with the stem: "Due to my multiracial background." The response format for the measure was a 5-point Likert-type scale ranging from 1 (*almost never*) to 5 (*almost always*), with higher scores representing greater experiences of risks and resiliencies.

Method

Participants—The online sample consisted of 300 multiracial persons living in the U.S. Fifty-seven percent reported living in the West, 13% reported living in the South, 12% reported living in the Midwest, 8% reported living in the Northeast, and 10% did not respond to the item. The majority of participants were women (73%), ranging in age from 19 to 66 with a mean age of 33 ($SD = 8.50$). Based on a modified census format in measuring racial identity, participants were able to choose one or more of the following racial groups, including African American/Black, Asian American/Asian, Pacific Islander, White, Hispanic/Latina(o), Native American/American Indian, and Other. There were 45 different racial identities claimed, with the five largest being Asian/White (24%), Black/White (14%), Other (8%), Asian (6%), and White/Hispanic (5%). Those self-identifying exclusively as "other" described their unique multiracial identity (e.g., Japexican, Hapa, Multiracial, Biracial, etc.). Approximately 82% of the sample was U.S.-born. The majority of our participants were highly educated with 39% reporting a college degree and 38% reporting an advanced degree. Income was evenly distributed with 29% reporting income between \$19,000 or less, 23% between \$20,000 and \$39,000, 23% between \$40,000 and \$59,000, and 25% between \$60,000 and more.

Procedure—Respondents were primarily recruited through online member distribution listservs of national multiracial organizations including MAVIN, Multiracial Americans of Southern California (MASC), SWIRL, and Biracial Families Network (BFN). Researchers contacted these organizations and asked them to distribute an electronic announcement with

a link to the online survey describing the purpose and selection criteria of the study. Specifically, participants had to be over the age of 18 and have biological parents from different racial groups (e.g., White, Black, Asian American, Native, etc.). These announcements were posted on organization websites and e-mailed to membership listservs. Respondents who were interested and qualified to participate in the web-based survey were asked to read and click “agree” on a consent form before proceeding to actual survey questions. As an incentive, every tenth participant earned a free multiracial brand t-shirt.

Measures

Demographic Questionnaire—The demographic questionnaire was used to gather background information on the respondents (e.g., age, gender, nativity status, and races).

Community Diversity—Several questions were created to objectively and subjectively measure the racial diversity in one’s social network including friends and community. Zip code of one’s residence was used to objectively measure the percentage of people of color (Zip Code—Person of Color) and multiracials (Zip Code—Multiracials) in one’s community. Three additional questions included: 1) How racially diverse is your group of friends? (Diverse Friends), 2) How racially diverse is your community? (Diverse Community), and 3) How many multiracial friends do you have? (Multiracial Friends). These items were rated on a 4-point scale ranging from 1 (*not at all*) to 4 (*extremely/a lot*), with higher scores representing greater racial diversity.

Skin Color—Skin color was measured with the Skin Color Assessment Procedure (SCAP; Coard, Breland, & Raskin, 2001). The nine shades of skin color blots ranged from 1 (*very light*) to 9 (*very dark*), with higher scores representing darker skin. Participants were asked to choose the color that most resembles their actual skin color. This method of assessing skin color has been used with diverse populations including African Americans (Coard et al., 2001) and Hispanics (Gonzales-Backen & Umana-Taylor, 2011). However, there is limited published psychometric information on the SCAP among multiracial individuals.

Impression Management—Social desirability bias was measured using the impression management subscale of the Balanced Inventory of Desirable Responding, Version 6 (BIDR-6; Paulhus, 1991). It is a 40-item measure with two subscales (20 items each), including self-deception (e.g., “I never regret my decisions”) and impression management (e.g., “I never cover up my mistakes.”). Paulhus defined self-deceptive enhancement as the tendency to unconsciously give honest but positively biased self-reports and impression management as the conscious habitual presentation of a favorable public image. It is rated on a 7-point scale ranging from 1 (*not true*) to 7 (*very true*), with higher scores representing greater self-deception and impression management. The BIDR-6 and the two-factor structure displayed good validity and reliability estimates (Holden & Passey, 2010; Paulhus, 2002). However, there is limited published psychometric information on the BIDR-6 among multiracial individuals. For the purpose of our study, Impression Management was the only subscale used as it is most relevant and popular in developing measures with limited social desirability bias (Uziel, 2010).

Depression, Anxiety, and Stress—Psychological distress was measured with the Depression Anxiety Stress Scale—Short-Form (DASS—21; Henry & Crawford, 2005). It is a 21-item self-report brief measure emphasizing cognitive and behavioral symptomatology of distress symptoms over the past week. It has 3 subscales, including Depression (7 items; e.g., “I felt that I had nothing to look forward to), Anxiety (7 items; e.g., “I was worried about situations in which I might panic and make a fool of myself”), and Stress (7 items; e.g., “I tended to overreact to situations”). It is rated on a 4-point scale ranging from 1 (*did not apply to me at all*) to 4 (*applied to me very much, or most of the time*), with higher scores representing higher depression, anxiety, or stress. Participants were asked how much each item applied to them over the past week. The DASS-21 displayed good criterion-related and discriminant validity with other measures of psychological distress (e.g., Lovibond & Lovibond, 1995; Henry & Crawford, 2005) and has been used with multiracial populations (e.g., Jackson et al., 2012).

Results

Exploratory Factor Analysis—An exploratory factor analysis (principal axis factor analysis with promax rotation, $kappa = 4$) was conducted on the initial 60 items of MEM. We used a combination of $K > 1$ heuristic, scree plot analysis, and parallel analysis to help determine the number of factors of our measure. An oblique rotation was chosen as we expected factors of risks and resiliencies experienced by multiracial individuals would be correlated. The Kaiser measure of sampling adequacy was sufficiently high (.84) to suggest the correlation matrix was appropriately factorable (Tabachnick & Fidell, 2001). The $K > 1$ heuristic suggested 10 factors, the screeplot analysis suggested 4 to 6 factors, and a separate parallel analysis with 1,000 randomly permuted data sets (O’Connor, 2000) suggested a 6-factor solution. Upon closer inspection of the 6-factor solution, however, the sixth factor was not meaningful with only 2 items. Consequently, we reran the model forcing a more interpretable, theory-driven 5-factor solution. We next selected the top five highest loading items on each of the five factors resulting in a total 25-item measure, with all items loading greater than | .40 | on the intended factor and below | .30 | on the other factor (Pett, Lackey, & Sullivan, 2003).

The resulting 25 items were subjected to another identical factor analysis described above. The $K > 1$ heuristic, screeplot analysis, and a separate parallel analysis with 1,000 randomly permuted data sets (O’Connor, 2000) all suggested a 5-factor solution, which accounted for approximately 50% of the total variance in items. Factor 1 accounted for 21% of the item variance. We named this factor *Shifting Expressions* because of multiracial peoples’ experience of changing how one expresses their racial identity in different social situations and environmental contexts. Factor 2 accounted for 11% of the variance in items. We named this factor *Perceived Racial Ambiguity* because of multiracial peoples’ experience of getting questioned, stared at, or wrongly classified by others due to having an ambiguous racial appearance. Factor 3 accounted for 8% of the item variance. We named this factor *Creating Third Space* because of multiracial peoples’ experience of creating a safe and affirming space to support one’s multiracial identity. Factor 4 accounted for 6% of the variance in items. We named this factor *Multicultural Engagement* because of multiracial peoples’ experience of participating in one’s multiple cultural backgrounds with tradition, values, and

friends. Factor 5 accounted for 4% of the variance in items. We named this factor *Multiracial Discrimination* because of multiracial peoples' experience of discrimination and prejudice due to one's mixed racial background (see Table 1).

Descriptive and Internal Reliability—Table 2 presents the mean, standard deviation, internal reliability estimate, and correlation matrix of MEM subscales. Intercorrelations between MEM subscales ranged from .16 to .41, with identified risk factors (i.e., Perceived Racial Ambiguity and Multiracial Discrimination) positively correlating with identified resilient factors (i.e., Shifting Expressions, Creating Third Space, and Multicultural Engagement). This is consistent with the risk and resilience model that suggest resilient factors usually develop and are in response to dealing with risk factors (Luthar et al., 2000; Masten, 2001). The internal consistency reliability estimates of the MEM subscales were good ranging from .78 to .87.

Discriminant and Criterion-Related Validity—Correlations between MEM subscales (i.e., Shifting Expressions, Perceived Racial Ambiguity, Creating Third Space, Multicultural Engagement, and Multiracial Discrimination) and social desirability (i.e., Impression Management) were examined to assess evidence of discriminant validity, and racial diversity in one's social network (i.e., Zipcode—Person of Color, Zipcode—Multiracials, Diverse Friends, Diverse Community, and Multiracial Friends), skin color (i.e., Skin Color), and psychological distress (i.e., Depression, Anxiety, and Stress) to assess evidence of criterion-related validity (see Table 2). In support of evidence of discriminant validity, there were no significant relationships between MEM subscales and Impression Management, suggesting respondents are generally not attempting to present themselves in socially approved ways when they answer MEM items. In partial support of evidence of criterion-related validity, none of the identified risk factors significantly correlated with measures of racial diversity in one's social network, although several identified resilient factors (particularly Multicultural Engagement and Creating Third Space) were positively correlated with several measures of racial diversity in one's social network (particularly Diverse Friends and Multiracial Friends) as expected. Inconsistent with our hypothesis, none of the MEM subscales were correlated with skin color. Finally, identified MEM risk factor, Multiracial Discrimination, positively correlated with Depression, Anxiety, and Stress as expected. Perceived Racial Ambiguity did not significantly correlate with any of the psychological distress measures. Identified MEM resilient factors, Multicultural Engagement and Creating Third Space, did not correlate with psychological distress outcomes. Also, Shifting Expressions positively (rather than negatively as expected) correlated with Depression, Anxiety, and Stress.

Study 2

The purpose of Study 2 was to replicate the five-factor structure and fit of the MEM on an independent sample. Moreover, we tested internal reliability and evidence of criterion-related validity of MEM subscales. In assessment of evidence of criterion-related validity, we expected a significant negative correlation between all multiracial experiences of risks and resiliencies and a color-blind racial attitude. We anticipated that racially color-blind individuals who are unaware of and in denial of racism (Neville, Lilly, Duran, Lee, &

Browne, 2000) are less likely to be attuned to uniquely racialized threats and develop appropriate coping responses. We also expected a significant positive correlation between identified risks of multiracial experiences and perceived conflict and distance of individuals' multiple racial identities, while a significant negative correlation between identified resilience of multiracial experiences and perceived conflict and distance of individuals' multiple racial identities (Jackson et al., 2012). Finally, we expected identified risks of multiracial experiences would be negatively correlated with emotional well-being (i.e., negatively correlated with positive affect, and positively correlated with negative affect). In contrast, we expected identified resilience of multiracial experiences would be positively correlated with emotional well-being (i.e., positively correlated with positive affect, and negatively correlated with negative affect).

Method

Participants—The online sample consisted of 300 multiracial persons living in the U.S. Fifty-six percent reported living in the West, 15% reported living in the South, 11% reported living in the Midwest, 7% reported living in the Northeast, and 12% did not respond to the item. The majority of participants were women (74%), ranging in age from 19 to 73 with a mean age of 34 ($SD = 11.52$). Based on a modified census format in measuring racial identity, participants were able to choose one or more of the following racial groups, including African American/Black, Asian American/Asian, Pacific Islander, White, Hispanic/Latina(o), Native American/American Indian, and Other. There were 44 different racial identities claimed, with the five largest being Asian/White (25%), Black/White (13%), White/Hispanic (7%), Black/White/Indian (6%), and Other (5%). Those self-identifying exclusively as “other” described their unique multiracial identity (e.g., Hapa, Multiracial, etc.). Approximately 84% of the sample was U.S.-born. The majority of our participants were highly educated with 33% reporting a college degree and 37% reporting an advanced degree. Income was evenly distributed with 39% reporting income between \$19,000 or less, 17% between \$20,000 and \$39,000, 22% between \$40,000 and \$59,000, and 22% between \$60,000 and more.

Procedure

Studies were conducted sequentially, with both studies using the initial 60-item MEM. The recruitment and procedure in data collection for Study 2 was the same as Study 1.

Measures

Color-blind Racial Attitude—Color-blind racial attitude was measure with the Color-blind Racial Attitude Scale (CoBRAS; Neville, Lilly, Duran, Lee, & Browne, 2000). It is a 20-item self-report measure of awareness of racism with 3 subscales: Unawareness of Racial Privilege, Institutional Discrimination, and Blatant Racial Issues. It is rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with higher scores representing greater denial of the existence of racism. For the purpose of this study, the Blatant Racial Issues (6 items; e.g., “Racial problems in the United States are rare, isolated situations”) was the only subscale used since we were primarily interested in a color-blind racial attitude as it referred to a participant’s unawareness and denial of general, pervasive

racial discrimination, rather than unawareness to White privilege or institutional racism. Blatant Racial Issues will be hereinafter referred to as Color-blind Attitude. CoBRAS original scale development was based on a racially diverse sample, though an explicit count of mixed race individuals was not included (except Study 5, which included five multiracial participants). We are not aware of any other studies that have used CoBRAS with multiracial people.

Multiracial Identity Integration—Perceived conflict and distance of individuals' multiple racial identities was measured with the Multiracial Identity Integration scale (MII; Cheng & Lee, 2009). It is an 8-item self-report measure of perceived conflict and distance of individuals' multiple racial identities with 2 subscales, including multiracial identity racial distance (MII-Distance; e.g., "I keep everything about my different racial identities separate") and multiracial identity racial conflict (MII-Conflict; e.g., "I am conflicted between my different racial identities"). The items are rated on a 5-point scale ranging from 1 (*completely disagree*) to 5 (*completely agree*), with higher scores representing higher racial distance and higher racial conflict. Three of the eight items are reverse scored. The MII has demonstrated good internal reliability estimates and evidence of criterion-related and discriminant validity as it correlated in expected directions with perceived discrimination and psychological adjustment measures (Cheng & Lee, 2009; Jackson et al., 2012).

Emotional Well-being—Emotional well-being was measured with the Positive and Negative Affect Schedule (PANAS-Short Form; Thompson, 2007). The PANAS—Short Form includes two 5-item affect scales measuring Positive Affect (e.g., active) and Negative Affect (e.g., nervous). The scale items are rated according to level of agreement in response to a situation (i.e., "feel this way at this moment") on a five-point scale from 1 (very slightly or not at all) to 5 (extremely) with higher scores reflecting greater positive or negative affect. Thompson conducted a series of extensive cross-cultural studies to assure the reduced 10 items from the original 20-item measure (Watson, Clark, & Tellegen, 1988) was psychometrically valid and reliable. The PANAS—Short Form also demonstrated good internal reliability estimates and have demonstrated convergent and discriminant validity with other emotional well-being measures and psychological distress measures and has been used with multiracial populations (e.g., Jackson et al., 2012).

Results

Confirmatory Factor Analysis—To examine the stability of the five-factor solution derived from exploratory factor analyses in Study 1, we further tested the overall fit of the five-factor model. We conducted a confirmatory factor analysis of covariance and asymptotic covariance matrices in LISREL 8.54 (Jöreskog, & Sörbom, 1996) to test the hypothesized MEM measurement model. The Satorra-Bentler scaled chi-square (Satorra & Bentler, 1994) was selected to adjust for the presence of non-normal data. The root mean square error of approximation (RMSEA; Steiger & Lind, 1980), standardized root mean square residual (SRMR; Bentler, 1995), and the comparative fit index (CFI; Bentler, 1990) were used to assess model fit. A RMSEA value of .06 or less indicates relatively good fit and a value above .08 indicates poor fit (Browne & Cudeck, 1992; Hu & Bentler, 1999). A

SRMR value less than or equal to .08 indicates good fitting model (Hu & Bentler, 1999). CFI values of .95 or higher indicate a good fit to the data (Hu & Bentler, 1999).

The hypothesized five-factor, first-order model exhibited a good model fit, with the CFI indicating an adequate fit, $SB \chi^2(265, N = 300) = 528.773, p < .05$, RMSEA = .058 (90% CI = .051; .065), SRMR = .061, CFI = .939 and the average variance extracted in items was 57% for Shifting Expressions, 55% for Perceived Racial Ambiguity, 48% for Creating Third Space, 41% for Multicultural Engagement, and 43% for Multicultural Discrimination items. All factor loadings, uniqueness terms, and factor covariance coefficients were significant. Standardized factor loadings ranged from .54 to .84. Standardized factor covariance coefficients ranged from .18 (relationship between Shifting Expressions and Creating Third Space) to .58 (Multicultural Engagement and Creating Third Space).

Descriptive and Internal Reliability—Table 3 presents the mean, standard deviation, internal reliability estimate, and correlation matrix of MEM subscales. Intercorrelations between MEM subscales ranged from .16 to .47. The internal consistency reliability estimates of the MEM subscales were good ranging from .76 to .87.

Criterion-Related Validity—Correlations between MEM subscales (i.e., Shifting Expressions, Perceived Racial Ambiguity, Creating Third Space, Multicultural Engagement, and Multiracial Discrimination) and color-blind racial attitude (i.e., Color-Blind Attitude), perceived conflict and distance of individuals' multiple racial identities (i.e., MII-Distance and MII-Conflict), and emotional well-being (i.e., Positive Affect and Negative Affect) were examined to assess evidence of criterion-related validity (see Table 3). In partial support of evidence of criterion-related validity, all of the MEM subscales (except Shifting Expressions) were negatively correlated with color-blind racial attitude as expected. Also, identified MEM risk factor, Multiracial Discrimination, was positively correlated with MII-Conflict and Negative Affect, while Perceived Racial Ambiguity did not significantly correlate with any of identity integration and emotional well-being measures. Assumed MEM resilient factors, Multicultural Engagement and Creating Third Space, was negatively correlated with MII-Distance, and Creating Third Space was positively correlated with Positive Affect as expected.

Summary and General Discussion

The purpose of the present study was to create a new measure assessing unique risks and resiliencies commonly experienced by multiracial people. Across two studies, we provided evidence of validity and reliability of the MEM with five subscales. *Shifting Expression* referred to experiences of changing how one expresses their racial identity in different social situations and environmental contexts. *Perceived Racial Ambiguity* referred to experiences of getting questioned, stared at, or wrongly classified by others due to having an ambiguous racial appearance. *Creating Third Space* referred to experiences of creating a safe and affirming space to support one's multiracial identity. *Multicultural Engagement* referred to experiences of participating in one's multiple cultural backgrounds with tradition, values, and friends. *Multiracial Discrimination* referred to experiences of discrimination and prejudice due to one's mixed racial background.

The five-factor structure of the MEM was supported by a combination of exploratory and confirmatory factor analyses. All five factors were positively interrelated across the two studies, which is consistent with the risk and resilience model that suggest resilient factors usually develop and are in response to dealing with risk factors (Luthar et al., 2000; Masten, 2001). For instance, Giamo, Schmitt, and Outten (2012) found that perceived discrimination encouraged multiracial people to identify more strongly with other multiracials, and that multiracial identification, in turn, fostered psychological well-being. Moreover, the internal reliability estimates of the MEM subscales across the two studies and forms were all above .76.

There was also evidence of support for discriminant and criterion-related validity of the MEM subscales. In support of evidence of discriminant validity, there were no significant relationships between MEM subscales and Impression Management, suggesting respondents were not attempting to present themselves in socially approved ways when they answered the MEM. In additional support of evidence of criterion-related validity, there were significant negative correlations between all of MEM subscales (except Shifting Expressions, although there was a negative trend) and color-blind racial attitudes. As expected, individuals who were more likely to endorse a color-blind racial attitudes denying the existence of racism were less likely to be attuned to uniquely racialized threats and develop relevant coping responses.

In partial support of evidence of criterion-related validity, several identified resilient factors (particularly Multicultural Engagement and Creating Third Space) were positively correlated with several measures of racial diversity in one's social network (particularly Diverse Friends, and Multiracial Friends). This is consistent with the literature that suggests mixed race individuals ability to explore and develop their racial identity expressions are more likely to be supported and resources offered in racially diverse communities (Rockquemore & Brunσμα, 2001; Renn, 2004). However, inconsistent with the literature (e.g., Jackson, 2009), none of the identified risk factors significantly correlated with measures of racial diversity. Since multiracials may experience racism from their family, friends, and strangers of similar and different racial backgrounds (Collins, 2000; Shih & Sanchez, 2005), perhaps racial diversity serves as a more distal factor to these challenges. Rather, it may be phenotypes and assumed racial identity perceived by others that directly affects multiracial experiences of risks (Johnston & Nadal, 2010). It is of interest to note that neither subjective nor objective measures of diversity in a community (i.e., Zipcode—Person of Color, Zipcode—Multiracials, and Diverse Community) correlated with these risks and resiliencies. Instead, it was more active and meaningful number of diverse and multiracial friends (i.e., Diverse Friends and Multiracial Friends) that correlated with these risks and resiliencies.

We also expected a positive relationship between MEM subscales and darker skin color. Physical appearance (e.g., skin tone, hair texture and color, eye and nose shape, etc.) of multiracials is assumed to strongly influence identity choices and darker skin color is associated with greater experiences of racism (Hall, 2008) and more frequent opportunities to cope with these stressors (Jackson, 2010). However, none of the MEM subscales were significantly correlated with skin color. It is possible that skin color is not as relevant to the perceived risks and resiliencies of mixed race individuals; rather, other physical appearance

markers may be important. Referring to Johnston and Nadal's concept of monoracism, perhaps, the degree to which a mixed race individual's physical appearance conforms to monoracist assumptions of belonging to only one racial group is more relevant to the risks and resiliencies of mixed race individuals.

We also expected identified risk factors (i.e., Multiracial Discrimination and Perceived Racial Ambiguity) would be positively correlated with perceived conflict and distance of individuals' multiple racial identities (Jackson et al., 2012) and psychological distress, including higher depression, anxiety, stress, and negative affect, and lower positive affect (Jackson et al., 2012; Miville et al., 2005). In partial support of evidence of criterion-related validity, perceptions of multiracial discrimination was related to greater conflict between a mixed race individual's multiple racial identities and higher depression, anxiety, stress, and negative affect. This is consistent with the research that suggests discrimination and prejudice due to one's mixed racial background are significant psychological risk factors in the lives of multiracial people (Buckley & Carter, 2004; Miville et al., 2005; Shih & Sanchez, 2005).

However, racially ambiguous treatment did not correlate with any of the identity integration and psychological adjustment measures. This is inconsistent with the literature that suggests experiences of getting questioned, stared at, or wrongly classified by others due to having an ambiguous racial appearance are significant risk factors (Gaskins, 1999; Jackson et al., 2012). It is possible that perceived racial ambiguity is correlated with more chronic and stable measures of psychological adjustment, rather than our more situational-based measures of psychological adjustment (i.e., DASS-21 measured distress in the past week. PANAS-Short Form measured affect in the moment). Alternatively, perhaps there are other relevant and more proximal outcomes related to being treated racially ambiguous such as interpersonal conflict and anxiety (Rockquemore et al., 2009).

Finally, we expected identified resilient factors (i.e., Shifting Expression, Multicultural Engagement, and Creating Third Space) would be negatively correlated with perceived conflict and distance of individuals' multiple racial identities (Jackson et al., 2012) and psychological distress, including lower depression, anxiety, stress, and negative affect, and higher positive affect (Jackson et al., 2012; Miville et al., 2005). In partial support of evidence of criterion-related validity, creating a safe and affirming space to support one's multiracial identity was related to lower distance between a mixed race individual's multiple racial identities and higher positive affect. Experiences of participating in one's multiple cultural backgrounds with tradition, values, and friends was related to lower distance between a mixed race individual's multiple racial identities. This is consistent with the research that suggests multicultural engagement and creating third space are important psychological resilient factors for mixed race individuals (Binning et al., 2009; Doyle & Kao, 2007; Guevarra, 2007; Jackson et al., 2013; Shih et al., 2007). Interestingly, resilient factor, creating a third space, was the only one related to positive affect, while risk factor, multiracial discrimination was consistently related to distress and identity conflict measures. It is possible that resilient factors such as creating a third space are more important to the promotion of positive well-being, than reduction of psychological distress. In converse, risk

factors such as multiracial discrimination may be more important to the increase in symptoms of psychological distress, than decreasing positive well-being.

However, experiences of changing how one expresses their racial identity in different social situations and environmental contexts was related to greater conflict between a mixed race individual's multiple racial identities and higher depression, anxiety, stress, and negative affect. Contrary to our expectation, shifting racial expressions appeared to be more maladaptive. This is in contrast to study findings by Miville and colleagues (2005) with majority of mixed race adults reporting shifting racial expressions across different social settings was to fit in with more than one racial or cultural group—although authors did note that some participants experienced some level of fitting into both groups but never feeling a complete part of either. The adaptive or maladaptive properties of shifting racial expressions may depend on the ecological context of mixed race individuals, including individual factors (e.g., phenotype, self-esteem, racial identity), interpersonal factors (e.g., interaction with family, friends, or strangers), and community factors (e.g., diversity of social setting or community) (Cicchetti & Lynch, 1993; Killian, 2004). For instance, across three studies, Sanchez, Shih, and Garcia (2009) found shifting racial expressions was associated with lower psychological well-being, but particularly for mixed race individuals with lower tolerance for ambiguity and inconsistency in the self.

There are several limitations that should be considered when interpreting our results or using the MEM. First, our study samples were comprised primarily of women, U.S.-born, and highly educated mixed race individuals; therefore, the generalizability of our findings across other subgroups of multiracial populations is unclear. Multiracial people are diverse with a wide range of demographic and social characteristics (U.S. Census, 2012). Future studies should focus on including larger samples of men, foreign-born, and individuals with diverse educational experiences in order to properly assess the validity and reliability evidence of MEM and its subscales. Second, we used a convenient sampling method primarily focusing on recruitment through online member distribution listservs of national multiracial organizations. We consequently oversampled individuals who identify as multiracials and are more likely to be racially conscious, and more sensitive to unique racial stressors and coping strategies. Our unexpected results suggesting shifting racial expressions was maladaptive, for instance, may be specific to these individuals who are more racially conscious and resistant to a monoracist society often pressuring mixed race individuals to choose a race (Jackson, 2010). Future studies should try to identify mixed race individuals who may only identify monoracially or have limited knowledge or interest in multiracial issues. Moreover, the ecological context of mixed race individuals should be examined more closely to assess when and for whom risks and resiliencies are adaptive or maladaptive. Third, we did not test for incremental validity to determine whether our MEM subscales increased predictive validity beyond other related measures. Future studies should examine, for instance, whether MEM risk subscales relate to psychological adjustment while controlling for a general measure of racial discrimination, or whether MEM resilient subscales relate to psychological adjustment while controlling for a general measure of racial identity. Lastly, interpretation of our preliminary findings of the adaptive and maladaptive properties of risk and resilient factors should be read with caution given our

correlational design. For instance, it is equally plausible that individuals who are depressed, anxious, and stressed may be more sensitive to perceptions of multiracial discrimination or feel the need to more frequently shift their racial expressions to cope. Future studies should employ experimental and longitudinal designs to assess causality and stability of the adaptive and maladaptive properties of MEM subscales.

Despite the fact that multiracial population is one of the fastest growing racial groups in the U.S. (Humes, Jones, & Ramirez, 2011), few empirical studies (particularly quantitative studies) have examined their uniquely racialized experiences of risks and resiliencies, and their psychological correlates. This preliminary report in the development of a new measure of distinct risks (Multiracial Discrimination and Perceived Racial Ambiguity) and resiliencies (Shifting Expressions, Multicultural Engagement, and Creating Third Space) contribute to this growing literature, with hopes of stimulating more research and practice implications directly assessing the psychological impact of these experiences on multiracial individuals. Grounded in an ecological approach (Renn, 2004; Rockquemore et al, 2009; Root, 2003), future studies should investigate the many individual factors (e.g., phenotype and self-esteem), interpersonal factors (e.g., relationships with family and friends), and community factors (such as diversity of social setting, school, work, and community) that dynamically shape these multiracial experiences and psychological functioning (Hall, 2008; Wijeyesinghe, 2001).

There are also clinical implications of the MEM. Clinicians should be aware of unique challenges and coping responses of multiracials, and how these factors may influence the counseling relationship and interventions of mixed race clients. The MEM could be used to assess how unique risks and resiliencies of multiracial clients exacerbate, protect, inhibit, or complicate their presenting problems. The opportunity to frame and share some of their experiences of discrimination associated with monoracism and racial ambiguity can help mixed race individuals externalize and normalize social stressors that are commonly shared by other multiracials. It may also help to process how these occurrences of multiracial discrimination and perceived racial ambiguity consciously or unconsciously affects their identity and well-being. Adaptive resilient factors can be used to enhance specific coping strategies and interventions that affirm a positive sense of identity. For instance, a culturally sensitive, strength-based intervention program may include the promotion of mixed race clients to explore and create a safe and affirming space to strengthen one's multiracial identity through social network. Clients can also participate in their multiple cultural backgrounds celebrating and learning more about their diverse traditions and values. Considering the importance of ecological factors, clients may want to explore when and how these challenges and opportunities are adaptive or maladaptive.

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References

- Bentler PM. Comparative fit indexes in structural models. *Psychological Bulletin*. 1990; 107(2):238. [PubMed: 2320703]
- Bentler, PM. EQS structural equations program manual. Multivariate Software; 1995.
- Binning KR, Unzueta MM, Huo YJ, Molina LE. The interpretation of multiracial status and its relation to social engagement and psychological well-being. *Journal of Social Issues*. 2009; 65(1):35–50.
- Brackett KP, Marcus A, McKenzie NJ, Mullins LC, Tang Z, Allen AM. The effects of multiracial identification on students' perceptions of racism. *The Social Science Journal*. 2006; 43:437–444.
- Browne MW, Cudeck R. Alternative ways of assessing model fit. *Sociological Methods & Research*. 1992; 21(2):230–258.
- Buckley TR, Carter RT. Biracial (Black/White) Women: A Qualitative Study of Racial Attitudes and Beliefs and their Implications for Therapy. *Women & Therapy*. 2004; 27:45–64.
- Cheng C, Lee F. Multiracial identity integration: Perceptions of conflict and distance among multiracial individuals. *Journal of Social Issues*. 2009; 65(1):51–68.
- Cicchetti D, Lynch M. Toward an ecological / transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry*. 1993; 56:96–118. [PubMed: 8488217]
- Clark LA, Watson D. Constructing validity: Basic issues in objective scale development. *Psychological Assessment*. 1995; 7(3):309.
- Coard SI, Breland AM, Raskin P. Perceptions of and Preferences for Skin Color, Black Racial Identity, and Self-Esteem Among African Americans1. *Journal of Applied Social Psychology*. 2001; 31(11):2256–2274.
- Collins JF. Biracial Japanese American identity: An evolving process. *Cultural Diversity & Ethnic Minority Psychology*. 2000; 6:115–133. [PubMed: 10910527]
- Cross WE Jr. The Negro-to-Black conversion experience. *Black world*. 1971; 20(9):13–27.
- De Anda D, Riddell VA. Ethnic identity, self-esteem, and interpersonal relationships among multiethnic adolescents. *Journal of Multicultural Social Work*. 1991; 1(2):83–98.
- Doyle JM, Kao G. Friendship Choices of Multiracial Adolescents: Racial Homophily, Blending, or Amalgamation? *Social Science Research*. 2007; 36:633–653. [PubMed: 19727415]
- Edwards LM, Pedrotti JT. A content and methodological review of articles concerning multiracial issues in six major counseling journals. *Journal of Counseling Psychology*. 2008; 55(3):411–418.
- Gaskins, PF. *What are you? Voices of mixed-race young people*. New York: Henry Holt & Company; 1999.
- Giamo LS, Schmitt MT, Outten HR. Perceived discrimination, group identification, and life satisfaction among multiracial people: A test of the rejection- identification model. *Cultural Diversity and Ethnic Minority Psychology*. 2012; 18(4):319. [PubMed: 23066642]
- Gonzales-Backen MA, Umana-Taylor AJ. Examining the role of physical appearance in Latino adolescents' ethnic identity. *Journal of adolescence*. 2011; 34(1):151–162. [PubMed: 20167356]
- Guevarra, RP, Jr. *Mexipino: A History of Multiethnic Identity and the Formation of the Mexican and Filipino Communities of San Diego, 1900–1965*. ProQuest; 2007.
- Guevarra, RP, Jr. *Becoming Mexipino: Multiethnic Identities and Communities in San Diego*. Rutgers University Press; 2012.
- Hall, RE. *Racism in the 21st century: An empirical analysis of skin color*. Springer Science & Business Media; 2008.
- Harris DR, Sim JJ. Who is multiracial? Assessing the complexity of lived race. *American Sociological Review*. 2002:614–627.
- Henry JD, Crawford JR. The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*. 2005; 44:227–239. [PubMed: 16004657]
- Hitlin S, Brown JS, Elder GH. Racial Self-categorization in Adolescence: Multiracial Development and Social Pathways. *Child Development*. 2006; 77:1298–1308. [PubMed: 16999799]

- Holden RR, Passey J. Socially desirable responding in personality assessment: Not necessarily faking and not necessarily substance. *Personality and Individual Differences*. 2010; 49(5):446–450.
- Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*. 1999; 6(1):1–55.
- Humes, KR.; Jones, NA.; Ramirez, RR. Overview of race and Hispanic origin: 2010. 2011 Mar. (Census 2010 Brief No. 02). Retrieved from the United States 2010 Census website: <http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf>
- Jackson KF. Beyond race: Examining the facets of multiracial identity through a life- span developmental lens. *Journal of Ethnic and Cultural Diversity in Social Work*. 2009; 18(4):309–326.
- Jackson KF. Living the multiracial experience: Shifting racial expressions, resisting race, and seeking community. *Qualitative Social Work*. 2010; 11:42–60.
- Jackson KF. Participatory diagramming in social work research: Utilizing visual timelines to interpret the complexities of the lived multiracial experience. *Qualitative Social Work*. 2012; 12:414–432.
- Jackson KF, Wolven T, Aguilera K. Mixed Mexican identity risk and resilience in Arizona. *Family Relations*. 2013; 62:215–225.
- Jackson KF, Yoo HCB, Guevarra R Jr, Harrington BA. Role of identity integration on the relationship between perceived racial discrimination and psychological adjustment of multiracial people. *Journal of Counseling Psychology*. 2012; 59(2):240. [PubMed: 22506908]
- Johnston, MP.; Nadal, KL. Multiracial microaggressions: Exposing monoracism in everyday life and clinical practice. In: Sue, DW., editor. *Microaggressions and Marginality: Manifestation, Dynamics, and Impact*. New York: Wiley & Sons; 2010. p. 123-144.
- Jöreskog, KG.; Sörbom, D. LISREL 8 user's reference guide. Scientific Software International; 1996.
- Kerwin, C.; Ponterotto, JG. Biracial identity development: Theory and research. In: Ponterotto, JG.; Casas, JM.; Suzuki, LA.; Alexander, CM., editors. *Handbook of multicultural counseling*. Thousand Oaks, CA: Sage; 1995. p. 199-217.
- Kerwin C, Ponterotto JG, Jackson BL, Harris A. Racial identity in biracial children: A qualitative investigation. *Journal of Counseling Psychology*. 1993; 40:221–231.
- Kich, GK. The developmental process of asserting a biracial, bicultural identity. In: Root, MPP., editor. *Racially mixed people in America*. Newbury Park, CA: Sage Publications; 1992. p. 304-320.
- Killian, B. Risk and resilience. In: Pharoah, R., editor. *A generation at risk? HIV/AIDS, vulnerable children and security in Southern Africa*. Pretoria, South Africa: Institute of Security Studies; 2004. p. 33-63.
- Lovibond, SH.; Lovibond, PF. Manual for the depression anxiety stress scales. Sydney: Psychology Foundation; 1995.
- Luthar SS, Cicchetti D, Becker B. The construct of resilience: A critical evaluation and guidelines for future work. *Child development*. 2000; 71(3):543–562. [PubMed: 10953923]
- Masten AS. Ordinary magic: Resilience processes in development. *American Psychologist*. 2001; 56(3):227. [PubMed: 11315249]
- Miville, ML. Psychological functioning and identity development of biracial people: A review of current theory and research. In: Carter, RT., editor. *Handbook of racial-cultural psychology and counseling*. Vol. 1. New York: Wiley; 2005. p. 295-319.
- Miville ML, Constantine MG, Baysden MF, So-Lloyd G. Chameleon changes: An exploration of racial identity themes of multiracial people. *Journal of Counseling Psychology*. 2005; 52:507–516.
- Neville HA, Lilly RL, Duran G, Lee RM, Browne L. Construction and initial validation of the Color-Blind Racial Attitudes Scale (CoBRAS). *Journal of Counseling Psychology*. 2000; 47(1):59.
- O'Connor BP. SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods*. 2000; 32:396–402.
- Paulhus, DL. Measurement and control of response bias. In: Robinson, JP.; Shaver, PR.; Wrightsman, LS., editors. *Measures of personality and social psychological attitudes*. San Diego, CA: Academic Press; 1991. p. 17-59.

- Paulhus, DL. Socially Desirable Responding: The Evolution of a Construct. In: Braun, HJ.; Jackson, DN.; Wiley, DE., editors. *The role of constructs in psychological and educational measurement*. Mahwah, NJ: Erlbaum; 2002. p. 49-69.
- Pett, MA.; Lackey, NR.; Sullivan, JJ. *Making sense of factor analysis: the use of factor analysis for instrument development in health care research*. Vol. 2003. London and Thousand Oaks: Sage Publications; 2003.
- Poston WSC. The biracial identity development model: A needed addition. *Journal of Counseling and Development*. 1990; 69:152-155.10.1002/j.1556-6676.1990.tb01477.x
- Renn KA. Understanding the identities of mixed-race college students through a developmental ecology lens. *Journal of College Student Development*. 2003; 44(3):383-403.
- Renn, K. *Mixed race students in college: The ecology of race, identity, and community on campus*. Albany: State University of New York Press; 2004.
- Renn KA. Educational policy, politics, and mixed heritage students in the United States. *Journal of Social Issues*. 2009; 65(1):163-181.
- Rockquemore KA. Between black and white: Exploring the biracial experience. *Race and Society*. 1999; 1:197-212.
- Rockquemore KA, Brunsma DL. Socially embedded identities: Theories, typologies, and processes of racial identity among Black/White biracials. *The Sociological Quarterly*. 2002; 43(3):335-356.
- Rockquemore KA, Brunsma DL, Delgado DJ. Racing to theory or re-theorizing race? Understanding the struggle to build a multiracial identity theory. *Journal of Social Issues*. 2009; 65:13-34.
- Root, MPP., editor. *Racially mixed people in America*. Newbury Park, CA: Sage; 1992.
- Root, MPP. Methodological issues in multiracial research. In: Hall, GCN.; Okazaki, S., editors. *Asian American psychology: The science of lives in context*. Washington, DC: American Psychological Association; 2002. p. 171-193.
- Root, MPP. Racial identity development and persons of mixed-race heritage. In: Root, MPP.; Kelly, M., editors. *The multiracial child resource book: Living complex identities*. Seattle, WA: Mavin Foundation; 2003. p. 34-41.
- Salahuddin NM, O'Brien KM. Challenges and resilience in the lives of urban, multiracial adults: An instrument development study. *Journal of counseling psychology*. 2011; 58(4):494. [PubMed: 21823788]
- Sanchez DT, Shih M, Garcia JA. Juggling multiple racial identities: malleable racial identification and psychological well-being. *Cultural Diversity and Ethnic Minority Psychology*. 2009; 15(3):243. [PubMed: 19594253]
- Satorra A, Bentler PM. A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*. 2001; 66(4):507-514.
- Satorra, A.; Bentler, PM. Corrections to test statistics and standard errors in covariance structure analysis. 1994.
- Steiger, JH.; Lind, JC. Statistically based tests for the number of common factors. annual meeting of the Psychometric Society; Iowa City, IA. 1980 May.
- Stephan, CW. Mixed-heritage individuals: Ethnic identity and trait characteristics. In: Root, M., editor. *Racially mixed people in America*. Newbury Park, CA: Sage; 1992. p. 50-63.
- Shih M, Bonam C, Sanchez D, Peck C. The social construction of race: Biracial identity and susceptibility to stereotypes. *Cultural Diversity and Ethnic Minority Psychology*. 2007; 13:125-133. [PubMed: 17500601]
- Shih M, Sanchez DT. Perspectives and research on the positive and negative implications of having multiple racial identities. *Psychological Bulletin*. 2005; 131:569-591. [PubMed: 16060803]
- Shih M, Sanchez DT. When race becomes even more complex: Towards understanding multiracial identity and experiences. *Journal of Social Issues*. 2009; 65:1-11.
- Suyemoto KL. Racial/ethnic identities and related attributed experiences of multiracial Japanese Europeans Americans. *Journal of Multicultural Counseling & Development*. 2004; 32:206-221.
- Suyemoto, KL.; Boyd, B.; Hall, CI.; Sánchez-Johnsen, L. *Psychological education and training from culture-specific and multiracial perspectives: Critical issues and recommendations*. Washington, D.C.: American Psychological Association; 2009. *Multiracial people in the context of specific*

racial minority groups. In the Council of National Psychological Associations for the Advancement of Ethnic Minority Interests (CNPAAEMI); p. 27-42.

Tabachnick, BG.; Fidell, LS. Using multivariate analysis. California State University Northridge: Harper Collins College Publishers; 2001.

Takaki, R. A different mirror: A history of multicultural America. Boston, MA: Little, Brown; 1993.

Thompson ER. Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule. *Journal of Cross-Cultural Psychology*. 2007; 38:227–242.

U.S. Census Bureau. The two or more races population: 2010. 2012. Retrieved from <http://www.census.gov/prod/cen2010/briefs/c2010br-13.pdf>

Uziel L. Rethinking Social Desirability Scales: From Impression Management to Interpersonally Oriented Self-Control. *Perspectives on Psychological Science*. 2010; 5:243–262. [PubMed: 26162157]

Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology*. 1988; 54:1063–1070. [PubMed: 3397865]

Wijeyesinghe, CL. Racial identity in multiracial people. In: Wijeyesinghe, CL.; Jackson, BW., editors. *New perspectives on racial identity development: A theoretical and practical anthology*. New York: New York University Press; 2001. p. 129-152.

Winn NN, Priest R. Counseling biracial children: A forgotten component of multicultural counseling. *Family Therapy*. 1993; 20:29–36.

Table 1**MEM Item Description and Factor Loadings from the Final Reduced Item Set in Study 1**

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1: Shifting Expression					
20. I change how I describe my racial identity in different settings (e.g., work, home, and school).	.86	.02	.04	-.03	-.13
58. I act different depending on where I am at (e.g., home, school, and work).	.80	-.04	-.05	.03	.01
52. I change the way that I present myself to other people.	.74	-.05	.03	-.03	.12
15. I change the way that I racially describe myself to other people.	.72	.04	.07	-.04	-.05
1. I shift how I racially express my identity around certain people (e.g., talk and dress).	.65	-.01	-.09	.07	.08
Factor 2: Perceived Racial Ambiguity					
26. People are curious to know my background.	.06	.80	-.08	.01	.02
43. I get asked about my racial background.	.01	.74	.01	.04	.05
2. I get asked "What are you?"	.07	.72	-.03	.13	-.06
28. People say I'm exotic.	-.07	.72	-.03	-.10	-.01
7. I get asked "Where are you from?"	-.09	.63	.15	-.05	.00
Factor 3: Creating Third Space					
48. I create my own space (e.g., formed social groups) with other multiracial people.	.06	.04	.77	-.06	.03
3. I am active in multiracial organizations or groups.	.08	-.05	.73	.05	-.04
53. I attend multiracial events and social gatherings (e.g., Loving Day).	.00	-.08	.71	.04	-.02
35. I connect to other multiracial individuals through the internet (e.g., facebook and myspace).	-.07	.09	.64	-.10	.04
24. I read multiracial literature (e.g., articles, books, and internet websites).	-.09	.02	.46	.20	.05
Factor 4: Multicultural Engagement					
9. I live in more than one culture.	.03	-.14	-.03	.73	.03
37. I participate in cultural practices (e.g., special food, music, and customs) associated with different cultures.	.04	.06	.09	.62	-.06
13. I celebrate holidays/celebrations of more than one culture.	.01	-.03	-.06	.61	.09
22. I identify with cultural beliefs of multiple groups.	-.05	.01	.03	.60	-.05
27. I am friends with people from different cultures.	-.03	.17	-.02	.60	-.01
Factor 5: Multiracial Discrimination					
5. I am picked on for not looking or acting like a certain racial group.	.03	.08	.00	.01	.71

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
32. People have started fights with me (either verbally or physically).	-.12	-.16	.02	.08	.67
17. I am not accepted by other racial groups.	.06	.01	-.04	-.05	.64
45. People make jokes about me.	.02	.10	.01	-.07	.60
34. I am pressured to pick a race.	.05	.02	.05	.04	.54

Note. All items started with the stem: “Due to my multiracial background.” The response format for the measure was a 5-point Likert-type scale ranging from 1 (*almost never*) to 5 (*almost always*), with higher scores representing greater experiences of risks and resilience. Pattern matrix factor loadings > .40 on the intended factor and < .30 on the other factor are in bold.

Table 2
Scale Means, Standard Deviations, Internal Reliability, and Inter-correlations in Study 1

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Shifting Expressions	--														
2. Perceived Racial Ambiguity	.07	--													
3. Creating Third Space	.32*	.18*	--												
4. Multicultural Engagement	.27*	.21*	.41*	--											
5. Multiracial Discrimination	.29*	.31*	.30*	.16	--										
6. Zip Code—Person of Color	.05	-.03	.02	.08	.02	--									
7. Zip Code—Multiracials	.00	-.11	.03	.15	-.12	.52*	--								
8. Diverse Friends	.08	.08	.21*	.43*	.01	.07	.13	--							
9. Diverse Community	-.08	-.07	-.01	.06	-.06	.45*	.37*	.16	--						
10. Multiracial Friends	.00	.01	.40*	.31*	-.08	.07	.21*	.43*	.24*	--					
11. Skin Color	.06	.04	-.04	.08	.04	.15	.12	.10	.14	.01	--				
12. Impression Management	-.09	-.05	.04	.04	-.09	-.11	.01	.12	-.04	-.03	-.10	--			
13. Depression	.20*	.15	.12	-.11	.31*	.02	-.11	-.09	-.14	-.08	-.09	-.17	--		
14. Anxiety	.20*	.10	.17	.02	.33*	.03	-.11	-.05	-.04	.01	.03	-.27*	.68*	--	
15. Stress	.28*	.14	.04	-.04	.31*	.00	-.13	-.07	-.06	-.11	.04	-.28*	.69*	.71*	--
<i>M</i>	2.43	3.78	2.70	3.64	2.37	36.56	4.77	3.15	2.73	2.85	4.82	4.32	1.53	1.39	1.84
<i>SD</i>	1.00	0.82	0.99	0.83	0.82	22.57	3.89	0.77	0.88	0.79	1.74	0.74	0.62	0.50	0.65
Alpha	.87	.84	.81	.78	.78	--	--	--	--	--	--	.77	.91	.84	.87

Note.

* $p < .01$

Table 3
Scale Means, Standard Deviations, Internal Reliability, and Inter-correlations in Study 2

Scale	1	2	3	4	5	6	7	8	9	10
1. Shifting Expressions	--									
2. Perceived Racial Ambiguity	.18*	--								
3. Creating Third Space	.16	.16	--							
4. Multicultural Engagement	.21*	.28*	.47*	--						
5. Multiracial Discrimination	.40*	.35*	.27*	.22*	--					
6. Color-blind Attitude	-.15	-.23*	-.25*	-.22*	-.30*	--				
7. MII-Distance	.09	-.10	-.18*	-.20*	.01	.16	--			
8. MII-Conflict	.40*	.15	.15	.12	.49*	-.21*	.04	--		
9. Positive Affect	-.09	.08	.22*	.13	-.06	.00	-.12	-.15	--	
10. Negative Affect	.31*	.07	.06	.02	.27*	-.03	.10	.22*	.03	--
<i>M</i>	2.32	3.72	2.60	3.63	2.37	1.91	1.92	2.73	2.79	1.36
<i>SD</i>	0.95	0.87	0.96	0.83	0.86	0.99	0.77	1.12	0.94	0.55
Alpha	.87	.85	.82	.76	.79	.82	.60	.84	.85	.81

Note.

* $p < .01$