

## BRIEF REPORT

# Brief report: Revealing the nuance: Examining approaches for research with adolescents who identify with multiple racial/ethnic groups

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**Abstract**

**Introduction:** Increasing racial/ethnic diversity in the United States calls for methodological approaches that capture participants who identify with multiple racial/ethnic groups. Existing approaches are oriented toward large samples ( $N > 500$ ); yet, we do not know how effective these approaches are with more common smaller convenience samples. We explored how several approaches were associated with the sample distribution of racial/ethnic groups and ethnic identity using a small convenience sample.

**Methods:** In 2017, 320 U.S. adolescents ( $M_{\text{age}} = 16.04$  years,  $SD_{\text{age}} = 1.33$ ; 59% female) responded to an open-ended question regarding their racial/ethnic group(s) in a cross-sectional survey. Seventy-five (23%) adolescents identified with multiple racial/ethnic groups. Remaining adolescents identified solely with the Asian/Hawaiian Native/Pacific Islander (19%), Black/African American (3%), European American (21%), Latinx (34%), or Native American/Alaska Native (<1%) group.

**Results:** Three approaches for adolescents with multiple racial/ethnic groups were employed. Findings indicated that the sample distributions differed across the approaches. The greatest differences were shown for Black/African American, Native American/Alaska Native, and Other Race/Ethnicity groups. Descriptively, ethnic identity also differed across the approaches. For example, multiracial/ethnic adolescents reported greater ethnic identity-exploration than their European American counterparts in one approach than in others.

**Conclusions:** Researchers should carefully consider approaches to research with adolescents who identify with multiple racial/ethnic groups given implications for the literature. This study demonstrates the critical need to further develop approaches for capturing the complexity of race/ethnicity.

**KEYWORDS**

adolescence, ethnic identity, methods, racial identity

## 1 | INTRODUCTION

Growing racial/ethnic diversity in the United States calls for researchers to consider methodological approaches for conducting research with adolescents who identify with multiple racial/ethnic groups. From 2010 to 2020, the US Census Bureau (2021b) reported a 276% increase in respondents who identified with multiple (i.e., two or more) racial groups and, in particular, a 170% increase in children and adolescents who identified with multiple racial groups. Over 52 million people in the United States reported as “Some Other Race” alone or in combination with two or more races in 2020 (US Census Bureau [2021a]). To further complicate the measurement of race/ethnicity, the accessibility of genetic ancestry tests has contributed to individuals identifying with multiple racial groups (Johfre et al., 2021). Even still, there are other challenges to conducting

research with adolescents who identify with multiple racial/ethnic groups, as they may identify with monoracial groups and/or they may change their identification over time. It is vital to examine adolescents who identify with multiple racial/ethnic groups as studies have shown their association with positive developmental outcomes (Charmaraman et al., 2014; Csizmadia, 2011; Gaither, 2015; Jones & Rogers, 2022; Ream, 2023; Wong & Chau, 2022).

Researchers have suggested several quantitative approaches for conducting research with multiracial/ethnic participants (Bailey et al., 2013; Croll & Gerteis, 2019; Liebler & Halpern-Manners, 2008; Lopez, 2003). However, these approaches have been oriented toward large samples. As a result, there has been limited consideration of these approaches with small data sets even though these are more common in research with adolescents. Thus, we sought to explore several approaches to conducting research with adolescents who identify with multiple racial/ethnic groups using a small convenience sample. We considered how these approaches were reflected in adolescents' ethnic identity given the value of identification with one's racial/ethnic group in adolescent development (Rivas-Drake et al., 2014; Yip et al., 2019).

## 1.2 | Multiple racial/ethnic group membership

Research has examined developmental outcomes among adolescents with multiracial/ethnic backgrounds (Oshin, 2017; Shih & Sanchez, 2005). In a review of research, multiracial/ethnic individuals had more favorable psychological outcomes compared to individuals who identified with solely one racial/ethnic group (Gaither, 2015). Another review of the literature demonstrated that multiracial youth have positive developmental outcomes when they perceive their social environment to be accepting of their multiracial/ethnic background (Csizmadia, 2011). Additional research drawing from Critical Multiracial Theory has demonstrated how adolescents report positive affirmations from peers about their mixed racial/ethnic background (Jones & Rogers, 2022). In a recent literature review, Ream (2023) reported mixed findings on developmental outcomes among multiracial individuals. Specifically, some research suggested that multiracial individuals who feel that they can choose their racial/ethnic identity in a given context have positive psychological outcomes, whereas other research indicated that multiracial individuals who are uncertain about their mixed racial/ethnic identity can experience negative outcomes.

In sharp contrast to the positive associations that have been observed between developmental outcomes and identification with multiple racial/ethnic groups (Gaither, 2015), some research has shown negative associations. For example, studies have indicated how racial/ethnic ambiguity (i.e., feeling uncertain about one's racial/ethnic identity) may lead to psychosocial and behavioral issues, such as aggression, social isolation, and risky sexual activity (Gibbs & Moskowitz-Sweet, 1991). Another study observed that perceived racial discrimination was positively linked to higher rates of risky behaviors, such as substance use, among multiracial adolescents compared to monoracial adolescents (i.e., African, Asian, and European Americans; Choi et al., 2006). The study concluded that multiracial adolescents may be more vulnerable to issues about race and ethnicity than their monoracial peers. A literature review reported that mixed-race individuals experienced negative and difficult social situations, such as being rejected by both the racial majority and minority, and that such experiences threatened their autonomy to identify as multiracial (Wong & Chau, 2022). However, scholars have noted that the negative associations between developmental outcomes and the identification with multiple racial/ethnic groups may be, in part, due to the emphasis that researchers have placed toward conducting research that uses negative or deficit approaches (Charmaraman et al., 2014). Thus, examining developmental outcomes for adolescents who identify with multiple racial/ethnic groups remains a critical area of study.

## 1.3 | Approaches to adolescents who identify with multiple racial/ethnic groups

Approaches to conducting quantitative research with adolescents who identify with multiple racial/ethnic groups have been primarily oriented toward large samples ( $N > 500$ ) rather than small convenience samples (Bailey et al., 2013; Croll & Gerteis, 2019; Harris et al., 2017; Liebler & Halpern-Manners, 2008). For example, some researchers have developed predictive models using nationally representative data that determine participants' race/ethnicity based on their multiple responses (National Center for Health Statistics, 2003). Other approaches include fractional assignment that uses weights to distribute a response across multiple racial/ethnic groups (Liebler & Halpern-Manners, 2008). Additional approaches include separating participants who identify with multiple racial/ethnic groups into one multiracial/ethnic group (i.e., *Separation*) or omitting data from multiracial/ethnic participants altogether (i.e., *Exclusion*; Liebler & Halpern-Manners, 2008). Another approach is to assign participants to as many racial/ethnic groups as they report (i.e., *Combination*; Lopez, 2003). However, smaller samples are more common than the larger samples used with such strategies. Indeed, a meta-analytic review of racial/ethnic discrimination in adolescents has shown that about 70% of published studies had sample sizes under 500 (Benner et al., 2018). Thus, in the current study, we sought to explore how three approaches (Exclusion, Separation, and Combination) designed for large data sets would apply to a small convenience sample.

## 1.4 | Ethnic identity among racial/ethnic minority adolescents

Researchers have highlighted the critical role ethnic identity has on developmental outcomes among adolescents from racial/ethnic minority groups (e.g., Rivas-Drake et al., 2014; Umaña-Taylor et al., 2002; Yip et al., 2019). Studies show positive associations between ethnic identity and psychosocial functioning in adolescents, such as greater self-esteem and less depressive symptoms (Rivas-Drake et al., 2014; Umaña-Taylor et al., 2002). Further, ethnic identity has been positively associated with greater academic performance in African American, Asian American, and Latinx adolescents (Rivas-Drake et al., 2014). Given the importance of ethnic identity to the academic and psychological development of adolescents from racial/ethnic minority groups, this construct was included in the present study (Rivas-Drake et al., 2014; Umaña-Taylor et al., 2002).

## 1.5 | The present study

To contribute toward research in this area, the present study explored the following research questions: First, how many participants would identify with multiple racial/ethnic groups in a small convenience sample of adolescents? Second, what differences would emerge in the distribution of racial/ethnic groups across approaches (i.e., Exclusion, Separation, and Combination)? We selected these approaches based on past research (Liebler & Halpern-Manners, 2008; Lopez, 2003). The Exclusion approach refers to excluding data from participants who identify with multiple racial/ethnic groups. The Separation approach refers to assigning all participants who identify with multiple racial/ethnic groups to their own racial/ethnic group. The Combination approach refers to assigning participants who identify with multiple racial/ethnic groups to as many groups as they report. Drawing from past research with large samples (Bailey et al., 2013; Liebler & Halpern-Manners, 2008; Lopez, 2003), we expected the distribution of racial/ethnic groups to vary across the approaches. Third, how are adolescents' racial/ethnic groups and ethnic identity—exploration and commitment—associated, descriptively, across the approaches? Given the exploratory nature of this question, we did not make any formal expectations.

## 2 | METHODS

### 2.1 | Participants

Participants included 320 adolescents ( $M_{\text{age}} = 16.04$  years,  $SD_{\text{age}} = 1.33$ ; 59% female). Adolescents who did not provide their race/ethnicity ( $n = 22$ ) were excluded from analyses. These participants did not differ in ethnic identity-exploration and -commitment (Phinney & Ong, 2007) from their counterparts,  $p = .65$ . Maternal education was used as an indicator of socioeconomic status. The sample average maternal education ( $M = 3.05$ ,  $SD = 1.63$ ) was just above an Associate's degree on a scale that ranged from 1 (*No High School Diploma/GED*) to 6 (*Doctorate [MD/PhD]*).

For the current study, we examined a subsample of 75 adolescents (23%) who provided racial/ethnic responses that were categorized into multiple racial/ethnic groups (see the Measures section for how we asked about race/ethnicity and Table 2 for distributions). For example, an adolescent who indicated that they were Black and White was included in the multiple racial/ethnic subsample. These adolescents reported two ( $n = 60$ , 19%), three ( $n = 11$ , 3%), or four ( $n = 4$ , 1%) racial/ethnic groups. The majority (88%) indicated that one of their racial/ethnic groups was the White or European American group compared to the 12% who indicated that they identified with two or more racial/ethnic minority groups. Regarding gender, the subsample included females (58%), males (38%), transgender male (1%), and genderqueers/nonbinaries (3%). Age in years was distributed as follows: 14 (16%), 15 (24%), 16 (20%), 17 (19%), and 18 (20%).

Remaining adolescents ( $n = 245$ ; 77%) provided racial/ethnic response(s) that was categorized into one racial/ethnic group. For example, an adolescent who indicated that they were Asian and Pakistani was only included in the Asian, Hawaiian Native, or Pacific Islander group. These adolescents were distributed as follows: Asian/Hawaiian Native/Pacific Islander (19%), Black/African American (3%), European American (21%), Latinx (34%), or Native American/Alaska Native (<1%) group. The racial/ethnic diversity of the surrounding community includes African American or Black (18%), American Indian or Alaska Native (1%), Asian or Pacific Islander (15%), European American (18%), Latinx (44%), and two or more races (11%; total percentage exceeds 100 due to racial and ethnic groups being reported separately; US Census Bureau [2022]).

### 2.2 | Procedure

Recruitment occurred at public high schools in the western United States. Data were collected in 2017. Procedures were approved by the institutional review board of the affiliated university (X17-30). Recruitment speeches were given by trained

researchers in classrooms during school hours. Interested students were provided with hard copies of the following: an invitation letter, a parental consent form, an adolescent assent form, and the study survey. Participants who submitted the completed forms and the study survey were compensated with pizza. Data and materials for the study are available by emailing the corresponding author. Analyses were conducted with Stata 14 and StataBE 17.

## 2.3 | Measures

### 2.3.1 | Race/Ethnicity

Race/ethnicity was assessed with the following open-ended question: “What is your ethnic or racial group? (Please list all groups.)” Responses were entered verbatim and categorized into five racial/ethnic groups (see Table 1) according to conventions in the field of adolescent development (e.g., Charmaraman & Grossman, 2010; Rivas-Drake et al., 2014; Yip et al., 2019). Given the Census Bureau’s (2017) ongoing work in providing a Middle Eastern or North African response category, it was not included in the present study. Further, due to the racial, ethnic, and religious aspects of the Jewish identity (for a review, see Gonzalez-Lesser, 2020), this response was categorized in the Other Race/Ethnicity group.

### 2.3.2 | Ethnic identity: Exploration and commitment

The Multigroup Ethnic Identity Measure–Revised (MEIM-R; Phinney & Ong, 2007) was used to measure ethnic identity, which is based on Erikson’s (1968) theory of identity exploration and commitment. The 6-item measure included subscales for *Exploration* (“I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs”;  $M = 3.29$ ,  $SD = 0.97$ ;  $\alpha = .84$ ) and *Commitment* (“I have a strong sense of belonging to my own ethnic group”;  $M = 3.42$ ,  $SD = 0.99$ ;  $\alpha = .87$ ). Response options ranged from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Subscale scores were

**TABLE 1** Adolescent racial/ethnic groups, subgroups, and identification with multiple racial/ethnic groups.

Racial/ethnic group	Racial/ethnic subgroups ( $n^a$ )	Adolescents who identified with multiple racial/ethnic groups $n$ (%) <sup>b</sup>
Asian, Hawaiian Native, or Pacific Islander	Asian (32), Asian American (3), Burmese (1), Cambodian (4), Chinese (24), Chinese American (2), Filipino (6), Filipino American (1), Guamanian (1), Hawaiian (4), Indian (7), Iu Mien (2), <sup>c</sup> Japanese (4), Korean (4), Korean American (2), Laotian (2), Mongolian (2), Nepali (4), Pacific Islander (2), Pakistani (1), Polynesian (1), Sikh American (1), Singaporean (1), Taiwanese (2), Thai (2), Tibetan (4), Vietnamese (2)	34 (45)
Black or African American	African American (18), Black (10), Caribbean (1), Ethiopian (1)	18 (24)
Latinx	Belizean (1), Brazilian (3), Chicana/Chicano (4), Colombian (1), Guatemalan (2), Hispanic (41), Honduran (1), Latin (4), Latina/Latino (63), Mexican (39), Mexican American (4), Nicaraguan (1), Peruvian (1), Puerto Rican (2), Salvadoran (3), Spanish (1), Venezuelan (1)	37 (49)
Native American or Alaska Native	Cherokee (1), Native American (9)	9 (12)
White or European American <sup>d</sup>	American (15), British (1), Caucasian (25), English (1), European (10), French (5), French Saxon (1), German (9), Irish (9), Italian (8), Middle Eastern (1), Norwegian (3), Persian (1), Portuguese (2), Romanian (1), Russian (2), Scandinavian (2), Scottish (2), Syrian (1), Trans Arabian (1), Turkish (1), Welsh Scottish (3), White (80), Yugoslavian (1)	66 (88)
Other Race/Ethnicity	Jewish (3) <sup>e</sup>	3 (4)

Note: Data were collected with an open-ended question (see measures for more details).

<sup>a</sup>Values indicate subgroup sample size;

<sup>b</sup>Values indicate the number and proportion of adolescents who identified with multiple racial/ethnic groups within each racial/ethnic group. For example, 34 adolescents reported two or more racial/ethnic subgroups that included a subgroup categorized in the Asian, Hawaiian Native, or Pacific Islander racial/ethnic group. These adolescents comprised 45% of those who identified with multiple racial/ethnic groups ( $n = 75$ );

<sup>c</sup>Actual response provided was “In Mienh”;

<sup>d</sup>The Census Bureau (2017) conducted preliminary work on providing a Middle Eastern or North African response category, but it was not included in the 2020 Census;

<sup>e</sup>Given the racial, ethnic, and religious aspects of the Jewish identity, this response was placed in the Other Race/Ethnicity group (for a review, see Gonzalez-Lesser, 2020).

calculated by averaging responses, with higher scores indicating higher levels of Exploration or Commitment. Notably, ethnic *identity* as examined with the MEIM-R is distinct from ethnic group *membership* (e.g., Latinx) that the present study also measures. Females reported higher ethnic identity-commitment than males ( $p = .026$ ). There were no other significant differences by gender or age for ethnic identity-exploration or -commitment.

### 3 | RESULTS

#### 3.1 | Multiple racial/ethnic groups and subgroups reported by adolescents

Table 1 shows the numbers and proportions of racial/ethnic groups and subgroups reported by adolescents who indicated multiple racial/ethnic groups. Most of these adolescents reported subgroups in the Asian, Hawaiian Native, or Pacific Islander; Latinx; and White or European American groups.

#### 3.2 | Distribution of racial/ethnic groups by approach

Three approaches were used to explore adolescents who identified with multiple racial/ethnic groups based on extant research (Liebler & Halpern-Manners, 2008; Lopez, 2003). In the Exclusion approach, adolescents who provided multiple racial/ethnic responses were excluded from analyses. In the Separation approach, adolescents who provided multiple racial/ethnic responses were assigned to the multiple racial/ethnic group (i.e., Multiple Groups). In the Combination approach, adolescents who provided multiple racial/ethnic responses were assigned to each of these racial/ethnic groups. For example, an adolescent who indicated being Black and White was assigned to both racial/ethnic groups.

Descriptively, the distribution of racial/ethnic groups differed across the approaches (see Table 2). The proportions of single-racial/ethnic groups in the Separation approach were smaller than those in the Exclusion approach due to the addition of participants who identified with multiple racial/ethnic groups in the former approach. Further, the proportions of single-racial/ethnic groups in the Combination approach were greater than those in the Exclusion approach given that adolescents were counted more than once if they provided multiple responses (for comparisons, see Figure 1). The greatest increases were indicated for the Black or African American, Native American or Alaska Native, and Other Race/Ethnicity groups.

#### 3.3 | Ethnic identity and racial/ethnic groups by approach

Descriptively, associations between ethnic identity and racial/ethnic groups differed across the approaches (see Table 3). Analysis of covariance was used for the Exclusion and Separation approaches, whereas multilevel modeling analysis was used for the Combination approach given the nested nature of data (see Appendix for indices). For ethnic identity-exploration, in the Separation approach, Asian, Hawaiian Native, or Pacific Islander and multiracial/ethnic adolescents reported higher

TABLE 2 Racial/ethnic groups and approaches for adolescents who identified with multiple racial/ethnic groups.

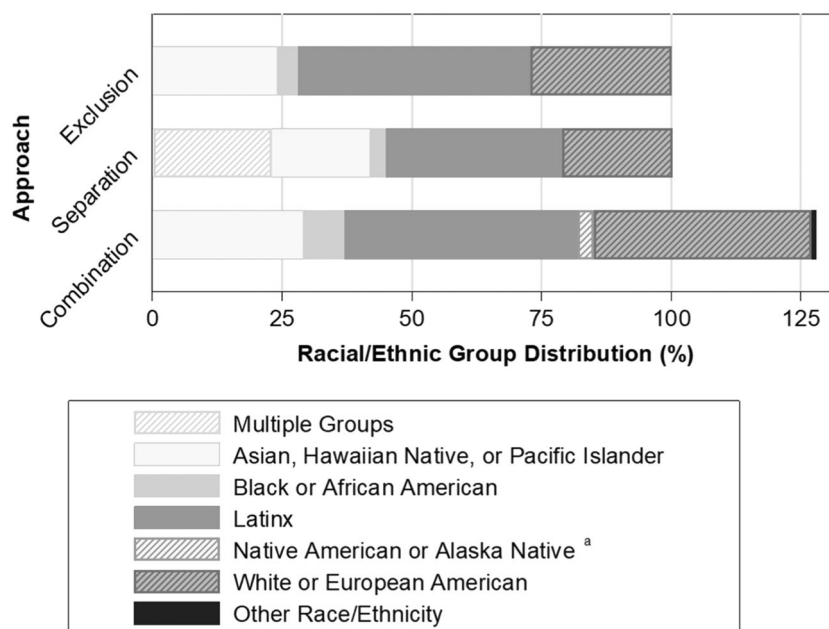
Racial/ethnic group	Approach					
	Exclusion (N = 245)		Separation (N = 320)		Combination (N = 320)	
	n	% <sup>a</sup>	n	% <sup>a</sup>	n	% <sup>b</sup>
Multiple Groups	N/A	N/A	75	23	N/A	N/A
Asian, Hawaiian Native, or Pacific Islander	60	24	60	19	94	29
Black or African American	9	4	9	3	27	8
Latinx	108	44	108	34	145	45
Native American or Alaska Native	1	<1	1	<1	10	3
White or European American	67	27	67	21	133	42
Other Race/Ethnicity	0	0	0	0	3	1

Note: The Other Race/Ethnicity group includes adolescents who reported being Jewish.

Abbreviation: N/A, not applicable.

<sup>a</sup>Column percentages may not add to 100 due to rounding;

<sup>b</sup>Column percentages exceeded 100 as adolescents were counted more than once if they provided multiple racial/ethnic responses.



**FIGURE 1** Comparing racial/ethnic group distributions across approaches for adolescents who identified with multiple racial/ethnic groups. Racial/ethnic group distributions for the Exclusion, Separation, and Combination approaches are shown. Total distribution for the Combination approach exceeded 100 as adolescents were counted more than once if they provided multiple racial/ethnic responses. This strategy was selected over presenting standardized percentages to illustrate the increased racial/ethnic group sample sizes in the Combination approach compared to the other approaches. <sup>a</sup> Not visible in the bars for the Exclusion and Separation approaches as proportions were less than 1%.

scores than White or European American adolescents. However, in the Combination approach, Asian, Hawaiian Native, or Pacific Islander adolescents reported higher scores than Latinx and White or European American adolescents. For ethnic identity-commitment, in the Separation approach, Asian, Hawaiian Native, or Pacific Islander and Latinx adolescents reported higher scores than White or European American adolescents. No differences were observed in the Combination approach.

## 4 | DISCUSSION

Given the increase in the number of adolescents who identify with multiple racial/ethnic groups (US Census Bureau [2021a]; US Census Bureau [2021b]) and their association with developmental outcomes (Csizmadia, 2011; Gaither, 2015; Jones & Rogers, 2022), it is important to consider the implications for various approaches in quantitative research with multiracial/ethnic adolescents. Existing approaches are oriented toward large samples (Bailey et al., 2013; Croll & Gerteis, 2019; Harris et al., 2017; Liebler & Halpern-Manners, 2008). However, we do not yet know how effective they are with more common smaller samples. The purpose of this study was to explore how several approaches employed for larger scale quantitative research were reflected in a small convenience sample of adolescents. We further explored how such approaches were reflected in ethnic identities among a racially/ethnically diverse sample of adolescents.

Findings indicated that the approaches to categorizing adolescents who identify with multiple racial/ethnic groups resulted in different racial/ethnic distributions. Prior research has also demonstrated varying racial/ethnic distributions of adolescents when different items were used to assess their racial/ethnic identity (Lopez, 2003). Moreover, although researchers have employed the practice of excluding multiracial/ethnic participants (i.e., the Exclusion approach; Liebler & Halpern-Manners, 2008), our findings suggest that this approach is problematic. This issue is exacerbated by the practice of monoracism—reducing multiracial/ethnic backgrounds to a single group—which has further contributed to the exclusion of multiracial/ethnic individuals in quantitative research (Bracey et al., 2004; Oshin, 2017). Excluding these adolescents may undermine the generalizability of findings on critical developmental outcomes and discount adolescents who reflect a growing demographic of the United States (US Census Bureau [2021b]). Overall, these findings underscore the value of considering how quantitative researchers conduct studies with adolescents from multiple racial/ethnic backgrounds.

We further considered these approaches alongside ethnic identity, because this construct is salient to the development of racial/ethnic minority adolescents (Rivas-Drake et al., 2014; Umaña-Taylor et al., 2002; Yip et al., 2019). Descriptively, we saw that the approaches were associated with differences in ethnic identity-exploration and -commitment across the racial/

TABLE 3 Approaches and ethnic identity for adolescents who identified with multiple racial/ethnic groups.

Racial/ethnic group <sup>a</sup>	Ethnic identity													
	Exploration			Commitment										
	Exclusion	Separation	Combination	Exclusion	Separation	Combination								
M (rank)	SE	M (rank)	SE	B (SE)	M (rank)	SE	B (SE)							
Multiple Groups	N/A	N/A	3.43 <sup>a</sup> (2)	0.08	N/A	N/A	N/A	3.43 <sup>ab</sup> (3)	0.08	N/A	N/A	N/A		
Asian, Hawaiian Native, or Pacific Islander	3.65 <sup>a</sup> (1)	0.12	3.65 <sup>a</sup> (1)	0.13	3.59 <sup>a</sup> (1)	0.10	0.40 <sup>**</sup> (0.13)	3.76 <sup>a</sup> (1)	0.12	3.76 <sup>a</sup> (1)	0.13	3.66 (1)	0.10	0.47 <sup>*</sup> (0.14)
Black or African American	3.29 <sup>ab</sup> (2)	0.32	3.29 <sup>ab</sup> (3)	0.35	3.54 <sup>ab</sup> (2)	0.20	0.36 (0.22)	3.17 <sup>ab</sup> (3)	0.32	3.17 <sup>ab</sup> (4)	0.36	3.52 (2)	0.20	0.32 (0.22)
Latinx	3.20 <sup>b</sup> (3)	0.09	3.20 <sup>ab</sup> (4)	0.10	3.20 <sup>b</sup> (3)	0.08	0.02 (0.12)	3.51 <sup>a</sup> (2)	0.09	3.51 <sup>a</sup> (2)	0.10	3.42 (3)	0.09	0.22 (0.12)
White or European American	2.95 <sup>b</sup> (4)	0.12	2.95 <sup>b</sup> (5)	0.13	3.18 <sup>b</sup> (4)	0.09	Reference	3.01 <sup>b</sup> (4)	0.12	3.01 <sup>b</sup> (5)	0.13	3.20 (4)	0.09	Reference
Constant	N/A	N/A	N/A	N/A	N/A	N/A	3.18 <sup>***</sup> (0.09)	N/A	N/A	N/A	N/A	N/A	N/A	3.20 <sup>***</sup> (0.09)
F ratio	6.05 <sup>***</sup>		4.64 <sup>**</sup>		N/A			7.43 <sup>***</sup>		4.53 <sup>**</sup>		N/A		N/A
$\eta^2$	0.07		0.05		N/A			0.09		0.05		N/A		N/A
$\chi^2$	N/A		N/A		12.57 <sup>**</sup>			N/A		N/A		11.72		N/A

Note: Analysis of covariance was used for the Exclusion and Separation approaches. Multilevel modeling was used for the Combination approach given the nested nature of data (see Appendix for variance estimates). Alpha adjustments were made for six models ( $\alpha < .008$ ). Ranks compared average values within approaches and ranged from 1 (highest) to 4/5 (lowest). Bonferroni tests were used for comparisons. <sup>a,b</sup>Means sharing a common superscript are not significantly different at  $p = .05$ . Native American or Alaska Native and Other Race/Ethnicity groups were omitted due to cell size.

Abbreviation: N/A, not applicable.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

ethnic groups. These findings highlight the importance for researchers to identify and report all of adolescents' racial/ethnic identities—particularly those who identify as multiracial/ethnic—so that we can understand how they explore and commit to racial/ethnic groups. Recently, researchers have used the framework of Critical Multiracial Theory (MultiCrit) to examine multiracial identity development within sociocultural contexts, such as systematic racism (Jones & Rogers, 2022). These authors have shown that multiracial adolescents actively opposed negative messages about their minoritized racial identities. Multiracial adolescents also further developed their multiple identities through positive peer affirmations. Research on MultiCrit can help us understand how social relationships, such as peers, influence racial/ethnic identification among adolescents who identify with multiple racial/ethnic backgrounds.

#### 4.1 | Limitations and future directions

First, incorporating qualitative research and mixed methods research designs would enable researchers to provide a more nuanced understanding of the complexity among adolescents who identify with multiple racial/ethnic groups. This is especially useful given the critiques that Critical Race Theory has raised about the lack of historical, political, and social considerations in quantitative research on racial/ethnic minority groups (Garcia et al., 2018). Second, we focused on adolescents. Additional research is needed to determine whether findings would change across time or be generalizable to other age groups, especially given that identity development—including racial/ethnic—continues into young adulthood (Arnett, 2000; Rivas-Drake et al., 2014). Third, data were self-reported. Future research should include parents of adolescents so that we may understand how they identify the race/ethnicity of their adolescent children with multiple racial/ethnic backgrounds.

Fourth, given that items in the MEIM-R (e.g., “I have a strong sense of belonging to my own ethnic group”) only refer to a single ethnic group, it may not have fully captured ethnic identity-exploration and -commitment among adolescents who indicated multiple ethnic groups. Relatedly, the open-ended question used to solicit adolescents' racial/ethnic group membership(s) was not able to assess whether they identified with one particular racial/ethnic group more than another. Future studies may utilize interviewing methodology, such as think-aloud strategies, to investigate this issue further. Lastly, researchers may also assess the contexts within which adolescents report their racial/ethnic group(s). It would be important to determine if their responses are associated with settings, such as the adolescents' schools versus their homes. Given that one may switch their racial identity across contexts (Gaither, 2015), researchers may find it useful to ask respondents to report their racial/ethnic groups in various settings.

## 5 | CONCLUSION

The present study explored how adolescents in a small convenience sample responded to an open-ended question about racial/ethnic group membership and a measure of ethnic identity. The study explored how three approaches (Exclusion, Separation, and Combination) were reflected in racial/ethnic group distributions and ethnic identity. The distributions of the racial/ethnic groups varied depending on the approach implemented. Moreover, associations between racial/ethnic groups and ethnic identity differed upon descriptive evaluation. These findings underscore the importance of evaluating methods that quantitative researchers use with studies about adolescents who identify with multiple racial/ethnic backgrounds. This is a critical issue for advancing our knowledge about a rapidly growing and diversifying group of adolescents.

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### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

Data and materials for the study are available by emailing the corresponding author.

### ETHICS STATEMENT

Procedures were approved by the institutional review board of the affiliated university (X17-30).



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## REFERENCES

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–480. <https://doi.org/10.1037/0003-066x.55.5.469>
- Bailey, S. R., Loveman, M., & Muniz, J. O. (2013). Measures of ‘race’ and the analysis of racial inequality in Brazil. *Social Science Research*, 42(1), 106–119. <https://doi.org/10.1016/j.ssresearch.2012.06.006>
- Benner, A. D., Wang, Y., Shen, Y., Boyle, A. E., Polk, R., & Cheng, Y.-P. (2018). Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American Psychologist*, 73(7), 855–883. <https://doi.org/10.1037/amp0000204>
- Bracey, J. R., Bámacá, M. Y., & Umaña-Taylor, A. J. (2004). Examining ethnic identity and self-esteem among biracial and monoracial adolescents. *Journal of Youth and Adolescence*, 33(2), 123–132. <https://doi.org/10.1023/B:JOYO.0000013424.93635.68>
- Charmaraman, L., & Grossman, J. M. (2010). Importance of race and ethnicity: An exploration of Asian, Black, Latino, and multiracial adolescent identity. *Cultural Diversity and Ethnic Minority Psychology*, 16(2), 144–151. <https://doi.org/10.1037/a0018668>
- Charmaraman, L., Woo, M., Quach, A., & Erkut, S. (2014). How have researchers studied multiracial populations? A content and methodological review of 20 years of research. *Cultural Diversity and Ethnic Minority Psychology*, 20(3), 336–352. <https://doi.org/10.1037/a0035437>
- Choi, Y., Harachi, T. W., Gillmore, M. R., & Catalano, R. F. (2006). Are multiracial adolescents at greater risk? Comparisons of rates, patterns, and correlates of substance use and violence between monoracial and multiracial adolescents. *American Journal of Orthopsychiatry*, 76(1), 86–97. <https://doi.org/10.1037/0002-9432.76.1.86>
- Croll, P. R., & Gerteis, J. (2019). Race as an open field: Exploring identity beyond fixed choices. *Sociology of Race and Ethnicity*, 5(1), 55–69. <https://doi.org/10.1177/2332649217748425>
- Csizmadia, A. (2011). The role of racial identification, social acceptance/rejection, social cognition, and racial socialization in multiracial youth's positive development. *Sociology Compass*, 5(11), 995–1004. <https://doi.org/10.1111/j.1751-9020.2011.00418.x>
- Erikson, E. (1968). *Identity: Youth and crisis* (1st ed.). Norton.
- Gaither, S. E. (2015). Mixed’ results: Multiracial research and identity explorations. *Current Directions in Psychological Science*, 24(2), 114–119. <https://doi.org/10.1177/0963721414558115>
- García, N. M., López, N., & Vélez, V. N. (2018). QuantCrit: Rectifying quantitative methods through critical race theory. *Race, Ethnicity and Education*, 21(2), 149–157. <https://doi.org/10.1080/13613324.2017.1377675>
- Gibbs, J. T., & Moskowitz-Sweet, G. (1991). Clinical and cultural issues in the treatment of biracial and bicultural adolescents. *Families in Society: The Journal of Contemporary Social Services*, 72(10), 579–592. <https://doi.org/10.1177/104438949107201001>
- Gonzalez-Lesser, E. (2020). Jewishness as sui generis: Extending theorizations beyond the debate of “race, ethnicity, or religion. *Ethnic and Racial Studies*, 43(3), 479–500. <https://doi.org/10.1080/01419870.2019.1643487>
- Harris, B., Ravert, R. D., & Sullivan, A. L. (2017). Adolescent racial identity: Self-identification of multiple and ‘Other’ race/ethnicities. *Urban Education*, 52(6), 775–794. <https://doi.org/10.1177/0042085915574527>
- Johfre, S. S., Saperstein, A., & Hollenbach, J. A. (2021). Measuring race and ancestry in the age of genetic testing. *Demography*, 58(3), 785–810. <https://doi.org/10.1215/00703370-9142013>
- Jones, C. M., & Rogers, L. O. (2022). There are stereotypes for everything”: Multiracial adolescents navigating racial identity under white supremacy. *Social Sciences*, 11(1), 19. <https://doi.org/10.3390/socsci11010019>
- Liebler, C. A., & Halpern-Manners, A. (2008). A practical approach to using multiple-race response data: A bridging method for public-use microdata. *Demography*, 45(1), 143–155. <https://doi.org/10.1353/dem.2008.0004>
- Lopez, A. (2003). Collecting and tabulating race/ethnicity data with diverse and mixed heritage populations: A case-study with US high school students. *Ethnic and Racial Studies*, 26(5), 931–961. <https://doi.org/10.1080/0141987032000109096>
- National Center for Health Statistics. (2003). *United States Census 2000 population with bridged race categories* ((PHS) 2003-1335). (Vital and Health Statistics, Issue 135).
- Oshin, L. A. (2017). *Mixed signals: Examining ethnic affirmation as a factor in the discrimination-depression relationship with multiracial and monoracial minority adolescent girls* (Publication Number 1052) [Master’s thesis, University of Connecticut]. OpenCommons@UConn. [https://opencommons.uconn.edu/gs\\_theses/1052/](https://opencommons.uconn.edu/gs_theses/1052/)
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271–281. <https://doi.org/10.1037/0022-0167.54.3.271>
- Ream, A. (2023). Three decades of multiracial identity research: A bibliometric review. *Identity*. Advance online publication. 1–21. <https://doi.org/10.1080/15283488.2023.2223599>
- Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., Schwartz, S. J., Umaña-Taylor, A. J., French, S., & Yip, T. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development*, 85(1), 40–57. <https://doi.org/10.1111/cdev.12200>
- 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>
- Umaña-Taylor, A. J., Diversi, M., & Fine, M. A. (2002). Ethnic identity and self-esteem of Latino adolescents: Distinctions among the Latino populations. *Journal of Adolescent Research*, 17(3), 303–327. <https://doi.org/10.1177/0743558402173005>
- US Census Bureau. (2017). *2015 National Content Test race and ethnicity analysis report: A new design for the 21st century*.
- US Census Bureau. (2021a). *2020 Census state redistricting data (Public Law 94-171) summary file*.
- US Census Bureau. (2021b). *Improved race and ethnicity measures reveal U.S. population is much more multiracial*. <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>
- US Census Bureau. (2022). *QuickFacts—Richmond City, California*. <https://www.census.gov/quickfacts/richmondcitycalifornia>

- Wong, B., & Chau, S. (2022). Mixed-race people and social work: A critical literature review. *Journal of Ethnic & Cultural Diversity in Social Work*, 31(6), 315–328. <https://doi.org/10.1080/15313204.2021.1991867>
- Yip, T., Wang, Y., Mootoo, C., & Mirpuri, S. (2019). Moderating the association between discrimination and adjustment: A meta-analysis of ethnic/racial identity. *Developmental Psychology*, 55(6), 1274–1298. <https://doi.org/10.1037/dev0000708>

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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