or otherwise unnecessary, caloric content of alcohol [5]. Others have found that “drunkorexia” is driven by the desire to enhance or facilitate intoxication, [6]. These studies suggest that the dietary restriction related to alcohol intake may also be due to the desire to enhance the expected positive e ects of alcohol on the person (e.g., becoming drunk more rapidly),

Behavioral and psychological covariates

Analyses incorporated measures of cigarette smoking (smoker = 1), use of other illicit drugs (other drugs = 1), and heavy episodic drinking (any HED during past 2 weeks = 1). HED was de ned as consuming four or more drinks during the past 2 weeks for females and ve or more for males. Friends' use of illicit drugs was also included, measured using a three-level indicator. Employment was captured using a four-level measure ("none" to "full time"). Religious attendance was measured using responses to the question, "Do you attend religious services?" (yes = 1). The Center for Epidemiological Studies Depression Scale (CES-D) [47] was included in analyses to hold constant any potentially confounding e ects of respondent depression (0–21).

Demographics

Respondent race is measured dichotomously (White = 1; Black = 0). Respondent sex is measured dichotomously (male = 1; female = 0). Respondents' parent education is measured using the level of education achieved by parent with the highest education level (0–4). Age of respondent (18–25) is also included. A dichotomous indicator of respondent sexuality (sexual minority = 1) is incorporated. Whether a student lives o -campus is measured dichotomously (o -campus = 1).

Analytic strategy

All analyses were conducted using STATA 13. Variable inspection did not reveal patterns in missing-ness. Multiple imputation was performed to handle independent variables with missing data using chained equations (ICE), an iterative method equipped for handling di erent types of variables [48, 49]. Models handling missing data through list-wise deletion produced similar results and are available upon request.

Bivariate correlations were computed prior to multivariate analysis to guide model construction. Variables were selected for inclusion in multivariate models based on their performance in preliminary bivariate correlation analyses as well as their theoretical importance in explaining the-relationships between ethnic identity, race, and FAD.

Ordinal logistic regression models were constructed to test the impact of ethnic identity belonging and race on FAD, holding constant the e ects covariates and controls. Predicted probability charts were generated to probe the role of ethnic identity in the relationship between race and FAD.

Results

The total sample (n = 573) was predominantly female (61.0%, n = 349) and White (84.1%, n = 484). Participants had a mean age of 19.82. Regarding FAD, the largest number of participants fell into the "None" category (45.8%, n = 262), while the smallest number fell into the "Regular" category (13.1%, n = 75). The mean score for the ethnic identity belonging scale was 2.4. Descriptive statistics for all model variables are provided in Table 1.

Bivariate analysis

Bivariate relationships were examined to test hypothesis 1 and to assess initial support for inclusion of variables in multivariate models. Table 2 indicates di erences between Black and White respondents in median level of FAD, mean score on the ethnic identity belonging scale, and prevalence of HED. On average, Black respondents reported higher levels of ethnic identity belonging (2.83 compared to 2.33 among Whites; one-way ANOVA $p < 0.001$). This, in addition to a negative correlation between being White and ethnic identity ($r = -0.021, p < 0.05$) supports the notion that Blacks have a higher overall sense of ethnic identity belonging in comparison to Whites, consistent with prior studies that have reached similar conclusions [50]. White respondents reported higher levels of FAD than Black respondents. A greater proportion of White respondents reported HED (54.68% as compared to 45.98%). Subsequent signi cance tests (Kruskal–Wallis H and Chi-square) found no statistical signi cance between White and Black respondents in these behaviors.

Di erences between female and male respondents were also examined among key variables. Males reported higher mean levels of ethnic identity belonging (2.52 compared to 2.33; one-way ANOVA $p < 0.01$) and higher prevalence of HED (61.99% compared to 47.84%; Chi-square $p < 0.001$). Factorial ANOVA testing the main and combined e ects of respondent race and sex con rmed the above ndings and suggested a signi cant interaction between sex and race in reported FAD ($p < 0.01$). Results from this analysis of respondent sex are available upon request from the authors.

Multivariate analysis

All three regression models are displayed in Table 3. Model 1 tests the impact of model covariates and controls excluding ethnic identity belonging. In this model, smoking

3.14–6.80$p < 0.001$) and other drug use (OR: 1.56, 95% CI 1.09–2.25$p < 0.05$) retain signi cance.

Model 3 introduces the multiplicative interaction term between race and ethnic identity, while continuing to hold constant the e ects of all other model variables. The inter

(OR: 0.52, 95% CI 0.27–0.99, $p < 0.05$), heavy episodic drinking (OR: 4.62, 95% CI 3.14–6.80, $p < 0.001$), and other drug use (OR: 1.55, 95% CI 1.08–2.23, $p < 0.05$) were signi cantly associated with FAD. Model 2 introduces ethnic identity into the equation, which fails to reach signi cance at the 0.05 level. In this model, HED (OR: 4.62, 95% CI

in FAD. This hypothesis was partially supported in analytic models.

Results from the multivariate models reveal that ethnic identity belonging exerts either a positive or a negative e ect on FAD, depending on whether the respondent is Black or White. Black students with higher levels of ethnic identity were more likely to report not engaging in FAD than those with lower levels of ethnic identity. Among White students, however, those with higher levels of ethnic identity were less likely to report not engaging in FAD than their counterparts with lower ethnic identity. This modi cation e ect occurred at all levels of the outcome measure, suggesting that eth nic identity belonging is both a protective and a risk factor for FAD, depending on whether the respondent is Black or White.

This di erential impact makes intuitive sense given race-related di erences in the socialization into ideal body types. On one hand, for White Americans, alignment with ethnicity and norms around ideal body types comes with pressure to maintain a thin frame. Additionally, socio-cultural aspects of Whiteness result in this group experiencing weight-related discrimination at greater rates than other race groups. On the other hand, for the majority of Black Americans, socio-cultural aspects of race experience have led to group-speci c ideals regarding body types and an acceptance or preference for larger frames. There is an abundance of literature showing that, regardless of body size, Black American women have higher levels of body satisfaction than their White American counterparts [19, 52]. Black Americans have been shown to have diets higher in fats and calories [53], to use eating to cope with racism [20

larger frame comes with the latent bene t of protection from FAD. This outcome reveals a public health concern because White American culture is the dominant culture, and young adults are inundated with images of thinness and binge drinking on all media platforms. Given the health-related costs of FAD, it is important for bio-psycho-social research to focus on ways to promote healthy eating and and the risks of social drinking to young adults. Future research should consider including gender identity and sexuality in the analysis of FAD given di erences in substance use, body image concerns, and weight control behavior by gender identity and sexuality. In closing, we now know that eating and weight disorders coincide with alcohol use disorders. Understanding these phenomena from an intersectional approach holds promise for prevention and treatment.

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Compliance with ethical standards

Conflicts of interestThe authors declare that they have no con ict of interest.

Ethical approvalAll procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

Informed consentInformed consent was obtained from all individual participants included in the study.

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