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Original Research

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Exploring Body Composition and Sexual Behavior in South Texas College Students

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Abstract

In this exploratory study, we examined the understudied relationship between body composition and sexual behavior among freshmen college students, addressing a gap in empirical research. Our sample consisted of 217 nonclinical college students recruited from a university in the southwestern United States; a majority of the students were Hispanic (70%) and freshmen (95%). Using multivariate logistic regression, we explored associations of body mass index, body fat percentage, and fat mass index with sexual behaviors. More than half of the participants were either overweight (22.5%) or obese (30.4%), and nearly 70% fell outside the healthy range of body fat. Results showed that greater body mass index, body fat percentage, and fat mass index were associated with a decreased likelihood of recent sexual activity, defined as any mutually consensual activity with another person involving sexual contact, regardless of whether intercourse or orgasm occurs. However, the results were not significantly associated with recent sexual intercourse. Among sexually active participants, greater body mass index, body fat percentage, and fat mass index were linked to lower protection use (i.e., condom use) at the last occurrence of sexual intercourse. While increased body weight and body fat may act as deterrents to sexual activity, they conversely elevated the risk of engaging in unprotected sex among those who had sexual intercourse in the past 6 months. Thus, there is a pressing need for tailored health interventions targeting body composition in this demographic to promote healthy sexual behaviors and mitigate potential risks associated with unsafe sexual practices.

Keywords: *body mass index, body fat percentage, fat mass index, sexual behavior, college students*

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Introduction

The sexual behaviors of college students represent a critical area of study because of their prevalence and potential implications for health and well-being. Extensive research has shed light on the landscape of college students' sexual activities, underscoring the need for further investigation and intervention. A recent American College Health Association report (ACHA, 2024) on more than 18,000 undergraduate college students indicated that 47.8% of college students had ever had vaginal intercourse, and of those who had vaginal intercourse in the past 30 days, 45% reported using protection most of the time or always. Risky sexual behavior, such as unprotected sexual activity or multiple sexual partners, exposes students to a greater risk of sexually transmitted infections (STIs) and unintended pregnancies (Szucs et al., 2020). Surveillance data showed that more than half of newly diagnosed STI cases occur among young individuals aged 15–24 years, with college students being particularly susceptible because of instances of unprotected sex (Gogineni et al., 2021).

Research on reproductive health has often concentrated on young adults aged 18–24 years because they exhibit elevated rates of unintended pregnancy and abortion, along with comparatively lower rates of contraceptive use when contrasted to older cohorts (Mann et al., 2024). As young adults explore romantic and sexual relationships, casual encounters become more prevalent (Watkins & Beckmeyer, 2020). Despite the prevalence of sexual activity, including risky sexual behaviors, among college students, a gap remains in identifying and assessing the factors that influence these behaviors and their potential repercussions. One crucial factor deserving closer examination is body weight, as its relationship with sexual practices has been largely documented in the past decades (Akers et al., 2009; Averett et al., 2013; Chang et al., 2015; Cheng & Landale, 2011; Grabovac et al., 2020; Lyons et al., 2014; Ramseyer Winter et al., 2022; Smith et al., 2019).

Examining the relationship between body weight and sexual behaviors among college students is crucial because body weight can significantly influence self-perception, confidence, and social interactions, all of which are closely tied to sexual health and behavior (Goh et al., 2023; Lowry et al., 2014). College students are at a pivotal stage in their development, where establishing healthy sexual behaviors is essential for long-term well-being. However, body weight, which is often stigmatized in society, may affect how students engage in sexual activities, including their willingness to use protection, their partner choices, and their overall sexual satisfaction. Theoretical perspectives, such as scripting theory, explain how body composition could be associated with sexual behavior. Script theory of sexual behavior contends that social norms dictate how individuals act (Gagnon & Simon, 2005). These norms act as "scripts" that govern sexual behaviors, and they are attained from prior learning that dictates how to behave sexually (Simon & Gagnon, 1984). Scripts vary by social and cultural contexts, and they are often taught by media or peer groups (Gagnon & Simon, 2005). Thus, as sociocultural depictions of desirable or attractive bodies include those who are thin or small-waisted (Stevens & Ostburg, 2020) or lean or muscular (Santoniccolo et al., 2023), individuals with body compositions that are not culturally ideal may feel less desirable, and this could impact their sexual behavior. For instance, given that larger body sizes are not well represented in popular media, they may not see or learn sexual scripts for bodies like theirs, and this may limit their sexual activity. Or, they may not seek sexual relationships because their body does not fit the ideal type they see as sexually active in the popular media. If media depictions of sexual situations and experiences continue to center on body types that are not representative of the population, individuals with diverse bodies may lack sexual scripts to guide their sexual behavior.

The association between body weight and sexual behavior has been well documented both empirically and theoretically, but gaps remain in the literature. The existing literature primarily relied on body mass index (BMI) based on self-reported weight and height. Additionally, studies focused on psychosocial constructs of body weight, such as weight perception and body image, linked to various sexual risk behaviors (Akers et al., 2009; Averett et al., 2013; Ramseyer Winter et al., 2022; Sabia & Rees, 2011). Given the discrepancies between actual body size and perceived body size, often influenced by sociocultural norms and desirability

(Ng, 2019; Olfert et al., 2018), objective anthropometric measurements of body composition and adiposity could offer a more detailed understanding of this relationship.

While BMI is generally well correlated to the percentage of body fat, with correlations ranging from 0.72 to 0.86 (Jeong et al., 2023), it primarily reflects overall weight relative to height. In contrast, fat mass index (FMI) and body fat percentage (BFP) offer more specific quantifications of adiposity (Etchison et al., 2011; Pribis et al., 2010; Wang et al., 2000). Examining multiple objective measures of body composition allows for testing their associations with sexual behavior. Additionally, from a clinical standpoint, obese young adults who engage in risky sexual behavior present challenges to obesity treatment, as pregnancy and STIs can complicate weight management efforts (Chambers & Rodgers, 2013). Another gap in the literature is the lack of attention to Hispanic college students, despite the high prevalence of STIs and unintended pregnancy, as well as obesity, among Latino youth (Underwood et al., 2020).

Considering the documented increase in body weight during the transition from high school to college, along with the upward trend in the percentage of college students with excess body weight (Bailey et al., 2020), it is crucial to explore the relationship between body weight and sexual behavior in the first year of college. Recent studies emphasized the importance of tailored interventions to promote safe sexual practices and contraceptive use among college students (Brown et al., 2021; Szucs et al., 2020). Understanding the dynamics of sexual behavior in this population is crucial for developing effective strategies to mitigate risks and promote sexual health throughout their educational and developmental stages. Findings that indicate an association between body composition and sexual behaviors in the first year of college would suggest the potential benefits of developing targeted intervention and health promotion strategies early before they become concerning issues.

Purpose of the Study

The purpose of our study was to assess the association between body composition and sexual behaviors among first-year college students. Specifically, we aimed to evaluate how different measures of body composition—BMI, BFM, and BFP—relate to various sexual behaviors. This includes examining how body composition might influence sexual activity, protection use, and sexual risk-taking behaviors during the critical transition period of entering college. By focusing on first-year college students, we sought to understand the unique challenges and experiences they face as they navigate new social and academic environments. We aimed to provide insights that can inform the development of targeted interventions to promote healthier sexual behaviors and improve overall well-being among young adults in higher education settings.

Methods

Data Source and Study Design

Our present study analyzed data collected from first-time-in-college (FTIC) freshmen attending a public university in south Texas. We acquired this dataset through a comprehensive, quantitative survey design covering a wide array of social and behavioral factors. Data for our current study was collected as part of a larger research initiative that also collected cognitive and biophysical data, including blood samples, fitness assessments, and computer-based evaluations. Participants willingly devoted 1 hour of their time to contribute to the data collection process, and as a token of appreciation, they received a fitness tracker. To recruit participants, brief information sessions were conducted during welcome-week events and within first-year student classes, resulting in a diverse sample representing various academic majors. The research adhered to ethical guidelines and received approval from the Institutional Review Board at the affiliated university.

Data Collection

Our current study combined data from two separate cross-sectional surveys conducted with first-year students in September/October of the fall 2018 and fall 2019 semesters (N = 217). During fall 2018, a total of 576 first-time college freshmen were at the university, and in fall 2019, there were 705 students. The convenience sample consisted of 111 first-time college freshmen from fall 2018 (19.3% of the freshman class) and 106 from fall 2019 (15% of the freshman class). Our sample in the current study shares similarities with the overall freshman class, which, in fall 2019, was comprised of 66% females and 77% Hispanic students. Approximately 74% of freshmen were first-generation college students, and 51% of all undergraduates relied on Pell Grants, typically awarded to those with significant financial need.

The total sample size of 217 first-time college freshmen varied depending on the outcome variables, with the number of cases ranging from 203 to 213 students. The average age of participants was 18 years old, and females accounted for 67.7% of the sample.

Measures

Sexual Behavior

Three measures of sexual behavior were used, and they were adapted from the Sexual Risk Survey, a survey developed to measure risky sexual behaviors among college students in the past 6 months (Turchik & Garske, 2009). First, recent sexual activity was assessed by asking, "In the past 6 months, how many partners have you engaged in sexual activity with but not had sex with?" (coded ≥1 versus 0). Second, recent sexual intercourse was measured by asking, "In the past 6 months, how many partners have you had sex with?" (coded ≥1 versus 0). For these questions, respondents were instructed that sexual activity refers to any mutually voluntary activity with another person that involves sexual contact, whether or not intercourse or orgasm occurs (Lindau et al., 2007), and that sex refers to vaginal, oral, or anal sex. Vaginal sex was defined as inserting the penis into the vagina; oral sex was defined as kissing, licking, or sucking on the genitals; and anal sex was defined as inserting the penis into the anus. Finally, the survey measured protection during sexual intercourse. For participants engaging in sexual activity, sexual risk behavior was assessed by asking about protection during vaginal intercourse. Those who did not use any protection, such as condoms or contraceptives, were coded as zero.

Measurements of Anthropometry and Body Composition

Height and weight measurements were obtained directly in the laboratory, ensuring accuracy and reliability rather than relying on self-reported data. Participants' height and weight were measured without shoes, following standard protocols. The height was measured using a wall stadiometer (Novel Products, USA). The weight and body fat were measured with InBody 680 multifrequency bioelectrical impedance (BIA) device (InBody Inc., Cerritos, CA). These measurements were used to calculate BMI using the standard formula, which involves dividing body weight in kilograms by the square of height in meters (kg/m^2). Both a continuous form of BMI and BMI classifications (underweight: BMI <18.5 kg/m^2; normal weight: BMI 18.5–24.9 kg/m^2; overweight: BMI 25–29.9 kg/m^2; obese: BMI ≥30 kg/m^2) were used. Data for total body fat mass and percentage body fat was also used in the study. Body composition was measured using Bioelectrical Impedance Analysis (BIA), which works by sending a low-level electrical current through the body and analyzing how it travels through different tissues. This method estimates total body fat mass and the percentage of body fat based on the body's resistance to the electrical current. To correct for the effect of body size, fat mass was converted to FMI (fat mass [kg] divided by height [m^2]).

Covariates

The models controlled for the individual characteristics, including gender, age, race, and ethnicity, along with the survey year, in the multivariate analyses. The descriptive statistics for student standing, ranging from freshmen to seniors, were reported to provide an overview of the sample. However, because of the small

number of those in the sample who were not freshmen (less than 6%), and because including student standing as a covariate did not alter any of the results, it was not included as a covariate in the multivariate analyses.

Data Analysis

The data analyses began with the descriptive statistics of the sample characteristics. Then, correlations between the key variables of body composition measures (independent variable) and sexual behaviors (outcome variable) were tested. For the continuous variables of BMI, FMI, and BFP, Pearson correlation was conducted; for the correlations between continuous variables and dichotomous variables (e.g., sexual activity, sexual intercourse, and using condoms), point biserial correlation was performed; for the correlation between dichotomous variables, Cramer's V was used; finally, for the correlations with ordinal categorical variables, polychoric correlation was used.

We performed logistic regression analyses for each dichotomous outcome, controlling for age, gender, race/ethnicity, and survey wave. BFP, FMI, and BMI were not included in a regression model at the same time to avoid multicollinearity that might develop because of the strong correlation between BMI and BFP (r = .75), FMI and BMI (r = .94) and FMI and BFP (r = .87). In the statistical analysis, a p-value of .05 or smaller is considered statistically significant. All analyses were conducted using Stata, v 18.0 (StataCorp., 2021).

Results

Descriptive Statistics of Sexual Behaviors and Body Weight

Table 1 summarizes the sample characteristics overall and broken down by gender. The last column of Table 1 presents the results of bivariate analyses to assess potential gender differences in each variable, using χ^2 for categorical variables and t-tests for continuous variables. Of the respondents, just greater than half indicated involvement in sexual activity with at least one partner in the past 6 months (58%), and a similar proportion reported having sexual intercourse with at least one partner during this period (51%). Among those who reported recent sexual intercourse, 29% stated they did not use any protection at last sex.

In the sample, the BMI ranged from 16 to 68 (M = 27.4, SD = 7.56). Notably, 52.5% of respondents had a BMI above the normal weight range. When examining BFP, it ranged from 8.3% to 54.7% (M = 33.5, SD = 11.6). It is important to highlight that established healthy body fat percentages for individuals aged 20–39 are in the range of 21%–32% for females and 8%–19% for males, according to the *American Journal of Clinical Nutrition* (Gallagher et al., 2000). Most females (76.2%) and males (68.5%) fell outside this healthy range for body fat. With an FMI cut-off of >6.6 kg/m², the average FMI indicated that participants were generally classified as overweight. Specifically, 43% of male and 56% of female participants exceeded this FMI threshold for overweight classification. Finally, statistically significant gender differences were observed in BFP and FMI. Females exhibited higher BFP and FMI levels largely because of physiological differences, which is consistent with previous findings reported in the literature (Ethun, 2016).

Table 1. *Characteristics of College Student Sample* (*N* = 217)

Variables	Total (*N* = 217) Mean (*SD*)/%	Males (*N* = 70) Mean (*SD*)/%	Females (*N* = 147) Mean (*SD*)/%	
Body mass index kg/m²	27.49 (7.56)	26.25 (6.08)	27.95 (8.14)	NS
Underweight (BMI <18.5)	5.6%	7.3%	4.9%	
Normal weight (BMI 18.5–24.9)	42.7%	40.6%	43.8%	
Overweight (BMI 25–29.9)	22.5%	30.4%	18.8%	
Obese (BMI ≥30)	30.1%	21.7%	32.6%	
Body fat percentage (BFP)	33.56 (11.16)	23.85 (9.01)	38.09 (8.97)	$p < .001$
Fat mass index (FMI)	9.66 (5.22)	6.81 (4.14)	10.99 (5.14)	$p < .001$
Sexual behaviors				
Had sexual activity with at least one person in the past 6 months	58%	59%	57%	NS
Had sexual intercourse with at least one person in the 6 months	51%	61%	46%	NS
Used a condom during vaginal intercourse in the past 6 months	71%	66%	74%	NS
Sociodemographic characteristics				
Age	18.28 (0.63)	18.32 (0.73)	18.25 (0.58)	NS
Survey year				NS
2018	51.2%	58.6%	47.6%	
2019	48.9%	41.4%	52.4%	
Gender				
Male	32.3%			
Female	67.7%			
Race/ethnicity				NS
White	9.7%	5.7%	11.6%	
African American	10.1%	11.4%	9.5%	
Hispanic	70.1%	65.7%	72.1%	
Other (e.g., Asian, mixed race etc.)	10.1%	17.1%	6.8%	
Standing				NS
Freshman	95.9%	97.1%	95.2%	

Associations Between Sexual Experience and Body Compositions

Table 2 provides an overview of the correlations among the key variables in this study. In general, both BMI and body fat exhibited negative correlations with sexual behavioral outcomes. Specifically, BMI classification, BFP, and FMI showed inverse associations with engaging in sexual activity and using protection at the last incident of sexual activity. However, these measures were also negatively associated with sexual intercourse, though this association did not reach statistical significance.

Table 2. *Correlations Among Body Weight Indices and Sexual Behavior*s (N = 217)

	Body composition								Sexual behaviors			
	BMI		BMI category		BFP		FMI		Sexual activity		Sexual intercourse	
Body Mass Index (BMI)												
BMI category	0.83	***										
Body Fat Percentage (BFP)	0.75	***	0.73	** *								
Fat Mass Index (FMI)	0.94	***	0.83	** *	0.87	***						
Sexual activity	-0.15	NS	-0.16	*	-0.24	*	-0.21	**				
Sexual intercourse	-0.09	NS	-0.08	NS	-0.14	NS	-0.16		0.42	***		
Use of protection	-0.16	*	-0.12		-0.18	*	-0.22	*	0.39	***	0.67	***

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.01$

Table 3 presents the result of logistic regression with adjusted odds ratios for the association between each measure of body composition and having been involved in sexual activity with at least one partner in the past 6 months. Table 4 reports the results of logistic regression with adjusted odds ratios for the association between three measures of body composition and having had sexual intercourse with at least one partner during this period.

In adjusted analyses for a continuous measure of BMI, respondents with higher BMI (*OR* = .953, 95% *CI* = .912–.994, $p < .05$) were less likely to engage in sexual activity in the past 6 months. Consistent findings were observed in the analysis with BMI classifications. Specifically, obese participants were 53% less likely to have any sexual partner in the past 6 months compared with peers who were in the normal weight range (*OR* = .472, 95% *CI* = .240–.926, $p < .05$). These inverse relationships were also detected in the analysis of body fat. In adjusted analyses for body fat, there was a 3%–4% decrease in the odds of engaging in partnered sexual activity for every one-unit increase in BFP and FMI.

Table 3. *Results of the Logistic Regression for Having Sexual Activity in the Past 6 Months*

	Model 1	Model 2	Model 3	Model 4
Variables	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Body Mass index (BMI)	0.953*			
	(0.912–0.994)			
Percentage Body Fat (PBF)			0.961*	
			(0.929–0.993)	0.977*
Fat Mass Index (FMI)				(0.955–0.998)
BMI category (ref. normal weight)				
Underweight		1.674		
		(0.451–6.209)		
Overweight		1.083		
		(0.520–2.259)		
Obese		0.472*		
		(0.240–0.926)		
Male	1.793	1.699	1.109	1.628
	(0.975–3.298)	(0.916–3.150)	(0.512–2.403)	(0.852–3.111)
Survey year (ref. 2018)	1.001	0.999	0.995	0.998
	(0.946–1.059)	(0.944–1.057)	(0.940–1.055)	(0.942–1.057)
>18 years old	0.700	0.723	0.746	0.746
	(0.360–1.362)	(0.370–1.414)	(0.378–1.472)	(0.378–1.472)
Race/ethnicity (ref. White)				
Hispanic	1.209	1.212	1.402	1.224
	(0.467–3.129)	(0.460–3.191)	(0.518–3.792)	(0.462–3.240)
African American	0.973	0.982	0.936	0.938
	(0.278–3.401)	(0.278–3.508)	(0.260–3.366)	(0.262–3.360)
Other	0.671	0.652	0.579	0.532
	(0.192–2.342)	(0.184–2.310)	(0.156–2.145)	(0.144–1.961)
Observations	213	213	213	213

Note: Confidence interval in parentheses

As shown in Table 4, greater BMI was inversely associated with having sexual intercourse in the past 6 months. However, it was not statistically significant. Body fat also had a negative relationship with engaging in sexual intercourse, but this was not statistically significant (e.g., *OR* = 0.972, 95% *CI* = .941–1.004, $p < .10$). There was no statistically significant association between body composition and sexual intercourse.

Table 4. *Results of the Logistic Regression for Having Sexual Intercourse in the Past 6 Months*

Variables	Model 1 Odds ratio	Model 2 Odds ratio	Model 3 Odds ratio	Model 4 Odds ratio
Body Mass index (BMI)	0.975			
	(0.935–1.016)			
Percentage Body Fat (PBF)			0.972	
			(0.941–1.004)	0.981
Fat Mass Index (FMI)				(0.960–1.002)
BMI category (ref. normal weight)				
Underweight		1.273		
		(0.350–4.633)		
Overweight		1.240		
		(0.589–1.455)		
Obese		0.468		
		(0.162–1.350)		
Male	1.057	1.043	0.705	0.910
	(0.578–1.931)	(0.568–1.918)	(0.324–1.537)	(0.478–1.732
Survey year (ref. 2018)	1.008	1.008	1.007	1.010
	(0.953–1.066)	(0.549–1.861)	(0.951–1.067)	(0.953–1.070)
>18 years old	1.022	1.050	0.921	0.915
	(0.524–1.993)	(0.536–2.054)	(0.464–1.829)	(0.461–1.815)
Race/ethnicity (ref. White)				
Hispanic	0.687	0.675	0.661	0.613
	(0.258–1.829)	(0.251–1.810)	(0.232–1.879)	(0.218–1.722)
African American	0.570	0.572	0.517	0.528
	(0.161–2.013)	(0.162–2.039)	(0.140–1.906)	(0.143–1.951)
Other	0.681	0.681	0.561	0.533
	(0.190–2.433)	(0.190–2.443)	(0.147–2.135)	(0.140–2.023)
Observations	212	212	203	203

Note: Confidence interval in parentheses

Finally, among sexually active participants, defined as having sexual intercourse in the past 6 months, the use of protection at the last sexual activity was examined (Table 5). Those with higher BMI (*OR* = 0.930, 95% *CI* = .870–.995, $p < .05$), higher BFP (*OR* = 0.940, 95% *CI* = .893–.990, $p < .05$), and higher FMI (*OR* = 0.970, 95% *CI* = .947–.994, $p < .05$) were less likely to use protection at last sex. Other than body composition measures, being male was associated with a lower likelihood of using condoms during sex (*OR* = 0.257, 95% *CI* = .078–.846, $p < .05$) in Model 3. While there could be a potential disparity between reported behavior and actual condom use practices, understanding these differences is essential for addressing sexual health practices and risks, highlighting a significant gender gap in condom use behavior.

Table 5. *Results of Logistic Regression for Using Condoms During Sex*

Variables	Model 1 Odds ratio	Model 2 Odds ratio	Model 3 Odds ratio	Model 4 Odds ratio
Body Mass index (BMI)	0.930*			
	(0.870–0.995)			
Percentage Body Fat (PBF)			0.940*	
			(0.893–0.990)	0.970*
Fat Mass Index (FMI)				(0.947–0.994)
BMI category (ref. normal weight)				
Underweight		3.793		
		(0.364–39.469)		
Overweight		0.499		
		(0.171–1.455)		
Obese		0.468		
		(0.162–1.350)		
Male	0.644	1.043	0.257*	0.858
	(0.269–1.544)	(0.568–1.918)	(0.078–0.845)	(0.447–1.649)
Survey year (ref. 2018)	1.043	1.043	1.062	1.051
	(0.961–1.132)	(0.960–1.133)	(0.977–1.155)	(0.992–1.114)
>18 years old	0.796	0.839	0.800	0.963
	(0.308–2.060)	(0.322–2.188)	(0.296–2.165)	(0.481–1.928)
Race/ethnicity (ref. White)				
Hispanic	2.027	2.341	2.641	2.123
	(0.557–7.378)	(0.608–9.015)	(0.646–10.794)	(0.557–8.091)
African American	1.890	1.941	2.190	2.317
	(0.310–11.497)	(0.312–12.057)	(0.333–14.297)	(0.357–15.007)
Other	0.733	0.584	0.616	0.546
	(0.143–3.748)	(0.105–3.243)	(0.106–3.563)	(0.097–3.062)
Observations	124	124	118	118

Note: Confidence interval in parentheses

Discussion

Our present study explored the relationship between body composition and sexual activities among college students. Notably, there was a high prevalence of sexual behaviors among college students, with nearly half of them having sexual activities and sexual intercourse in the past 6 months. In addition, greater than 50% of them were overweight/obese. While our study concentrated on a small sample of college students from a single higher education institution in southern Texas, where a large percentage of students are Hispanic, these findings are consistent with those from nationally representative samples of college students regarding the

prevalence of overweight/obesity and sexual experiences (e.g., ACHA, 2024; Liu et al., 2015). It is important to note that most of the sample consisted of freshmen, and data was collected during the first two fall semesters, focusing on sexual behaviors occurring within the last 6 months. Consequently, the data clearly highlights the prevalence of sexual activities in freshmen, along with concerns regarding overweight and obesity within this group.

One of the key findings of our study is the negative relationship between body composition and engagement in recent sexual activities. This finding aligns with previous research suggesting that excess body weight may serve as a deterrent to involvement in sexual activity, potentially because of concerns related to body image, self-esteem, or societal perceptions (Akers et al., 2009; Ramseyer Winter et al., 2022). People who are overweight or obese may experience negative feelings about their bodies, which can lead to a lack of confidence and self-consciousness in intimate situations. This discomfort with one's body size may contribute to a reluctance to engage in sexual activity, as individuals may fear being judged or rejected by their partners (Chang et al., 2015; Eisenberg et al., 2005; Goh et al., 2024). This reluctance may be enhanced if they perceive a lack of adequate sexual scripts for people with their body composition in their sociocultural context. In addition, the associations between body weight (i.e., BMI) and adiposity (i.e., BFP, FMI) and sexual behaviors were quite consistent. These results underscore the importance of recognizing greater body composition as a potential barrier to sexual exploration and intimacy among college students.

As for sexual intercourse, body composition was inversely associated. However, it did not reach statistical significance. The null finding could be attributed to the sample size limitations. However, it is plausible that while the level of emotional intimacy required for different forms of sexual activities like kissing and hugging could be influenced by factors such as body image and body satisfaction, sexual intercourse often involves more complex interplay factors beyond physical appearance, such as relationship dynamics, cultural norms, personal values, and contraceptive use, among others.

Another key finding is an inverse relationship between body composition and the use of protection at the last incidence of sexual activity. Previous research has indicated a link between higher BMI and engaging in risky sexual behaviors, such as foregoing condom use and consuming alcohol or drugs prior to or during intercourse (Eisenberg et al., 2005; Gordon et al., 2016; Lowry et al., 2014; Ratcliff et al., 2011). These findings might reflect underlying psychosocial factors, such as unconventionality or impulsivity, which could serve as common precursors to risky sexual behaviors (Curry et al., 2018). Alternatively, it is plausible that students with higher BMI or body fat may engage in risky sexual behaviors as a means of bolstering their body image or demonstrating prowess in attracting sexual partners (Blashill & Safren, 2015). This finding echoes previous research suggesting that overweight and obese individuals may engage in risky sexual behaviors, such as unprotected intercourse, which can increase the risk of STIs and unintended pregnancies. Studies using weight-related psychosocial constructs, such as perceived body weight, body image, and body satisfaction, consistently found that women with a poor body image or greater body dissatisfaction are less likely to negotiate with partners, resulting in lower condom use self-efficacy (Blashill & Safren, 2015; Eisenberg et al., 2005; Ramseyer Winter et al., 2022). The current findings support this by demonstrating the associations between three body composition indices and protection use. This is an important area for future research because ineffective sexual negotiation increases STIs and unintended pregnancy risk.

Limitations

Our exploratory study contributes to the existing literature by focusing on a sample of first-time college students, a population that has received limited attention in previous research on body weight and sexual behaviors. By examining recent sexual experiences in college freshmen, as well as sexual risk behaviors, our study provides insights into the relationship between body composition and sexual health among young adults. However, it is essential to acknowledge the limitations of our study. First, the sample consisted primarily of Hispanic students from a single university in south Texas with its own unique culture and

sociodemographic characteristics, limiting the generalizability of the findings to other demographic groups and geographical regions. Additionally, the cross-sectional nature of the data precludes the establishment of causal relationships between body composition and sexual behaviors.

Nonetheless, the substantial body of literature demonstrating associations between body weight and sexual behaviors reinforces the validity of the results (Chang et al., 2015; Ramseyer Winter et al., 2022). Future research should aim to incorporate both subjective and objective measures of body composition, along with sociopsychological constructs, to gain a comprehensive understanding of the mechanisms underlying the effects of body composition on young adults' sexual behaviors. A pressing need remains to expand research efforts to include minority young adults and address the effect of body composition on sexual behaviors in a sociocultural context. Finally, the survey did not have data on sexual orientation or if sexual activity was with a same-sex or different-sex partner, so it is not possible to explore how body composition may be differently related to sexual behaviors in gay or lesbian relationships. Because of the small sample size, no separate analyses by gender were conducted. Future research should increase the sample size and explore potential gender differences in the relationship between body composition and sexual behaviors.

It is important to acknowledge that for college freshmen surveyed in September/October, assessing their sexual behaviors in the 6-month period primarily represents the summer after high school graduation rather than their first year of college. This timing may influence the findings as the social and environmental context during the summer could differ significantly from the college environment. Therefore, the sexual behaviors reported may reflect experiences from a transitional phase between high school and college, potentially impacting the association between body composition and sexual health behaviors. Future research should consider the timing of the survey in relation to the academic calendar to better understand the context of sexual behaviors among college freshmen.

Given that our study captures experiences just before and immediately after entering college, future research could benefit from longitudinal studies that track sexual behaviors and body composition over time. Specifically, conducting follow-up surveys at the end of the sophomore year would provide insights into how these associations evolve as students become more integrated into college life. This approach would help to better understand the long-term impacts of body composition on sexual health behaviors in a more stable college environment.

Implications

The findings of our study have implications for public health programs and interventions in high schools and colleges. Schools should consider implementing comprehensive sexual health education programs that address body composition and sexual behaviors, especially during early school years. These programs can include workshops on healthy weight management, body image, and healthy relationships to help students build confidence and make informed decisions about their sexual health. Additionally, initiatives promoting physical activity and healthy eating can support students in achieving a healthy body composition, potentially mitigating some of the negative effects associated with overweight and obesity on sexual health. To further support these efforts, there is a need for grant funding dedicated to researching the complex relationship between body composition and sexual behaviors in young adults. Securing such funding would allow researchers to expand their studies to include diverse populations and longitudinal designs, ultimately leading to more effective and inclusive interventions. Furthermore, policymakers and educational institutions should collaborate to create supportive environments that encourage healthy lifestyle choices and provide resources for students struggling with body image and weight-related concerns.

Conclusion

Drawing from our study, we suggest that greater body weight and adiposity may limit involvement in sexual activity, though not necessarily sexual intercourse. It also indicates that freshmen with higher body weight and adiposity are at increased risk of engaging in sexual risk-taking behaviors, as evidenced by anthropometric data.

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