



Original article

The Association of Body Mass Index and Externally Perceived Attractiveness Across Race/Ethnicity, Gender, and Time

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A B S T R A C T

Purpose: Being perceived by others as unattractive is associated with negative health and social consequences. Overweight individuals may be more likely to be perceived by others as unattractive, thereby further endangering their well-being. Our objective was to determine whether body mass index (BMI) was associated with perceptions by others regarding attractiveness and whether this relationship was similar across race/ethnicity, gender, and time.

Methods: We analyzed Waves I and III of the National Longitudinal Study of Adolescent Health, a nationally representative longitudinal study of adolescents. We used participant gender- and race/ethnicity-stratified multinomial logistic regression to examine the association between BMI and interviewer-rated attractiveness (1 = unattractive, 2 = average, 3 = attractive, 4 = very attractive) controlling for participant age, household income, and maternal education.

Results: BMI was positively associated with risk of being categorized as unattractive (relative to very attractive) by the interviewer in black (Wave I: relative risk ratio [RRR] = 1.26, CI: 1.18, 1.33; Wave III: RRR = 1.14, CI: 1.08, 1.20), Hispanic (Wave I: RRR = 1.23, CI: 1.11, 1.36; Wave III: RRR = 1.22, CI: 1.12, 1.34), and white (Wave I: RRR = 1.25, CI: 1.19, 1.32; Wave III: RRR = 1.22, CI: 1.17, 1.28) females in both waves of data collection. Only in African American females, the risk of being rated unattractive with increasing BMI declined significantly between waves ($p = .00018$). Trends were similar in males, although the magnitude of risk was smaller and nonsignificant in most groups.

Conclusions: Interviewers were more likely to rate those with higher BMIs as unattractive; this finding was similar across gender and racial/ethnic groups with few exceptions and was stable across time.

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Biases toward those who are physically attractive are well documented and robust. Physical attractiveness has been found to influence teacher judgments of students and their academic achievement [1], voter preferences for candidate, jury judgments in mock trials, as well as interviewer judgments of employee candidates and subsequent career success and salaries [2,3]. Ad-

ditionally, perceptions by others of one's attractiveness have been linked to both physical and mental health [4,5].

The relationship between body mass index (BMI) and attractiveness is complex and varies based on who is assessing as well as who is being assessed. Studies have found females with a lower BMI to be more likely to be viewed by *others* as attractive than those with a higher BMI; this relationship is less robust in males [6,7]. Studies focused on racial/ethnic differences have found that African American females are less likely than their white peers to judge *themselves or others* as unattractive when they are overweight [8,9]. However, little is known about the influence of race/ethnicity on the *external* assessment of attrac-

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tiveness in individuals of different BMI. Specifically, we do not know whether similarly weighted persons of different race/ethnicities would be judged similarly attractive by an interviewer. Additionally, there is little empirical evidence regarding the stability of the relationship of BMI and perceptions by others of one's attractiveness over time. This is of particular interest, given the increase in prevalence in obesity across all racial/ethnic and gender groups over the past three decades [10].

The three objectives of our study were to determine whether: (1) Interviewers were more likely to rate survey participants with higher BMIs as unattractive; (2) Interviewers' ratings of attractiveness were modified by the gender and/or race/ethnicity of the survey participants; and (3) The association between participant's BMI and interviewer's rating of attractiveness was stable across waves of data collection. We hypothesized that BMI would be positively associated with risk of being rated less attractive and that the association would be strongest for white female participants. We also hypothesized that the association would be weaker in Wave III because of the increase in the prevalence of obesity in the United States in the period between Waves I and III.

Methods

Sample population

This study uses data from Waves I and III of the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative school-based study of adolescents, in which the respondents were 12–19-years-old at the time of Wave I data collection (1994–1996) and 19–26-years-old at Wave III (2001–2002). The primary sampling unit was the school. An in-home sample of approximately 27,000 students was drawn with a core sample and specific over-samples, including an over-sample of Puerto Rican, Chinese, and Cuban adolescents, and black adolescents from families with high education [11].

Study variables

Outcome variable. Our outcome was the interviewer's rating of the survey participant's attractiveness. Responses to the question "How physically attractive is the respondent?" ranged from 1 to 5 (1 = very unattractive, 2 = unattractive, 3 = average, 4 = attractive, 5 = very attractive). Given the small number of individuals rated as very unattractive at either wave (Wave I: $n = 328$ [1.8%]; Wave III: $n = 267$ [1.9%]), we combined very unattractive with unattractive to create four categories (unattractive, average, attractive, and very attractive) for our analyses.

Independent variables

BMI (weight [kg]/height [m²]) of individual participants was constructed from self-reported weight and height in Wave I and from objectively measured weight and height in Wave III when available (Wave I data do not include objective measurements). The self-reported weight and height in Wave III were used when measured values were missing.

Additional variables included race/ethnicity (Hispanic, black/African American, Asian/Pacific Islander, white, Native American/American Indian, and Other), gender, and age. The maternal/caregiver report of her highest grade of education achieved and the total household income over the past year in Wave I were

used as indicators of the participant's socioeconomic status for Waves I and III. We elected to control for socioeconomic markers of the household of origin (i.e., those from Wave I) in Wave III because of the expected heterogeneity of professional and/or educational development in Wave III participants (i.e., 19–26-year-old participants).

Interviewer characteristics

In Wave III analyses, we included the demographic descriptors of the interviewers (Wave I did not include information regarding characteristics of the interviewers). Demographics included age, gender, race/ethnicity (Hispanic, non-Hispanic white, non-Hispanic black, Asian/Pacific Islander, American Indian/Alaskan Native, other collapsed into white, black, Hispanic, and other because of small sample sizes) and highest education level achieved (high school graduate, some college, college graduate, and post-graduate) of the interviewer. See Appendix in the online version of this article for additional information regarding the interviewers.

Analyses

We examined all relationships cross-sectionally for Waves I and III separately. Multinomial logistic regression analyses were performed to estimate the relative risk ratios (RRR) of being rated one of the three categories of attractiveness versus very attractive. We examined the interaction of survey participant's gender and BMI, and subsequently the interaction of survey participant's race/ethnicity and BMI. We then used survey participant's gender- and race/ethnicity-stratified multinomial logistic regression to examine the relationship of BMI and interviewer-rated attractiveness controlling for age, household income, and maternal education level of the survey participant. A test of equality of RRR was conducted between racial/ethnic groups and across waves, using log-transformed estimates as described by Altman and Bland [12]. When comparing RRR between waves, owing to the overlapping samples, we allowed for correlation of relative risk estimates for a particular category and demographic group between waves by applying a deflation factor of $(1-r)$ to the variance of the difference in relative risk, with r ranging from 0 (independent) to .6 (moderately correlated).

For all analyses, we accounted for the complex survey design and applied appropriate weights. In accounting for the complex survey design, the school is the cluster variable or the primary sampling unit [13]. To account for the potential influence of interviewers and their unmeasured characteristics, we also ran models with interviewer identification (id) as the cluster variable and compared our findings with those in which the Add Health recommended accounting for the complex survey design was in place. All analyses were conducted using STATA/SE 10.0 (StataCorp LP, College Station, TX, 2007).

Results

After excluding participants missing survey sampling weights and currently pregnant females (Wave I: $n = 19$; Wave III: $n = 287$), our final sample included 9,288 males and 9,615 females in Wave I and 6,732 males and 7,170 females in Wave III. Our sample was diverse, both racially/ethnically and socioeconomically (Table 1). There was considerable variability in the ratings of attractiveness.

Table 1
Characteristics of Waves I and III participants

Characteristics	Wave I (n = 18,905)	Wave III (n = 14,035)
Age	16.00 ± .12	21.82 ± .12
Female gender	9,615 (51%)	7,170 (52%)
Race/ethnicity		
White, non-Hispanic	9,635 (51%)	7,254 (52%)
Black, non-Hispanic	4,103 (22%)	2,822 (20%)
Hispanic	3,225 (17%)	2,280 (16%)
Asian/Pacific islander	1,385 (7%)	952 (7%)
American Indian/native Alaskan	340 (2%)	105 (1%)
Other	199 (1%)	475 (3%)
BMI	22.40 ± .10	26.54 ± .13
Attractiveness categories		
Very attractive	2,893 (15%)	1,577 (11%)
Attractive	6,386 (34%)	5,026 (36%)
Average	8,328 (44%)	6,333 (46%)
Unattractive	1,231 (7%)	949 (7%)
Income (in thousands of dollars)	44.69 ± 1.60	45.36 ± 1.59
Maternal education		
Less than high school	2,803 (15%)	2,021 (14%)
High school of vocational	6,845 (36%)	4,944 (35%)
Some college	5,515 (29%)	4,096 (29%)
College plus	3,742 (20%)	2,924 (21%)

Using generalized linear hypothesis testing, we found the interaction terms survey participant's BMI × gender ($p < .001$ for Waves I and III) and survey participant's BMI × race/ethnicity ($p < .001$ for Wave I and $p = .08$ for Wave III), both significantly improved the overall fit of our models, justifying gender- and race/ethnicity-stratified models. Although the p value for the BMI × race interaction at Wave III ($p = .08$) was marginally significant, to keep the models at Wave I and Wave III parallel, we stratified by survey participant's race/ethnicity in Wave III.

In our multinomial logistic model examining interviewer-rated attractiveness as a four-category outcome variable, we

found similar patterns for males and females, although the effect sizes differed markedly (Table 2). Among females, in both Waves I and III, on average we found with every 1 U increase in BMI there was an increase in the RRR of being rated unattractive, average, or attractive as compared with very attractive. In Hispanic, white, and black females, a gradient effect was seen in comparing the various categories of attractiveness with the very attractive category (i.e., the RRR of being identified as unattractive versus very attractive was higher than the RRR of being identified as average versus very attractive with each 1 U increase in BMI). The patterns of RRR across categories of attractiveness appeared similar in Asian/Pacific Islander females and American Indian females, although these relationships were not statistically significant. In males, we found that the risk of being rated unattractive was higher with increasing BMI; however, the parameter estimates were small and few demonstrated a statistically significant difference from 1.0.

Our test of equality of the RRR in Wave I and III within gender and race/ethnicity groups showed only one significant difference. In African American females, the relative risk of being rated unattractive relative to very attractive was lower in Wave III than in Wave I, with significance ranging from $p = .016$ to $.00018$ depending on the assumed correlation (correlation of .6 shown in Table 3). In other racial/ethnic and gender groups, there was no similar decline. We also compared the RRR across racial/ethnic groups within gender and found a difference only when we compared white with black males in Wave I; black males were less likely to be rated unattractive with increasing BMI as compared with the white males. However, this finding was not robust across categories of attractiveness or across waves of data collection (data not presented).

The measured and unmeasured characteristics of the interviewers appeared to have no substantive effects on our findings. The interviewers in general were a homogeneous group

Table 2

The relative risk ratio and 95% confidence interval of being rated unattractive, average, or attractive versus very attractive with each kg/m² unit increase in BMI for males and females of different race/ethnicities in Waves I and III of Add Health

	Whites RRR (95% CI)	Blacks RRR (95% CI)	Hispanic RRR (95% CI)	Asian RRR (95% CI)	American Indian RRR (95% CI)	Others RRR (95% CI)
Wave I						
Females						
Attractiveness						
Unattractive	1.25 (1.19, 1.32) ^a	1.26 (1.18, 1.33) ^a	1.23 (1.11, 1.36) ^a	1.15 (.96, 1.38)	1.33 (1.06, 1.67) ^a	.88 (.56, 1.41)
Average	1.19 (1.14, 1.23) ^a	1.18 (1.12, 1.25) ^a	1.20 (1.14, 1.27) ^a	1.08 (.98, 1.19)	1.26 (1.02, 1.56) ^a	.93 (.74, 1.19)
Attractive	1.05 (1.01, 1.08) ^a	1.08 (1.05, 1.15) ^a	1.14 (1.09, 1.20) ^a	1.00 (.88, 1.12)	1.08 (.88, 1.31)	.94 (.77, 1.16)
Males						
Attractiveness						
Unattractive	1.09 (1.05, 1.13) ^a	1.01 (.95, 1.06)	1.04 (.94, 1.15)	1.32 (1.12, 1.55) ^a	1.09 (.96, 1.23)	.95 (.75, 1.21)
Average	1.03 (1.01, 1.06) ^a	1.00 (.96, 1.04)	1.03 (.99, 1.08)	1.06 (.95, 1.20)	1.07 (.97, 1.18)	.99 (.81, 1.19)
Attractive	.99 (.96, 1.01)	.99 (.95, 1.04)	.99 (.94, 1.04)	1.06 (.97, 1.15)	1.05 (.93, 1.18)	.71 (.51, .99) ^a
Wave III						
Females						
Attractiveness						
Unattractive	1.22 (1.17, 1.28) ^a	1.14 (1.08, 1.20) ^a	1.22 (1.12, 1.34) ^a	1.08 (.93, 1.24)	1.45 (1.01, 2.09) ^a	1.10 (.98, 1.25)
Average	1.16 (1.12, 1.20) ^a	1.11 (1.06, 1.17) ^a	1.19 (1.10, 1.28) ^a	1.03 (.93, 1.15)	1.05 (.93, 1.18)	1.07 (.96, 1.18)
Attractive	1.07 (1.04, 1.11) ^a	1.06 (1.01, 1.10) ^a	1.10 (1.04, 1.17) ^a	.94 (.85, 1.04)	1.00 (.81, 1.22)	1.00 (.90, 1.12)
Males						
Attractiveness						
Unattractive	1.06 (1.02, 1.10) ^a	1.03 (.98, 1.09)	1.00 (.90, 1.11)	1.25 (1.10, 1.43) ^a	1.08 (1.04, 1.12) ^a	1.04 (.94, 1.15)
Average	1.02 (1.00, 1.05)	1.02 (.97, 1.08)	1.04 (1.00, 1.09) ^a	1.08 (1.00, 1.17)	1.02 (.92, 1.14)	.99 (.93, 1.05)
Attractive	.99 (.97, 1.02)	.99 (.94, 1.05)	.95 (.91, 1.00)	1.10 (1.02, 1.19) ^a	.96 (.88, 1.05)	.97 (.92, 1.03)

Adjusted for age, household income, and maternal education.

^a $p < .05$.

Table 3

Test of difference (*p* value) between RRR in Waves I and III for different ratings of attractiveness versus very attractive for male and female racial/ethnic groups ($\rho = .6$, assumed correlation between waves)

Race/ethnicity	Unattractive vs. very attractive (<i>p</i> -value)	Average vs. very attractive (<i>p</i> -value)	Attractive vs. very attractive (<i>p</i> -value)
Females			
White	.28	.13	.21
Black	.00018	.012	.36
Hispanic	.85	.78	.15
Asian/Pacific islander	.40	.31	.23
Native American/Alaskan native	.53	.016	.41
Other	.15	.096	.41
Males			
White	.10	.28	1.0
Black	.43	.36	1.0
Hispanic	.41	.63	.067
Asian/Pacific islander	.40	.31	.23
Native American/Alaskan native	.83	.31	.064
Other	.28	1.0	.0050

with 80% females, 65% white, and all having at least a high school diploma (Table A1). In our models clustering on the interviewer id, we found no substantive differences in our RRR when we compared the models accounting for the complex survey design as recommended by Add Health (Table A2). Similarly, in our Wave III models controlling for interviewer demographics (Table A3), we found only a substantive change in RRR in the American Indian females; the RRR of being categorized as unattractive associated with a 1 U increase in BMI, which increased from 1.45 to 3.45. None of the interviewer characteristics had a consistent significant association across ratings of attractiveness.

Figure 1 graphically depicts the differences in effect size by gender across the different racial/ethnic groups and the similarity of patterns across Waves I and III.

Discussion

Our study highlights the pervasiveness and persistence of negative assessments of individuals with higher BMIs. We found the risk of being rated unattractive increased with BMI in a similar pattern in different racial/ethnic groups within gender. We also found the risk of being rated unattractive with increasing BMI to be similar across waves of data collection with the exception of a statistically significant decline in African American females. However, we did find differences in the risk of being rated unattractive with increasing BMI by gender; although males and females had similar patterns of risk of being rated unattractive, the risks overall were lower in males and were generally not statistically significant except in white and Asian/PI males.

Our findings contradicted our a priori hypotheses and are surprising for at least two reasons. First, we expected that the increased prevalence of overweight/obesity in black females relative to other racial/ethnic and gender groups [10,14] might dampen the relationship between BMI and ratings of attractiveness in that group as compared with other groups. Similarly, we believed that interviewers in Wave III might be less sensitized to elevated weight given the increasing prevalence of obesity in

society [10], so that the interviewer's ratings of attractiveness in Wave III might have less association with BMI than observed in Wave I. Neither of these hypotheses were consistently born out by our findings. This raises concerns that even as the degree and overall prevalence of overweight and obesity continue to increase, the negative assessments of those suffering from increased weight will increase in parallel.

This study has limitations that need to be noted. First, we relied on the assessment of a single interviewer and had no information regarding his/her weight status in either wave; there was no information regarding the gender, age, or race/ethnicity of the interviewer in Wave I. Reviewers were likely to only partially overlap from Wave I to Wave III. However, given the degree of similarity in RRR across our sensitivity analyses described earlier in the text, we feel it unlikely that our results are attributable to interviewer differences. We feel this is less likely as well because of the homogeneity of interviewers as well as their similar training and recruitment. A second limitation to our study is our reliance on a single item to describe attractiveness; we recognize that this could have different meanings for different interviewers. However, we believe that our findings remain of interest, given the large sample size and multiple waves of data collection. An additional limitation is the reliance of Wave I on BMI calculated from self-reported height and weight. However, a study using Wave I and II data from Add Health found very high correlation between self-reported and measured values [15]. Finally, we relied on Census definitions of race/ethnicity as these categorizations were available in Add Health. These categorizations do not provide any understanding of how the participant perceives their racial identity, how their racial/ethnic identity is perceived by others, and/or their experience of positive or negative stereotypes. Future research should consider a more nuanced assessment of the participant's racial identity [16]. Some caution should be exercised in interpreting results from studies with large sample sizes as statistical significance can be achieved where there may be very little clinical relevance; however, given the consistency of our findings across the racial/ethnic and gender groups and across time as well as the gradient effect of BMI on ratings of attractiveness in many of the subpopulations, we felt that our findings are important.

Given the significant social and health consequences of being perceived as unattractive, this preliminary study relates an additional risk of increased weight. Future studies should examine whether external perceptions of attractiveness may mediate some of the negative health and social consequences associated with increased weight. Additional studies are needed to understand whether the weight status or other characteristics of the interviewer may affect their assessment of attractiveness in another person; of particular interest is whether an individual is more or less judgmental of someone more or less similar to themselves. Finally, it is of interest to understand whether the relationship between the persons assessing and being assessed affects the health and social consequences of the perception of attractiveness. For instance, does the rating of attractiveness by one's peers affect social and health outcomes more or less than an unknown interviewer.

Negative assessments of those who are overweight/obese are harmful and unjust. Although every effort should be made to reverse the obesity epidemic, efforts should also be made in parallel to ensure that those who are overweight are not subject to demeaning and harmful assessments.

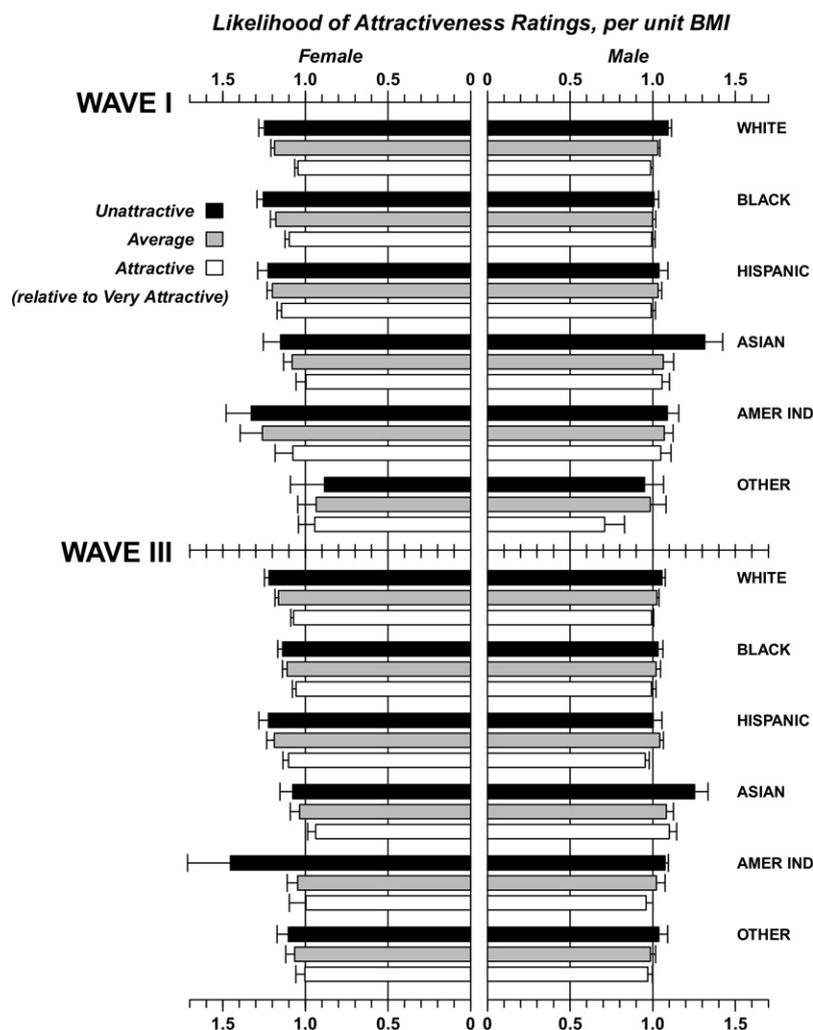


Figure 1. The relative risk of being rated Unattractive, Average, or Attractive versus Very Attractive for every 1 U increase in BMI for each racial/ethnic and gender group in Waves I and III of Add Health.

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Appendix

Additional information regarding interviewers

The in-home sample was drawn from 80 communities and interviewers were recruited primarily from near-by communities. Interviewers were recruited through staffing agencies but were vetted and hired by the Add Health field contractor. Interviewers could not live within 50 miles of the communities in which they would be conducting interviews to avoid interviewing someone known to them. Interviewers at Waves I and III went through extensive training (5-day training session for Wave I and 6-day training session for Wave III). Although there was some overlap in interviewers from Waves I to III, interviewers did not necessarily interview the same participants at both waves. There were multiple interviewers per school and interviewers often interviewed students from feeder and nearby schools (Joyce Tabor, personal communication, October 10, 2010).

Table A1
Wave III interviewer characteristics (N = 447 interviewers)

Variable	N (%) or mean ± SE
Interviewer gender	
Female	346 (80%)
Male	87 (20%)
Interviewer race/ethnicity	
White	279 (65%)
Black	106 (25%)
Hispanic	32 (2%)
Other	10 (7%)
Interviewer education level	
High school	44 (11%)
Some college	169 (42%)
College	111 (28%)
Post-graduation	77 (19%)
Interviewer age	49.51 ± .58

Table A2
The relative risk ratio and 95% confidence interval of being rated unattractive, average, or attractive versus very attractive with each kg/m² unit increase in BMI for males and females of different race/ethnicities in Waves I and III of Add Health *clustering on interviewer id*

Attractiveness Category by Wave and Gender	Whites RRR (95% CI)	Blacks RRR (95% CI)	Hispanic RRR (95% CI)	Asian RRR (95% CI)	American Indian RRR (95% CI)	Others RRR (95% CI)
Wave I						
Females	N = 4,643	N = 2,035	N = 1,525	N = 632	N = 155	N = 93
Attractiveness						
Unattractive	1.25 (1.19, 1.31) ^a	1.26 (1.19, 1.33) ^a	1.22 (1.12, 1.34) ^a	1.19 (.98, 1.44)	1.40 (1.11, 1.75) ^a	.87 (.56, 1.34)
Average	1.19 (1.14, 1.23) ^a	1.18 (1.13, 1.25) ^a	1.20 (1.14, 1.26) ^a	1.09 (.93, 1.28)	1.30 (1.08, 1.56) ^a	.93 (.72, 1.19)
Attractive	1.05 (1.01, 1.08) ^a	1.10 (1.05, 1.15)	1.14 (1.09, 1.20) ^a	1.00 (.87, 1.16)	1.10 (.95, 1.28)	.97 (.78, 1.20)
Males	n = 4,592	n = 1,854	n = 1,532	n = 692	n = 164	n = 91
Attractiveness						
Unattractive	1.09 (1.05, 1.14) ^a	1.01 (.94, 1.08)	1.04 (.95, 1.14)	1.44 (1.20, 1.72) ^a	1.10 (.95, 1.27)	1.29 (.14, 11.86)
Average	1.03 (1.00, 1.06) ^a	1.00 (.96, 1.04)	1.03 (.98, 1.08)	1.08 (.98, 1.19)	1.08 (.96, 1.21)	1.01 (.85, 1.19)
Attractive	.99 (.96, 1.01)	.99 (.95, 1.04)	.99 (.95, 1.04)	1.06 (.97, 1.16)	1.06 (.93, 1.21)	.69 (.53, .88) ^a
Wave III						
Females	n = 3,740	n = 1,548	n = 1,127	n = 445	n = 51	n = 243
Attractiveness						
Unattractive	1.22 (1.17, 1.27) ^a	1.15 (1.09, 1.20) ^a	1.22 (1.12, 1.34) ^a	1.05 (.93, 1.20)	2.05 (.64, 6.57)	1.11 (1.00, 1.23)
Average	1.16 (1.13, 1.20) ^a	1.12 (1.07, 1.16) ^a	1.19 (1.10, 1.27) ^a	1.03 (.93, 1.14)	.85 (.63, 1.15)	1.07 (1.00, 1.15)
Attractive	1.07 (1.04, 1.11) ^a	1.06 (1.02, 1.10) ^a	1.10 (1.04, 1.16) ^a	.93 (.84, 1.02)	.81 (.65, .99)	1.00 (.92, 1.09)
Males	n = 3,508	n = 1,269	n = 1,148	n = 507	n = 52	n = 232
Attractiveness						
Unattractive	1.06 (1.01, 1.10) ^a	1.03 (.97, 1.10)	1.00 (.92, 1.10)	1.28 (1.15, 1.42) ^a	1.28 (1.02, 1.60) ^a	1.02 (.91, 1.16)
Average	1.02 (1.00, 1.05)	1.02 (.97, 1.07)	1.04 (1.00, 1.09)	1.08 (1.00, 1.17) ^a	1.40 (1.09, 1.81) ^a	.97 (.90, 1.06)
Attractive	.99 (.97, 1.02)	.99 (.94, 1.04)	.96 (.91, 1.00) ^a	1.11 (1.04, 1.19) ^a	1.00 (.73, 1.36)	.95 (.88, 1.02)

Adjusted for age, household income, and maternal education.

^a $p < .05$.

Table A3

The relative risk ratio and 95% confidence interval of being rated unattractive, average, or attractive versus very attractive with each kg/m² unit increase in BMI for males and females of different race/ethnicities in Waves III of Add Health controlling for interviewer demographics

Attractiveness Category by Wave and Gender	Whites RRR ^a (95% CI)	Blacks RRR (95% CI)	Hispanic RRR (95% CI)	Asian RRR (95% CI)	American Indian RRR (95% CI)	Others RRR (95% CI)
Wave III						
Females						
Attractiveness						
Unattractive	1.21 (1.16, 1.27) ^b	1.13 (1.07, 1.20) ^b	1.22 (1.10, 1.36) ^b	1.04 (.88, 1.23)	3.45 (2.6, 4.57) ^b	1.08 (.98, 1.19)
Average	1.16 (1.12, 1.21) ^b	1.11 (1.05, 1.18) ^b	1.18 (1.10, 1.28) ^b	1.04 (.92, 1.18)	1.12 (.84, 1.50)	1.06 (.97, 1.15)
Attractive	1.06 (1.03, 1.10) ^b	1.05 (1.00, 1.10) ^b	1.11 (1.04, 1.17) ^b	.91 (.81, 1.02)	.97 (.80, 1.18)	1.00 (.90, 1.11)
Males						
Attractiveness						
Unattractive	1.06 (1.01, 1.10) ^b	1.03 (.98, 1.09)	1.01 (.91, 1.12)	1.18 (1.02, 1.37)	285.74 (NA)	1.05 (.95, 1.15)
Average	1.02 (.99, 1.05)	1.02 (.96, 1.08)	1.06 (1.02, 1.10) ^b	1.10 (1.02, 1.19) ^b	502.49 (NA)	.99 (.94, 1.04)
Attractive	.99 (.96, 1.02)	.99 (.94, 1.05)	.97 (.92, 1.03)	1.13 (1.04, 1.23) ^b	442.26 (NA)	.92 (.84, 1.00)

^a RRRs are adjusted for age, household income, maternal education, interviewer's age, interviewer's race, interviewer's education, and interviewer's gender.

^b *p*-values <.05 are considered significant.