**Supplementary Materials for “Weight location moderates weight-based self-devaluation and perceived social devaluation in women”**

**1. Do weight amount and location predict mental health and well-being?**

**1.1. Study 1**

We explored the possibility that fat amount and weight location can have broader mental health effects using the 9-item Depression Screener Questionnaire (DPQ-9) (Kroenke & Spitzer, 2002; Kroenke et al., 2001). The DPQ-9, which incorporates DSM-IV depression diagnostic criteria (Spitzer et al., 1999), is used to determine the frequency of depression symptoms over the past 2 weeks (0 = "not at all," 1 = "several days," 2 = "more than half the days," and 3 = "nearly every day"). DPQ-9 items were mean averaged (Cronbach’s alpha = .85). DPQ-9 data is publicly available for adult participants only, so the age range used for this analysis was 18 to 49.

As in the main text, the fit of four hierarchical statistical models were sequentially compared using log-likelihood tests: (1) the null model (DV ~ 1), (2) the main effect of fat percentage (DV ~ Fat %), (3) the main effects of fat percentage and WHR (DV ~ Fat % + WHR), and (4) the main effects and two-way interaction of fat percentage and WHR (DV ~ Fat % \* WHR). The continuous depression measure was analyzed using linear models. See Tables S7-8 for full model summaries and model comparisons. See Figure 1S for a regression plot of this dependent measure.

Chart

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**Figure S1.** Study 1 linear regression displaying, as a function of fat percentage and WHR, reported frequency of depression symptoms. Vertical dotted lines mark fat percentage at the mean and at ±1SD. The shaded areas around each regression line mark the 95% CIs.

The model including the main effects of fat percentage and WHR (model 3) showed the best fit. Compared to the model including the main effect of fat percentage only (model 2), adding the main effect of WHR significantly improved model fit; adding the interaction term (model 4) did not significantly improve model fit. Fat percentage and WHR both significantly predicted reported frequency of depression symptoms (*b*fat = 0.01, 95% CI = [0.00, 0.01], *p* = 0.004, *b*WHR = 0.74, 95% CI [0.22, 1.25], *p* = 0.005). The reported frequency of depression symptoms in women of average fat percentage increased by 29% from 0.34 at low WHR (-1*SD*; 0.80) to 0.44 at high WHR (+1*SD*; 0.94).

Thus, the predictive effect of weight location reported in the main text extended to a broader mental health outcome—depression—such that, *controlling for fat amount*, women with more weight in the abdominal versus gluteofemoral region reported more frequent depression symptoms.

**1.2. Study 2**

The association between heavyweight and broader mental health and well-being outcomes was explored in three ways. Global life satisfaction was assessed using the 5-item Satisfaction with Life (SWL) scale (Diener et al., 1985). The SWL scale includes items such as "I am satisfied with my life" (1 = Strongly disagree, to 7 = Strongly agree); items were mean averaged (Cronbach’s alpha = .85). Depression and anxiety were assessed using the subscales of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983). Participants were asked, "During the past 7 days, how much were you distressed by \_\_\_\_\_" with the 6-item depression subscale including items like "feeling lonely", and the 6-item anxiety subscale including items like "nervousness or shakiness inside" (0 = Not at all, to 4 = Extremely); items were mean averaged for both scales (Cronbach’s alpha for depression = .87; Cronbach’s alpha for anxiety = .86).

As in the main text, the fit of four hierarchical statistical models was sequentially compared for each dependent measure using log-likelihood tests. All dependent measures were analyzed using linear models. Neither fat amount by itself (Model 2), the main effects of fat amount and WHR (Model 3), nor the main effects and their interaction (Model 4) predicted any of these outcomes better than the null model (Model 1). See Tables S19-S24 for full model summaries and model comparisons. See Figure S2 for regression plots of the mental health and well-being dependent measures.

Graphical user interface, chart

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**Figure S2.** Study 2 linear regressions displaying, as a function of fat percentage, WHR, and their interaction, estimates of women’s well-being (life satisfaction; A) and mental health (depression and anxiety; B-C). Vertical dotted lines mark fat percentage at the mean and at ±1*SD*. The shaded areas around each regression line mark the 95% CIs.

How might we reconcile these null findings with the Study 1 findings that fat amount and WHR each predicted depression? The main effects of fat percentage and WHR in Study 1 explained only 3% of the variance in depression, and sensitivity analyses revealed that Study 2 had much lower statistical power than Study 1. (Study 1 was able to detect with 95% power interaction effects as small as = 2%, as compared to = 8% for Study 2). Thus, because any effects of fat amount and WHR on mental health and wellbeing are likely to be small, it seems likely that Study 2 would be under-powered to detect them.

**1.3. General Discussion**

In sum, an exploratory analysis in Study 1 found that fat amount and weight location additively predicted frequency of depression symptoms. However, in Study 2 neither fat amount nor weight location—by themselves or interactively—predicted any of the broader mental health and well-being outcomes (global satisfaction with life, depression, or anxiety). If such effects do exist, they may be relatively small, and Study 2 may have been underpowered to detect them (see sensitivity analyses). The literature on weight and mental health and well-being is mixed, however, and more research is needed to understand whether the effects of weight—by itself, additively, or interactively with weight location—extend to mental health and well-being outcomes, either in the general population or in segments of the heavyweight population (e.g., see Friedman & Brownell, 1995).

**1.3. References**

Derogatis, L., & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. *Psychological Medicine*, *13*(3), 595-605. doi:10.1017/S0033291700048017

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.4324/9781003035312-41

Kroenke K., Spitzer R. L., & William J. B. The PHQ-9: validity of a brief depression severity measure. J Gen Intern Med 2001; 16: 1606-13.

Kroenke K. & Spitzer R. L. The PHQ-9: a new depression and diagnostic severity measure. Psych Annals 2002; 32:509-21.

Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of Prime MD: the PHQ primary care study. *Journal of the American Medical Association*, *282*, 1737-44.

**2. Study 1 supplementary figures and tables**

The fit of four hierarchical statistical models were sequentially compared for each dependent variable using log-likelihood tests: (1) the null model (DV ~ 1), (2) the main effect of fat percentage (DV ~ Fat %), (3) the main effects of fat percentage and WHR (DV ~ Fat % + WHR), and (4) the main effects and two-way interaction of fat percentage and WHR (DV ~ Fat % \* WHR). Binary dependent variables were analyzed using generalized linear models with binomial (logit) distributions; the continuous depression measure was analyzed using linear models. Tables S1, S3, S5, and S7 display the full model summaries for each of the four dependent variables.

Of the four models compared, the model including the main effects of fat percentage and WHR (Model 3) showed the best fit for each dependent variable. Compared to the model including the main effect of fat percentage only (Model 2), adding the main effect of WHR significantly improved model fit for all dependent variables; adding the interaction term (Model 4) did not significantly improve model fit for any dependent variable. Tables S2, S4, S6, and S8 display model comparisons for each of the four dependent variables.

“Has a doctor or other health professional ever told you that you are overweight?” (1 = Yes, 0 =No).

Table S1. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | -0.57\*\*\* (0.06) | -9.36\*\*\* (0.64) | -13.24\*\*\* (1.10) | -23.63\*\* (8.80) |
| Fat % |  | 0.22\*\*\* (0.02) | 0.20\*\*\* (0.02) | 0.46\* (0.22) |
| WHR |  |  | 5.41\*\*\* (1.19) | 17.36+ (10.08) |
| Fat % × WHR |  |  |  | -0.30 (0.25) |
| Log Likelihood | -686.66 | -526.14 | -515.56 | -514.83 |
| AIC | 1,375.32 | 1,056.28 | 1,037.11 | 1,037.66 |
| *Note.* N = 1,050. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S2. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 1,049 | 1,373.32 |  |  |  |
| 2 vs. 1 | 1,048 | 1,052.28 | 1 | 321.05 | < .001 |
| 3 vs. 2 | 1,047 | 1,031.11 | 1 | 21.16 | < .001 |
| 4 vs. 3 | 1,046 | 1,029.66 | 1 | 1.46 | .227 |
| 4 vs. 2 | 1,046 | 1,029.66 | 2 | 22.62 | < .001 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

“Do you consider yourself now to be overweight, underweight, or about the right weight?” (coded as 1 = “overweight” and 0 = “about the right weight”; “underweight” responses were excluded from this analysis)

Table S3. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.17\*\* (0.06) | -10.57\*\*\* (0.69) | -15.47\*\*\* (1.23) | -17.74+ (9.69) |
| Fat % |  | 0.28\*\*\* (0.02) | 0.25\*\*\* (0.02) | 0.31 (0.25) |
| WHR |  |  | 6.91\*\*\* (1.33) | 9.54 (11.26) |
| Fat % × WHR |  |  |  | -0.07 (0.29) |
| Log Likelihood | -689.62 | -472.13 | -457.93 | -457.90 |
| AIC | 1,381.23 | 948.25 | 921.85 | 923.79 |
| *Note.* N = 1,000. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S4. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 999 | 1,379.23 |  |  |  |
| 2 vs. 1 | 998 | 944.25 | 1 | 434.98 | < .001 |
| 3 vs. 2 | 997 | 915.85 | 1 | 28.40 | < .001 |
| 4 vs. 3 | 996 | 915.79 | 1 | 0.06 | .814 |
| 4 vs. 2 | 996 | 915.79 | 2 | 28.46 | < .001 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

“Would you like to weigh more, less, or stay about the same?” (coded as 1 = “less” and 0 = “stay about the same”; “more” responses were excluded from this analysis)

Table S5. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.98\*\*\* (0.07) | -7.44\*\*\* (0.60) | -10.11\*\*\* (1.15) | -13.77+ (8.15) |
| Fat % |  | 0.23\*\*\* (0.02) | 0.21\*\*\* (0.02) | 0.31 (0.22) |
| WHR |  |  | 3.99\*\* (1.42) | 8.32 (9.64) |
| Fat % × WHR |  |  |  | -0.12 (0.26) |
| Log Likelihood | -570.09 | -428.24 | -424.21 | -424.10 |
| AIC | 1,142.19 | 860.48 | 854.41 | 856.20 |
| *Note.* N = 974. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S6. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 973 | 1,140.19 |  |  |  |
| 2 vs. 1 | 972 | 856.48 | 1 | 283.70 | < .001 |
| 3 vs. 2 | 971 | 848.41 | 1 | 8.07 | .004 |
| 4 vs. 3 | 970 | 848.20 | 1 | 0.21 | .649 |
| 4 vs. 2 | 970 | 848.21 | 2 | 8.28 | .016 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Depression: Depression Screener Questionnaire (DPQ-9) (0 = "not at all," 1 = "several days," 2 = "more than half the days," and 3 = "nearly every day")

Table S7. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.40\*\*\* (0.02) | -0.04 (0.09) | -0.54\*\* (0.20) | -0.67 (1.26) |
| Fat % |  | 0.01\*\*\* (0.002) | 0.01\*\* (0.003) | 0.01 (0.03) |
| WHR |  |  | 0.73\*\* (0.26) | 0.89 (1.49) |
| Fat % × WHR |  |  |  | -0.004 (0.04) |
| R2 | 0.00 | 0.03 | 0.03 | 0.03 |
| Adjusted R2 | 0.00 | 0.02 | 0.03 | 0.03 |
| Res. Std. Error | 0.49 | 0.49 | 0.48 | 0.48 |
| F Statistic |  | 22.85\*\*\*  (*df* = 1; 889) | 15.44\*\*\*  (*df* = 2; 888) | 10.29\*\*\*  (*df* = 3; 887) |
| *Note.* N = 891. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S8. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 890 | 215.48 |  |  |  |
| 2 vs. 1 | 889 | 210.09 | 1 | 5.40 | < .001 |
| 3 vs. 2 | 888 | 208.24 | 1 | 1.84 | .005 |
| 4 vs. 3 | 887 | 208.24 | 1 | 0.003 | .918 |
| 4 vs. 2 | 887 | 208.24 | 2 | 1.85 | .020 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**3. Study 2 supplementary figures and tables**

As in Study 1, the fit of four hierarchical statistical models were sequentially compared for each dependent measure using log-likelihood tests. All dependent measures were analyzed using linear models. Of the four models compared, the model including the two main effects of body fat percentage and WHR and their interaction (Model 4) showed the best fit for the self-devaluation and social devaluation outcomes, compared to both the model including the main effect of fat percentage only (Model 2) and the model including the main effects of fat percentage and WHR but not their interaction (Model 3). Tables S9, S11, S13, and S15, S17 display the full model summaries for each of the five social and self-devaluation dependent variables. Tables S10, S12, S14, S16, and S18 display model comparisons for these dependent variables.

Self-reported physical attractiveness: “How physically attractive are you, compared to the average same-sex individual of your approximate age?” (0 = Much less attractive than average, 50 = About average, 100 = Much more attractive than average)

Table S9. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 57.06\*\*\* (1.33) | 73.18\*\*\* (5.32) | 134.33\*\*\* (18.42) | -68.35 (65.46) |
| Fat % |  | -0.53\*\* (0.17) | -0.32+ (0.18) | 6.14\*\* (2.01) |
| WHR |  |  | -79.24\*\*\* (22.91) | 156.89\* (76.66) |
| Fat % × WHR |  |  |  | -7.48\*\* (2.32) |
| R2 | 0.00 | 0.04 | 0.09 | 0.14 |
| Adjusted R2 | 0.00 | 0.04 | 0.09 | 0.13 |
| Res. Std. Error | 19.46 | 19.07 | 18.60 | 18.20 |
| F Statistic |  | 9.77\*\*  (*df* = 1; 213) | 11.12\*\*\*  (*df* = 2; 212) | 11.20\*\*\*  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S10. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 81,045.33 |  |  |  |
| 2 vs. 1 | 213 | 77,491.74 | 1 | 3,553.59 | .001 |
| 3 vs. 2 | 212 | 73,351.06 | 1 | 4,140.69 | < .001 |
| 4 vs. 3 | 211 | 69,913.58 | 1 | 3,437.48 | .001 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Body image satisfaction: 6-item Body Image States Scale (BISS) (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). BISS includes items such as "Right now I feel \_\_\_\_\_ with my body size and shape" (1 = Extremely Dissatisfied, to 9 = Extremely Satisfied) and "Right now I feel that I look \_\_\_\_\_ than the average person looks" (1 = A great deal better, to 9 = A great deal worse).

Table S11. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 5.11\*\*\* (0.10) | 6.78\*\*\* (0.41) | 9.27\*\*\* (1.45) | -0.12 (5.24) |
| Fat % |  | -0.05\*\*\* (0.01) | -0.05\*\*\* (0.01) | 0.25 (0.16) |
| WHR |  |  | -3.23+ (1.81) | 7.71 (6.14) |
| Fat % × WHR |  |  |  | -0.35+ (0.19) |
| R2 | 0.00 | 0.08 | 0.09 | 0.10 |
| Adjusted R2 | 0.00 | 0.07 | 0.08 | 0.09 |
| Res. Std. Error | 1.53 | 1.47 | 1.47 | 1.46 |
| F Statistic |  | 17.59\*\*\*  (*df* = 1; 213) | 10.48\*\*\*  (*df* = 2; 212) | 8.22\*\*\*  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S12. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 501.20 |  |  |  |
| 2 vs. 1 | 213 | 462.97 | 1 | 38.23 | < .001 |
| 3 vs. 2 | 212 | 456.11 | 1 | 6.86 | .072 |
| 4 vs. 3 | 211 | 448.73 | 1 | 7.38 | .063 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Self-esteem: “I have high self-esteem” (1 = Not very true of me, 5 = Very true of me; Robins, Hendin, & Trzesniewski, 2001).

Table S13. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 3.27\*\*\* (0.07) | 3.44\*\*\* (0.27) | 4.83\*\*\* (0.96) | -3.51 (3.43) |
| Fat % |  | -0.01 (0.01) | -0.001 (0.01) | 0.27\* (0.11) |
| WHR |  |  | -1.80 (1.19) | 7.92+ (4.02) |
| Fat % × WHR |  |  |  | -0.31\* (0.12) |
| R2 | 0.00 | 0.002 | 0.01 | 0.04 |
| Adjusted R2 | 0.00 | -0.003 | 0.003 |  |
| Res. Std. Error | 0.97 | 0.97 | 0.97 | 0.95 |
| F Statistic |  | 0.42  (*df* = 1; 213) | 1.36  (*df* = 2; 212) | 3.06\*  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S14. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 200.35 |  |  |  |
| 2 vs. 1 | 213 | 199.96 | 1 | 0.39 | .512 |
| 3 vs. 2 | 212 | 197.82 | 1 | 2.14 | .125 |
| 4 vs. 3 | 211 | 192.00 | 1 | 5.83 | .011 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Perceived Weight Discrimination (PWD) scale (Hunger & Major, 2016). On the PWD scale, respondents were asked "In the past 12 months, how often have you been discriminated against because of your weight?", and it included items such as "How often have people acted as if they are better than you because of your weight?" and "How often have you been teased or harassed because of your weight?" (1 = Never, to 5 = All the time).

Table S15. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.39\*\*\* (0.04) | -0.28 (0.18) | -0.60 (0.63) | 5.70\* (2.22) |
| Fat % |  | 0.02\*\*\* (0.01) | 0.02\*\*\* (0.01) | -0.18\*\* (0.07) |
| WHR |  |  | 0.41 (0.78) | -6.91\*\* (2.60) |
| Fat % × WHR |  |  |  | 0.23\*\* (0.08) |
| R2 | 0.00 | 0.07 | 0.07 | 0.11 |
| Adjusted R2 | 0.00 | 0.07 | 0.06 | 0.10 |
| Res. Std. Error | 0.63 | 0.61 | 0.61 | 0.60 |
| F Statistic |  | 15.47\*\*\*  (*df* = 1; 199) | 7.85\*\*\*  (*df* = 2; 198) | 8.33\*\*\*  (*df* = 3; 197) |
| *Note.* N = 201. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |

Table S16. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 200 | 79.98 |  |  |  |
| 2 vs. 1 | 199 | 74.21 | 1 | 5.77 | < .001 |
| 3 vs. 2 | 198 | 74.11 | 1 | 0.16 | .590 |
| 4 vs. 3 | 197 | 70.97 | 1 | 3.13 | .003 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Weight Stigma Concerns (WSC) scale (Hunger & Major, 2016). The WSC scale included items such as "I am concerned that other people’s opinion of me will be based on my weight" and "I am afraid that other people will reject me because of my weight” (1 = Strongly disagree, to 7 = Strongly agree)

Table S17. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 1.47\*\*\* (0.11) | -0.98\* (0.43) | -3.46\* (1.53) | 5.55 (5.49) |
| Fat % |  | 0.08\*\*\* (0.01) | 0.07\*\*\* (0.01) | -0.21 (0.17) |
| WHR |  |  | 3.19+ (1.90) | -7.28 (6.42) |
| Fat % × WHR |  |  |  | 0.33+ (0.19) |
| R2 | 0.00 | 0.15 | 0.16 | 0.17 |
| Adjusted R2 | 0.00 | 0.14 | 0.15 | 0.16 |
| Res. Std. Error | 1.62 | 1.50 | 1.49 | 1.48 |
| F Statistic |  | 34.37\*\*\*  (*df* = 1; 199) | 18.76\*\*\*  (*df* = 2; 198) | 13.60\*\*\*  (*df* = 3; 197) |
| *Note.* N = 201. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S18. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 200 | 523.29 |  |  |  |
| 2 vs. 1 | 199 | 446.21 | 1 | 77.08 | < .001 |
| 3 vs. 2 | 198 | 439.91 | 1 | 6.30 | .091 |
| 4 vs. 3 | 197 | 433.50 | 1 | 6.41 | .088 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Satisfaction With Life (SWL) scale (Diener, Emmons, Larsen, & Griffin, 1985). The SWL scale includes items such as "In my ways my life is close to my ideal" and "I am satisfied with my life" (1 = Strongly disagree, to 7 = Strongly agree).

Table S19. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 4.69\*\*\* (0.09) | 4.81\*\*\* (0.36) | 4.46\*\*\* (1.28) | -2.44 (4.58) |
| Fat % |  | -0.004 (0.01) | -0.01 (0.01) | 0.21 (0.14) |
| WHR |  |  | 0.45 (1.58) | 8.48 (5.35) |
| Fat % × WHR |  |  |  | -0.25 (0.16) |
| R2 | 0.00 | 0.001 | 0.001 | 0.01 |
| Adjusted R2 | 0.00 | -0.004 | -0.01 | -0.002 |
| Res. Std. Error | 1.24 | 1.24 | 1.24 | 1.24 |
| F Statistic |  | 0.13  (*df* = 1; 198) | 0.10  (*df* = 2; 197) | 0.89  (*df* = 3; 196) |
| *Note.* N = 200. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S20. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 199 | 304.04 |  |  |  |
| 2 vs. 1 | 198 | 303.85 | 1 | 0.19 | .722 |
| 3 vs. 2 | 197 | 303.72 | 1 | 0.13 | .773 |
| 4 vs. 3 | 196 | 299.96 | 1 | 3.76 | .117 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Depression: subscales of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983). "During the past 7 days, how much were you distressed by \_\_\_\_\_" with the 6-item depression subscale showing items like "feeling lonely" and "feeling no interest in things" (0 = Not at all, to 4 = Extremely)

Table S21. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 1.09\*\*\* (0.06) | 1.14\*\*\* (0.26) | 0.81 (0.91) | 4.78 (3.29) |
| Fat % |  | -0.002 (0.01) | -0.003 (0.01) | -0.13 (0.10) |
| WHR |  |  | 0.42 (1.13) | -4.20 (3.86) |
| Fat % × WHR |  |  |  | 0.15 (0.12) |
| R2 | 0.00 | 0.0002 | 0.001 | 0.01 |
| Adjusted R2 | 0.00 | -0.004 | -0.01 | -0.01 |
| Res. Std. Error | 0.91 | 0.91 | 0.92 | 0.92 |
| F Statistic |  | 0.04  (*df* = 1; 213) | 0.09  (*df* = 2; 212) | 0.58  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S22. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 178.33 |  |  |  |
| 2 vs. 1 | 213 | 178.30 | 1 | 0.04 | .836 |
| 3 vs. 2 | 212 | 178.18 | 1 | 0.12 | .708 |
| 4 vs. 3 | 211 | 176.87 | 1 | 1.32 | .210 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Anxiety: subscales of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983).  "During the past 7 days, how much were you distressed by \_\_\_\_\_" with the 6-item anxiety subscale showing items like "nervousness or shakiness inside" and "feeling tense or keyed up" (0 = Not at all, to 4 = Extremely)

Table S23. *Regression results for the four models of fat percentage and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.94\*\*\* (0.06) | 0.66\*\* (0.24) | -0.32 (0.84) | -1.77 (3.07) |
| Fat % |  | 0.01 (0.01) | 0.01 (0.01) | 0.05 (0.09) |
| WHR |  |  | 1.27 (1.05) | 2.96 (3.59) |
| Fat % × WHR |  |  |  | -0.05 (0.11) |
| R2 | 0.00 | 0.01 | 0.01 | 0.02 |
| Adjusted R2 | 0.00 | 0.002 | 0.005 | 0.001 |
| Res. Std. Error | 0.85 | 0.85 | 0.85 | 0.85 |
| F Statistic |  | 1.53  (*df* = 1; 213) | 1.50  (*df* = 2; 212) | 1.07  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S24. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 155.72 |  |  |  |
| 2 vs. 1 | 213 | 154.61 | 1 | 1.11 | .216 |
| 3 vs. 2 | 212 | 153.55 | 1 | 1.06 | .228 |
| 4 vs. 3 | 211 | 153.38 | 1 | 0.18 | .622 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ Fat %; Model 3 = DV ~ Fat % + WHR; Model 4 = DV ~ Fat % + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**4. Could the observed interactions between body fat and WHR be due to a curvilinear relationship between body fat and devaluation?**

The documented effects of body weight on physical health are curvilinear (e.g., Lassek & Gaulin, 2018), with underweight and heavyweight women having worse physical health than average-weight women. Body fat and WHR are positively correlated, which means that women with low WHRs also have lower-than-average body fat, whereas women with high WHRs have above-average body fat. If the correlation between body fat and devaluation is curvilinear (a positive exponential), then the observed linear interaction between body fat and WHR may simply be picking up on that curvilinear effect of body fat (i.e., at low WHR—relatively low body fat—the slope for body fat is relatively flat, but at high WHR—relatively high body fat – the slope is positive).

We checked this by comparing the following equations for each of the self- and perceived social devaluation DVs: (1) a first-degree polynomial of body fat (DV ~ Fat %) (Model 1), (2) a second-degree polynomial of body fat (DV ~ ) (Model 2), (2) a first-degree polynomial of body fat and its interaction with WHR (DV ~ Fat % \* WHR) (Model 3), and (4) a second-degree polynomial of body fat and its interaction with WHR (DV ~ \* WHR) (Model 4).

First, for three of the five DVs (attractiveness, body image satisfaction, and perceived weight discrimination), the second-degree polynomial of body fat was a significantly or a marginally better predictor of variance explained, thereby supporting the proposal that the effects of body fat on devaluation can be curvilinear. Second, for four of the five DVs (attractiveness, body image satisfaction, self-esteem, and weight stigma concerns) the linear interaction of body fat and WHR (DV ~ Fat \* WHR) was a significantly or marginally better predictor of variance explained than the second-degree polynomial of body fat (DV ~ , thereby ruling-out the possibility that the effects reported here are merely due to a curvilinear relationship between body fat and devaluation. Finally, and further ruling this possibility out, for none of these four DVs was a second-degree polynomial of body fat and its interaction with WHR (DV ~ \* WHR) a better predictor than the simple linear interaction of body fat and WHR. Tables S25, S27, S29, and S31, S33 display the full model summaries for each of the five social and self-devaluation dependent variables. Tables S26, S28, S30, S32, and S34 display model comparisons.

**Self-Reported Attractiveness.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S25. *Regression results for the polynomial models of fat % and WHR.* | | | | |
|  | | | | | |
|  | | | | | |
|  | Model 1 | Model 2 | Model 3 | Model 4 | |
|  | | | | | |
| poly(Fat %, 1) | -59.61\*\* |  |  |  | |
|  | (19.07) |  |  |  | |
|  |  |  |  |  | |
| poly(Fat %, 2)1 |  | -59.61\*\* |  | -26.17 | |
|  |  | (18.75) |  | (20.91) | |
|  |  |  |  |  | |
| poly(Fat %, 2)2 |  | -54.73\*\* |  | -29.11 | |
|  |  | (18.75) |  | (20.53) | |
|  |  |  |  |  | |
| Fat % |  |  | 6.14\*\* |  | |
|  |  |  | (2.01) |  | |
|  |  |  |  |  | |
| WHR |  |  | 156.89\* |  | |
|  |  |  | (76.66) |  | |
|  |  |  |  |  | |
| Fat % x WHR |  |  | -7.48\*\* |  | |
|  |  |  | (2.32) |  | |
|  |  |  |  |  | |
| poly(WHR, 1) |  |  |  | -59.58\*\* | |
|  |  |  |  | (19.64) | |
|  |  |  |  |  | |
| poly(Fat %, 2)1 x poly(WHR, 1) |  |  |  | -540.20\* | |
|  |  |  |  | (259.02) | |
|  |  |  |  |  | |
| poly(Fat %, 2)2 x poly(WHR, 1) |  |  |  | -96.11 | |
|  |  |  |  | (231.71) | |
|  |  |  |  |  | |
| Constant | 57.06\*\*\* | 57.06\*\*\* | -68.35 | 57.94\*\*\* | |
|  | (1.30) | (1.28) | (65.46) | (1.30) | |
|  |  |  |  |  | |
|  | | | | | |
| R2 | 0.04 | 0.08 | 0.14 | 0.15 | |
| Adjusted R2 | 0.04 | 0.07 | 0.13 | 0.13 | |
| Residual Std. Error | 19.07 | 18.75 | 18.20 | 18.19 | |
| F Statistic | 9.77\*\*  (df = 1; 213) | 9.32\*\*\*  (df = 2; 212) | 11.20\*\*\*  (df = 3; 211) | 7.17\*\*\*  (df = 5; 209) | |
|  | | | | | |
| Note. N = 215. | +p<0.1; ⋆p<0.05; ⋆⋆p<0.01; ⋆⋆⋆p<0.001 | | | | |

Table S26. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 213 | 77,491.74 |  |  |  |
| 2 vs. 1 | 212 | 74,496.28 | 1 | 2,995.46 | .003 |
| 3 vs. 2 | 211 | 69,913.58 | 1 | 4,582.70 | < .001 |
| 4 vs. 3 | 209 | 69,174.32 | 2 | 739.26 | .327 |
| *Note.* Model 1 = DV ~ Fat %; Model 2 = DV ~ ; Model 3 = DV ~ Fat % \* WHR; Model 4 = DV ~ \* WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**Body Image Satisfaction.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S27. *Regression results for the polynomial models of fat % and WHR.* | | | | |
|  | | | | |
|  |
|  |
|  |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | | | | |
| poly(Fat %, 1) | -6.18\*\*\* |  |  |  |
|  | (1.47) |  |  |  |
|  |  |  |  |  |
| poly(Fat %, 2)1 |  | -6.18\*\*\* |  | -5.60\*\*\* |
|  |  | (1.47) |  | (1.67) |
|  |  |  |  |  |
| poly(Fat %, 2)2 |  | -2.64+ |  | -1.61 |
|  |  | (1.47) |  | (1.64) |
|  |  |  |  |  |
| Fat % |  |  | 0.25 |  |
|  |  |  | (0.16) |  |
|  |  |  |  |  |
| WHR |  |  | 7.71 |  |
|  |  |  | (6.14) |  |
|  |  |  |  |  |
| Fat % x WHR |  |  | -0.35+ |  |
|  |  |  | (0.19) |  |
|  |  |  |  |  |
| poly(WHR, 1) |  |  |  | -2.68+ |
|  |  |  |  | (1.57) |
|  |  |  |  |  |
| poly(Fat %, 2)1 x poly(WHR, 1) |  |  |  | -30.17 |
|  |  |  |  | (20.74) |
|  |  |  |  |  |
| poly(Fat %, 2)2 x poly(WHR, 1) |  |  |  | 23.05 |
|  |  |  |  | (18.56) |
|  |  |  |  |  |
| Constant | 5.11\*\*\* | 5.11\*\*\* | -0.12 | 5.15\*\*\* |
|  | (0.10) | (0.10) | (5.24) | (0.10) |
|  |  |  |  |  |
|  | | | | |
| R2 | 0.08 | 0.09 | 0.10 | 0.11 |
| Adjusted R2 | 0.07 | 0.08 | 0.09 | 0.09 |
| Residual Std. Error | 1.47 | 1.47 | 1.46 | 1.46 |
| F Statistic | 17.59\*\*\*  (df = 1; 213) | 10.50\*\*\*  (df = 2; 212) | 8.22\*\*\*  (df = 3; 211) | 5.43\*\*\*  (df = 5; 209) |
|  | | | | |
| *Note.* N = 215. | +p<0.1; ⋆p<0.05; ⋆⋆p<0.01; ⋆⋆⋆p<0.001 | | | |

Table S28. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 213 | 462.97 |  |  |  |
| 2 vs. 1 | 212 | 456.02 | 1 | 6.96 | .070 |
| 3 vs. 2 | 211 | 448.73 | 1 | 7.28 | .064 |
| 4 vs. 3 | 209 | 443.62 | 2 | 5.12 | .300 |
| *Note.* Model 1 = DV ~ Fat %; Model 2 = DV ~ ; Model 3 = DV ~ Fat % \* WHR; Model 4 = DV ~ \* WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Self-Esteem.**  Table S29. *Regression results for the polynomial models of fat % and WHR.* | | | | |
|  | | | | |
|  |
|  |
|  |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | | | | |
| poly(Fat %, 1) | -0.63 |  |  |  |
|  | (0.97) |  |  |  |
|  |  |  |  |  |
| poly(Fat %, 2)1 |  | -0.63 |  | 0.62 |
|  |  | (0.97) |  | (1.10) |
|  |  |  |  |  |
| poly(Fat %, 2)2 |  | -1.14 |  | 0.12 |
|  |  | (0.97) |  | (1.08) |
|  |  |  |  |  |
| Fat % |  |  | 0.27\* |  |
|  |  |  | (0.11) |  |
|  |  |  |  |  |
| WHR |  |  | 7.92+ |  |
|  |  |  | (4.02) |  |
|  |  |  |  |  |
| Fat % x WHR |  |  | -0.31\* |  |
|  |  |  | (0.12) |  |
|  |  |  |  |  |
| poly(WHR, 1) |  |  |  | -1.17 |
|  |  |  |  | (1.03) |
|  |  |  |  |  |
| poly(Fat %, 2)1 x poly(WHR, 1) |  |  |  | -28.48\* |
|  |  |  |  | (13.63) |
|  |  |  |  |  |
| poly(Fat %, 2)2 x poly(WHR, 1) |  |  |  | -9.04 |
|  |  |  |  | (12.19) |
|  |  |  |  |  |
| Constant | 3.27\*\*\* | 3.27\*\*\* | -3.51 | 3.32\*\*\* |
|  | (0.07) | (0.07) | (3.43) | (0.07) |
|  |  |  |  |  |
|  | | | | |
| R2 | 0.002 | 0.01 | 0.04 | 0.04 |
| Adjusted R2 | -0.003 | -0.001 | 0.03 | 0.02 |
| Residual Std. Error | 0.97 | 0.97 | 0.95 | 0.96 |
| F Statistic | 0.42  (df = 1; 213) | 0.90  (df = 2; 212) | 3.06\*  (df = 3; 211) | 1.94+  (df = 5; 209) |
|  | | | | |
| *Note.* N = 215. | +p<0.1; ⋆p<0.05; ⋆⋆p<0.01; ⋆⋆⋆p<0.001 | | | |

Table S30. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 213 | 199.96 |  |  |  |
| 2 vs. 1 | 212 | 198.67 | 1 | 1.30 | .235 |
| 3 vs. 2 | 211 | 192.00 | 1 | 6.67 | .007 |
| 4 vs. 3 | 209 | 191.48 | 2 | 0.51 | .757 |
| *Note.* Model 1 = DV ~ Fat %; Model 2 = DV ~ ; Model 3 = DV ~ Fat % \* WHR; Model 4 = DV ~ \* WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**Perceived Weight Discrimination (PWD).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S31. *Regression results for the polynomial models of fat % and WHR.* | | | | |
|  | | | | |
|  |
|  |
|  |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | | | | |
| poly(Fat %, 1) | 2.47\*\*\* |  |  |  |
|  | (0.63) |  |  |  |
|  |  |  |  |  |
| poly(Fat %, 2)1 |  | 2.38\*\*\* |  | 2.67\*\*\* |
|  |  | (0.60) |  | (0.68) |
|  |  |  |  |  |
| poly(Fat %, 2)2 |  | 2.50\*\*\* |  | 2.20\*\* |
|  |  | (0.60) |  | (0.67) |
|  |  |  |  |  |
| Fat % |  |  | -0.18\*\* |  |
|  |  |  | (0.07) |  |
|  |  |  |  |  |
| WHR |  |  | -6.91\*\* |  |
|  |  |  | (2.60) |  |
|  |  |  |  |  |
| Fat % x WHR |  |  | 0.23\*\* |  |
|  |  |  | (0.08) |  |
|  |  |  |  |  |
| poly(WHR, 1) |  |  |  | 0.31 |
|  |  |  |  | (0.65) |
|  |  |  |  |  |
| poly(Fat %, 2)1 x poly(WHR, 1) |  |  |  | 15.84+ |
|  |  |  |  | (8.39) |
|  |  |  |  |  |
| poly(Fat %, 2)2 x poly(WHR, 1) |  |  |  | -19.17\* |
|  |  |  |  | (7.65) |
|  |  |  |  |  |
| Constant | 0.39\*\*\* | 0.39\*\*\* | 5.70\* | 0.37\*\*\* |
|  | (0.04) | (0.04) | (2.22) | (0.04) |
|  |  |  |  |  |
|  | | | | |
| R2 | 0.07 | 0.15 | 0.11 | 0.18 |
| Adjusted R2 | 0.07 | 0.14 | 0.10 | 0.16 |
| Residual Std. Error | 0.61 | 0.59 | 0.60 | 0.58 |
| F Statistic | 15.47\*\*\*  (df = 1; 199) | 16.88\*\*\*  (df = 2; 198) | 8.33\*\*\*  (df = 3; 197) | 8.57\*\*\*  (df = 5; 195) |
|  | | | | |
| Note. N = 201. | +p<0.1; ⋆p<0.05; ⋆⋆p<0.01; ⋆⋆⋆p<0.001 | | | |

Table S32. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 199 | 74.21 |  |  |  |
| 2 vs. 1 | 198 | 68.33 | 1 | 5.88 | < .001 |
| 3 vs. 2 | 197 | 70.97 | 1 | -2.64 | NA |
| 4 vs. 3 | 195 | 65.57 | 2 | 5.40 | < .001 |
| *Note.* Model 1 = DV ~ Fat %; Model 2 = DV ~ ; Model 3 = DV ~ Fat % \* WHR; Model 4 = DV ~ \* WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**Weight Stigma Concerns (WSC).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table S33. *Regression results for the polynomial models of fat % and WHR.* | | | | |
|  | | | | |
|  |
|  |
|  |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | | | | |
| poly(Fat %, 1) | 9.02\*\*\* |  |  |  |
|  | (1.54) |  |  |  |
|  |  |  |  |  |
| poly(Fat %, 2)1 |  | 8.98\*\*\* |  | 8.43\*\*\* |
|  |  | (1.54) |  | (1.73) |
|  |  |  |  |  |
| poly(Fat %, 2)2 |  | 0.98 |  | -0.24 |
|  |  | (1.54) |  | (1.70) |
|  |  |  |  |  |
| Fat % |  |  | -0.21 |  |
|  |  |  | (0.17) |  |
|  |  |  |  |  |
| WHR |  |  | -7.28 |  |
|  |  |  | (6.42) |  |
|  |  |  |  |  |
| Fat % x WHR |  |  | 0.33+ |  |
|  |  |  | (0.19) |  |
|  |  |  |  |  |
| poly(WHR, 1) |  |  |  | 2.84+ |
|  |  |  |  | (1.66) |
|  |  |  |  |  |
| poly(Fat %, 2)1 x poly(WHR, 1) |  |  |  | 42.49\* |
|  |  |  |  | (21.42) |
|  |  |  |  |  |
| poly(Fat %, 2)2 x poly(WHR, 1) |  |  |  | -33.10+ |
|  |  |  |  | (19.53) |
|  |  |  |  |  |
| Constant | 1.46\*\*\* | 1.46\*\*\* | 5.55 | 1.40\*\*\* |
|  | (0.11) | (0.11) | (5.49) | (0.11) |
|  |  |  |  |  |
|  | | | | |
| R2 | 0.15 | 0.15 | 0.17 | 0.18 |
| Adjusted R2 | 0.14 | 0.14 | 0.16 | 0.16 |
| Residual Std. Error | 1.50 | 1.50 | 1.48 | 1.48 |
| F Statistic | 34.37\*\*\*  (df = 1; 199) | 17.34\*\*\*  (df = 2; 198) | 13.60\*\*\*  (df = 3; 197) | 8.79\*\*\*  (df = 5; 195) |
|  | | | | |
| Note. N = 201. | +p<0.1; ⋆p<0.05; ⋆⋆p<0.01; ⋆⋆⋆p<0.001 | | | |

Table S34. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 199 | 446.21 |  |  |  |
| 2 vs. 1 | 198 | 445.31 | 1 | 0.91 | .520 |
| 3 vs. 2 | 197 | 433.50 | 1 | 11.80 | .020 |
| 4 vs. 3 | 195 | 427.06 | 2 | 6.44 | .230 |
| *Note.* Model 1 = DV ~ Fat %; Model 2 = DV ~ ; Model 3 = DV ~ Fat % \* WHR; Model 4 = DV ~ \* WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

**5. Study 1 re-analysis using body-mass-index (BMI) instead of fat percentage**

The fit of four hierarchical statistical models were sequentially compared for each dependent variable using log-likelihood tests: (1) the null model (DV ~ 1), (2) the main effect of BMI (DV ~ BMI), (3) the main effects of BMI and WHR (DV ~ BMI + WHR), and (4) the main effects and two-way interaction of BMI and WHR (DV ~ BMI \* WHR). Binary dependent variables were analyzed using generalized linear models with binomial (logit) distributions; the continuous depression measure was analyzed using linear models. Tables S35, S37, S39, and S41 display the full model summaries for each of the four dependent variables.

Of the four models compared, the model including the main effects and two-way interaction of BMI and WHR (Model 4) showed the best fit for the three dependent variables indexing perception of others’ views of one’s own weight, and perception of one’s own weight. The model including the main effects of BMI and WHR only (Model 3) showed the best fit for the one dependent variable indexing mental health. Tables S36, S38, S40, and S42 display model comparisons for each of the four dependent variables. Figure 2S displays model plots.

“Has a doctor or other health professional ever told you that you are overweight?” (1 = Yes, 0 =No).

Table S35. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | -0.57\*\*\* (0.06) | -8.42\*\*\* (0.50) | -8.40\*\*\* (1.10) | -32.66\*\*\* (6.58) |
| BMI |  | 0.27\*\*\* (0.02) | 0.27\*\*\* (0.02) | 1.09\*\*\* (0.22) |
| WHR |  |  | -0.03 (1.34) | 27.53\*\*\* (7.39) |
| BMI × WHR |  |  |  | -0.93\*\*\* (0.24) |
| Log Likelihood | -686.66 | -437.21 | -437.21 | -429.87 |
| AIC | 1,375.33 | 878.42 | 880.42 | 867.74 |
| *Note.* N = 1,050. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S36. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 1,049 | 1,373.33 |  |  |  |
| 2 vs. 1 | 1,048 | 874.42 | 1 | 498.91 | < .001 |
| 3 vs. 2 | 1,047 | 874.42 | 1 | 0.001 | .983 |
| 4 vs. 3 | 1,046 | 859.74 | 1 | 14.68 | < .001 |
| 4 vs. 2 | 1,046 | 859.74 | 2 | 14.68 | .001 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

“Do you consider yourself now to be overweight, underweight, or about the right weight?” (coded as 1 = “overweight” and 0 = “about the right weight”; “underweight” responses were excluded from this analysis)

Table S37. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.17\*\* (0.06) | -10.26\*\*\* (0.65) | -10.75\*\*\* (1.23) | -34.02\*\*\* (8.10) |
| BMI |  | 0.38\*\*\* (0.02) | 0.38\*\*\* (0.03) | 1.24\*\*\* (0.30) |
| WHR |  |  | 0.741 (1.58) | 27.32\*\* (9.18) |
| BMI × WHR |  |  |  | -0.98\*\* (0.33) |
| Log Likelihood | -689.615 | -392.223 | -392.112 | -387.977 |
| AIC | 1,381.230 | 788.445 | 790.224 | 783.954 |
| *Note.* N = 1,000. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S38. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 999 | 1,379.23 |  |  |  |
| 2 vs. 1 | 998 | 784.45 | 1 | 594.79 | < .001 |
| 3 vs. 2 | 997 | 784.22 | 1 | 0.22 | .638 |
| 4 vs. 3 | 996 | 775.95 | 1 | 8.27 | .004 |
| 4 vs. 2 | 996 | 775.95 | 2 | 8.49 | .010 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

“Would you like to weigh more, less, or stay about the same?” (coded as 1 = “less” and 0 = “stay about the same”; “more” responses were excluded from this analysis)

Table S39. *Regression results for the four models of* BMI *and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.98\*\*\* (0.07) | -7.35\*\*\* (0.60) | -7.25\*\*\* (1.19) | -27.27\*\*\* (6.93) |
| BMI |  | 0.32\*\*\* (0.02) | 0.32\*\*\* (0.03) | 1.12\*\*\* (0.27) |
| WHR |  |  | -0.16 (1.59) | 22.89\*\* (7.92) |
| BMI × WHR |  |  |  | -0.91\*\* (0.31) |
| Log Likelihood | -570.09 | -394.60 | -394.60 | -390.58 |
| AIC | 1,142.19 | 793.20 | 795.19 | 789.16 |
| *Note.* N = 974. Standard errors in parentheses. AIC = Akaike Information Criterion. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S40. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 973 | 1,140.19 |  |  |  |
| 2 vs. 1 | 972 | 789.20 | 1 | 350.98 | < .001 |
| 3 vs. 2 | 971 | 789.19 | 1 | 0.01 | .922 |
| 4 vs. 3 | 970 | 781.16 | 1 | 8.04 | .005 |
| 4 vs. 2 | 970 | 781.16 | 2 | 8.05 | .018 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

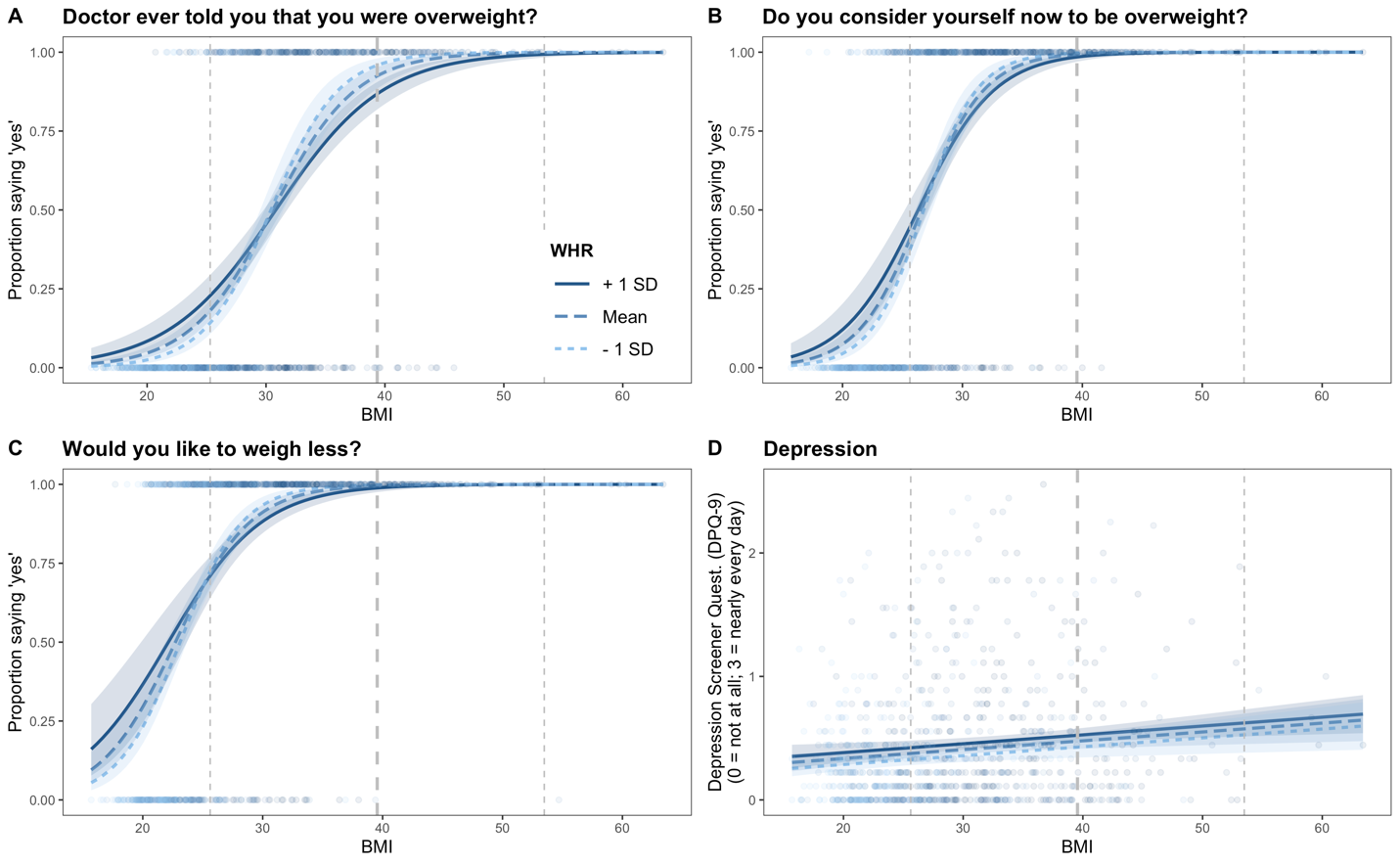
Depression: Depression Screener Questionnaire (DPQ-9) (0 = "not at all," 1 = "several days," 2 = "more than half the days," and 3 = "nearly every day")

Table S41. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.40\*\*\* (0.02) | 0.10 (0.06) | -0.40+ (0.21) | -1.20 (0.84) |
| BMI |  | 0.01\*\*\* (0.002) | 0.01\*\* (0.002) | 0.04 (0.03) |
| WHR |  |  | 0.68\* (0.27) | 1.58 (0.97) |
| BMI × WHR |  |  |  | -0.03 (0.03) |
| R2 | 0.00 | 0.03 | 0.03 | 0.04 |
| Adjusted R2 | 0.00 | 0.03 | 0.03 | 0.03 |
| Res. Std. Error | 0.492 | 0.49 | 0.48 | 0.48 |
| F Statistic |  | 24.65\*\*\*  (*df* = 1; 889) | 15.57\*\*\*  (*df* = 2; 888) | 10.70\*\*\*  (*df* = 3; 887) |
| *Note.* N = 891. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S42. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 890 | 215.48 |  |  |  |
| 2 vs. 1 | 889 | 209.67 | 1 | 5.81 | < .001 |
| 3 vs. 2 | 888 | 208.18 | 1 | 1.49 | .012 |
| 4 vs. 3 | 887 | 207.96 | 1 | 0.22 | .332 |
| 4 vs. 2 | 887 | 207.96 | 2 | 1.71 | .026 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |



**Figure S3.** Study 1 logistic and linear regressions displaying, as a function of BMI and WHR, (A) women’s self-reports of how healthcare professionals perceive their weight, (B-C) women’s perceptions of their own weight, and (D) self-reported frequency of depression symptoms. Vertical dotted lines mark fat percentage at the mean and at ±1SD. The shaded areas around each regression line mark the 95% CIs.

**6. Study 2 re-analysis using body-mass-index (BMI) instead of fat percentage**

As before, the fit of four hierarchical statistical models were sequentially compared for each dependent variable using log-likelihood tests: (1) the null model (DV ~ 1), (2) the main effect of BMI (DV ~ BMI), (3) the main effects of BMI and WHR (DV ~ BMI + WHR), and (4) the main effects and two-way interaction of BMI and WHR (DV ~ BMI \* WHR). All dependent measures were analyzed using linear models. Tables S43, S45, S47, S49, and S51 display the full model summaries for each of the five social and self-devaluation dependent variables. Tables S44, S46, S48, S50, and S52 display model comparisons for these dependent variables. Figure 3S displays model plots.

Of the four models compared, the model including the main effects and two-way interaction of BMI and WHR (Model 4) showed the best fit for two of the three self-devaluation dependent variables: self-reported physical attractiveness and self-esteem. The model including the main effects of BMI and WHR only (Model 3) showed the best fit for the remaining self-devaluation dependent variable: body image satisfaction. The model including the main effect of BMI only (Model 2) showed the best fit for the two social devaluation dependent variables: perceived weight discrimination and weight stigma concerns.

The above patterns of findings did not extend to broader mental health and well-being outcomes (life satisfaction, depression, and anxiety), however. Neither BMI by itself (Model 2), the main effects of BMI and WHR (Model 3), nor the main effects and their interaction (Model 4) predicted any of these outcomes better than the null model (Model 1). See Tables S53-S58 for full model summaries and model comparisons. See Figure S4 and S5 for regression plots of the mental health and well-being dependent measures.

Self-reported physical attractiveness: “How physically attractive are you, compared to the average same-sex individual of your approximate age?” (0 = Much less attractive than average, 50 = About average, 100 = Much more attractive than average)

Table S43. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 57.06\*\*\* (1.33) | 72.51\*\*\* (6.30) | 136.26\*\*\* (18.47) | -94.99 (75.67) |
| BMI |  | -0.66\* (0.26) | -0.32 (0.27) | 9.28\*\* (3.06) |
| WHR |  |  | -84.31\*\*\* (23.05) | 179.04\* (86.67) |
| BMI × WHR |  |  |  | -10.87\*\* (3.45) |
| R2 | 0.00 | 0.03 | 0.09 | 0.13 |
| Adjusted R2 | 0.00 | 0.02 | 0.08 | 0.11 |
| Res. Std. Error | 19.46 | 19.22 | 18.69 | 18.31 |
| F Statistic |  | 6.30\*  (*df* = 1; 213) | 10.02\*\*\*  (*df* = 2; 212) | 10.26\*\*\*  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S44. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 81,045.33 |  |  |  |
| 2 vs. 1 | 213 | 78,718.84 | 1 | 2,326.49 | .008 |
| 3 vs. 2 | 212 | 74,044.51 | 1 | 4,674.33 | < .001 |
| 4 vs. 3 | 211 | 70,724.56 | 1 | 3,319.95 | .002 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Body image satisfaction: 6-item Body Image States Scale (BISS) (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). BISS includes items such as "Right now I feel \_\_\_\_\_ with my body size and shape" (1 = Extremely Dissatisfied, to 9 = Extremely Satisfied) and "Right now I feel that I look \_\_\_\_\_ than the average person looks" (1 = A great deal better, to 9 = A great deal worse).

Table S45. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 5.11\*\*\* (0.10) | 6.80\*\*\* (0.49) | 9.53\*\*\* (1.46) | 3.32 (6.12) |
| BMI |  | -0.07\*\*\* (0.02) | -0.06\*\* (0.02) | 0.20 (0.25) |
| WHR |  |  | -3.62\* (1.83) | 3.45 (7.01) |
| BMI × WHR |  |  |  | -0.29 (0.28) |
| R2 | 0.00 | 0.06 | 0.07 | 0.08 |
| Adjusted R2 | 0.00 | 0.05 | 0.06 | 0.06 |
| Res. Std. Error | 1.53 | 1.49 | 1.48 | 1.48 |
| F Statistic |  | 12.44\*\*\*  (*df* = 1; 213) | 8.27\*\*\*  (*df* = 2; 212) | 5.88\*\*\*  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S46. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 501.20 |  |  |  |
| 2 vs. 1 | 213 | 473.55 | 1 | 27.65 | < .001 |
| 3 vs. 2 | 212 | 464.92 | 1 | 8.63 | .047 |
| 4 vs. 3 | 211 | 462.53 | 1 | 2.40 | .296 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Self-esteem: “I have high self-esteem” (1 = Not very true of me, 5 = Very true of me; Robins, Hendin, & Trzesniewski, 2001).

Table S47. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 3.27\*\*\* (0.07) | 3.38\*\*\* (0.32) | 4.84\*\*\* (0.95) | -4.42 (3.95) |
| BMI |  | -0.005 (0.01) | 0.003 (0.01) | 0.39\* (0.16) |
| WHR |  |  | -1.94 (1.19) | 8.61+ (4.52) |
| BMI × WHR |  |  |  | -0.44\* (0.18) |
| R2 | 0.00 | 0.001 | 0.01 | 0.04 |
| Adjusted R2 | 0.00 | -0.004 | 0.004 | 0.03 |
| Res. Std. Error | 0.97 | 0.97 | 0.97 | 0.96 |
| F Statistic |  | 0.12  (df = 1; 213) | 1.38  (df = 2; 212) | 2.89\*  (df = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S48. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 200.35 |  |  |  |
| 2 vs. 1 | 213 | 200.24 | 1 | 0.11 | .728 |
| 3 vs. 2 | 212 | 197.78 | 1 | 2.47 | .100 |
| 4 vs. 3 | 211 | 192.45 | 1 | 5.32 | .016 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Perceived Weight Discrimination (PWD) scale (Hunger & Major, 2016). On the PWD scale, respondents were asked "In the past 12 months, how often have you been discriminated against because of your weight?", and it included items such as "How often have people acted as if they are better than you because of your weight?" and "How often have you been teased or harassed because of your weight?" (1 = Never, to 5 = All the time).

Table S49. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.39\*\*\* (0.04) | -0.73\*\*\* (0.20) | -0.68 (0.60) | 1.74 (2.48) |
| BMI |  | 0.05\*\*\* (0.01) | 0.05\*\*\* (0.01) | -0.05 (0.10) |
| WHR |  |  | -0.06 (0.75) | -2.81 (2.83) |
| BMI × WHR |  |  |  | 0.11 (0.11) |
| R2 | 0.00 | 0.14 | 0.14 | 0.15 |
| Adjusted R2 | 0.00 | 0.14 | 0.13 | 0.13 |
| Res. Std. Error | 0.63 | 0.59 | 0.59 | 0.59 |
| F Statistic |  | 33.13\*\*\*  (*df* = 1; 199) | 16.48\*\*\*  (*df* = 2; 198) | 11.33\*\*\*  (*df* = 3; 197) |
| *Note.* N = 201. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S50. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 200 | 79.98 |  |  |  |
| 2 vs. 1 | 199 | 68.57 | 1 | 11.41 | < .001 |
| 3 vs. 2 | 198 | 68.56 | 1 | 0.002 | .936 |
| 4 vs. 3 | 197 | 68.21 | 1 | 0.35 | .314 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Weight Stigma Concerns (WSC) scale (Hunger & Major, 2016). The WSC scale included items such as "I am concerned that other people’s opinion of me will be based on my weight" and "I am afraid that other people will reject me because of my weight” (1 = Strongly disagree, to 7 = Strongly agree)

Table S51. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 1.47\*\*\* (0.11) | -1.35\*\* (0.51) | -3.82\* (1.53) | -3.23 (6.33) |
| BMI |  | 0.12\*\*\* (0.02) | 0.11\*\*\* (0.02) | 0.08 (0.25) |
| WHR |  |  | 3.25+ (1.91) | 2.59 (7.23) |
| BMI × WHR |  |  |  | 0.03 (0.29) |
| R2 | 0.00 | 0.14 | 0.15 | 0.15 |
| Adjusted R2 | 0.00 | 0.13 | 0.14 | 0.14 |
| Res. Std. Error | 1.62 | 1.50 | 1.50 | 1.50 |
| F Statistic |  | 32.08\*\*\*  (df = 1; 199) | 17.64\*\*\*  (df = 2; 198) | 11.71\*\*\*  (df = 3; 197) |
| *Note.* N = 201. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S52. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 200 | 523.29 |  |  |  |
| 2 vs. 1 | 199 | 450.65 | 1 | 72.64 | < .001 |
| 3 vs. 2 | 198 | 444.14 | 1 | 6.51 | .089 |
| 4 vs. 3 | 197 | 444.12 | 1 | 0.02 | .924 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

5-item Satisfaction With Life (SWL) scale (Diener, Emmons, Larsen, & Griffin, 1985). The SWL scale includes items such as "In my ways my life is close to my ideal" and "I am satisfied with my life" (1 = Strongly disagree, to 7 = Strongly agree).

Table S53. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 4.69\*\*\* (0.09) | 4.58\*\*\* (0.42) | 4.50\*\*\* (1.27) | -2.64 (5.22) |
| BMI |  | 0.005 (0.02) | 0.004 (0.02) | 0.30 (0.21) |
| WHR |  |  | 0.10 (1.58) | 8.22 (5.97) |
| BMI × WHR |  |  |  | -0.33 (0.24) |
| R2 | 0.00 | 0.0004 | 0.0004 | 0.01 |
| Adjusted R2 | 0.00 | -0.005 | -0.01 | -0.005 |
| Res. Std. Error | 1.24 | 1.24 | 1.24 | 1.24 |
| F Statistic |  | 0.07  (df = 1; 198) | 0.04  (df = 2; 197) | 0.69  (df = 3; 196) |
| *Note.* N = 200. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S54. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 199 | 304.04 |  |  |  |
| 2 vs. 1 | 198 | 303.93 | 1 | 0.11 | .790 |
| 3 vs. 2 | 197 | 303.93 | 1 | 0.01 | .949 |
| 4 vs. 3 | 196 | 300.87 | 1 | 3.05 | .158 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

Depression: subscales of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983). "During the past 7 days, how much were you distressed by \_\_\_\_\_" with the 6-item depression subscale showing items like "feeling lonely" and "feeling no interest in things" (0 = Not at all, to 4 = Extremely)

Table S55. *Regression results for the four models of BMI and WHR.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 1.09\*\*\* (0.06) | 1.26\*\*\* (0.30) | 0.82 (0.91) | 2.71 (3.79) |
| BMI |  | -0.01 (0.01) | -0.01 (0.01) | -0.09 (0.15) |
| WHR |  |  | 0.58 (1.13) | -1.57 (4.34) |
| BMI × WHR |  |  |  | 0.09 (0.17) |
| R2 | 0.00 | 0.002 | 0.003 | 0.004 |
| Adjusted R2 | 0.00 | -0.003 | -0.01 | -0.01 |
| Res. Std. Error | 0.91 | 0.91 | 0.92 | 0.92 |
| F Statistic |  | 0.33  (*df* = 1; 213) | 0.30  (*df* = 2; 212) | 0.28  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S56. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 178.34 |  |  |  |
| 2 vs. 1 | 213 | 178.06 | 1 | 0.28 | .565 |
| 3 vs. 2 | 212 | 177.84 | 1 | 0.22 | .610 |
| 4 vs. 3 | 211 | 177.62 | 1 | 0.22 | .608 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |

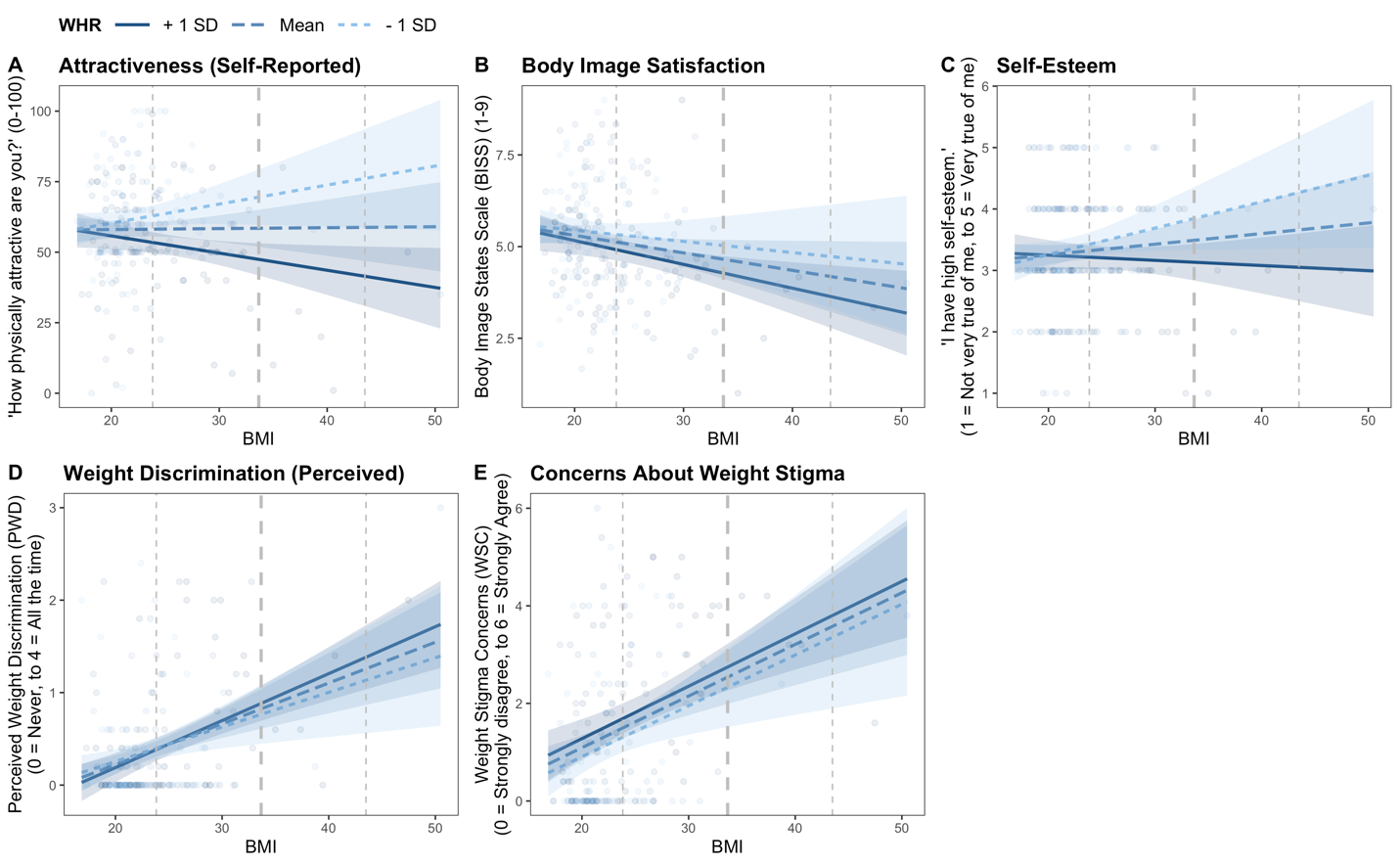
Anxiety: subscales of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983).  "During the past 7 days, how much were you distressed by \_\_\_\_\_" with the 6-item anxiety subscale showing items like "nervousness or shakiness inside" and "feeling tense or keyed up" (0 = Not at all, to 4 = Extremely)

Table S57. *Regression results for the four models of BMI and WHR.*

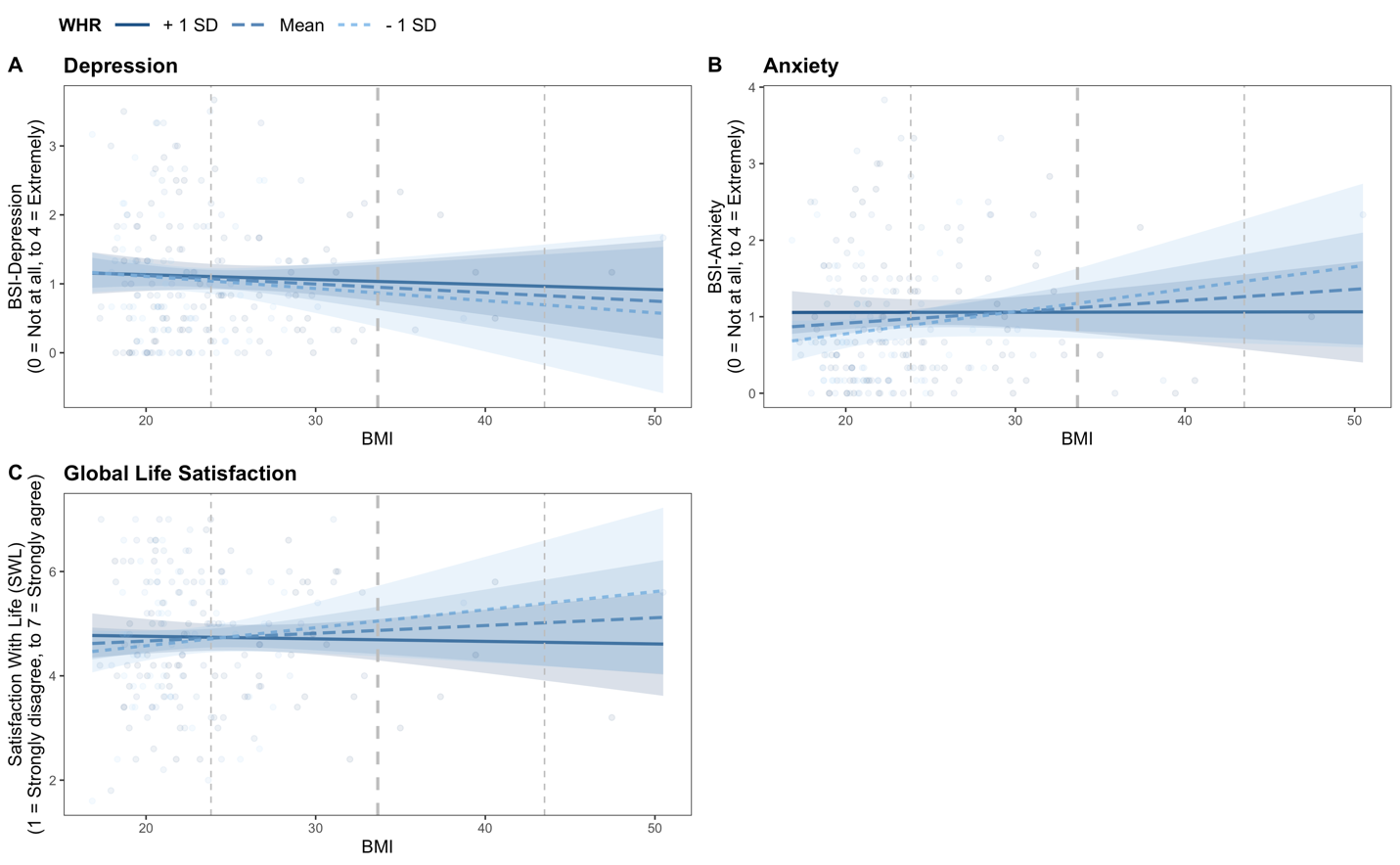
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| Intercept | 0.94\*\*\* (0.06) | 0.66\* (0.28) | -0.35 (0.84) | -5.58 (3.51) |
| BMI |  | 0.01 (0.01) | 0.01 (0.01) | 0.22 (0.14) |
| WHR |  |  | 1.33 (1.05) | 7.29+ (4.02) |
| BMI × WHR |  |  |  | -0.25 (0.16) |
| R2 | 0.00 | 0.01 | 0.01 | 0.02 |
| Adjusted R2 | 0.00 | 0.0005 | 0.003 | 0.01 |
| Res. Std. Error | 0.85 | 0.85 | 0.85 | 0.85 |
| F Statistic |  | 1.10  (*df* = 1; 213) | 1.36  (*df* = 2; 212) | 1.70  (*df* = 3; 211) |
| *Note.* N = 215. Standard errors in parentheses. Res. Std. Error = Residual Standard Error. + *p* < 0.1; ⋆ *p* < 0.05; ⋆⋆ *p* < 0.01; ⋆⋆⋆ *p* < 0.001 | | | | |

Table S58. *Log-likelihood tests for the fit of the four hierarchical statistical models.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Comparisons | Res.Df | RSS | Df | Sum of Sq | Pr (> Chi) |
| 1 | 214 | 155.72 |  |  |  |
| 2 vs. 1 | 213 | 154.91 | 1 | 0.80 | .291 |
| 3 vs. 2 | 212 | 153.74 | 1 | 1.17 | .202 |
| 4 vs. 3 | 211 | 152.05 | 1 | 1.70 | .125 |
| *Note.* Model 1 = DV ~ 1; Model 2 = DV ~ BMI; Model 3 = DV ~ BMI + WHR; Model 4 = DV ~ BMI + WHR. Res.Df = Residual Degrees of Freedom; RSS = Residual Sum of Squares; Df = Degrees of Freedom; Sum of Sq = Sum of Squares; Chi = Chi-Square Test. | | | | | |



**Figure S4.** Study 2 linear regressions displaying, as a function of BMI, WHR, and their interaction, (A-C) estimates of women’s self-devaluation (self-reported physical attractiveness, body image satisfaction, and self-esteem) and (D-E) perceived social devaluation (perceived discrimination and concerns about weight stigma). Vertical dotted lines mark fat percentage at the mean and at ±1*SD*. The shaded areas around each regression line mark the 95% CIs.



**Figure S5.** Study 2 linear regressions displaying, as a function of BMI, WHR, and their interaction, estimates of women’s well-being (life satisfaction; A) and mental health (depression and anxiety; B-C). Vertical dotted lines mark fat percentage at the mean and at ±1*SD*. The shaded areas around each regression line mark the 95% CIs.