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HAL Authorization

1 **Body weight perceptions and obesity in working African women**

2 **Body weight perceptions and obesity amongst university employed South African women**

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13

14 **Conflict of Interest**

15 No conflicts of interest to report.

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22 **Abstract**

23 In South Africa, black populations, especially women, can be exposed to obesity through a social
24 and traditional appreciation for overweight. This cross-sectional study investigated the
25 association of body weight perception with body mass index (BMI) in African women (n=132,
26 mean age of 40 ± 10.1 years) employed at a rural South African university. The Figure Rating
27 Scale, an international and validated body image scale, was used to determine participants 'feel'
28 and 'ideal' body sizes. The 'feel' minus 'ideal' index (FID), the perceived minus the actual
29 weight status (PAD) and the social valorization of stoutness index were calculated using the
30 chosen body silhouettes. On average, women who were obese (54.5%) were likely to choose
31 higher 'feel' (7.35 vs 5.2, $p < 0.0001$) and higher 'ideal' silhouettes (5.13 vs 4.25, $p < 0.0001$) than
32 the women who were lean. The average FID score was significantly higher and positive in the
33 women who were obese than in women who were lean. The PAD score was negative in both
34 obese and lean groups but was significantly more negative in the former ($p < 0.0001$), indicating a
35 higher tendency to underestimate body weight in the obese. Social valorization of stoutness and
36 age were positively associated with BMI in a multiple linear regression model ($p < 0.001$).
37 Although the findings demonstrated a high presence of body size dissatisfaction in obese women,
38 the persistent traditional valorization of stoutness was a determinant of higher BMI values,
39 necessitating tailored public health interventions at workplace to prevent cultural norms
40 favouring the development of obesity in South African women.

41 **Keywords:** body weight perceptions, obesity, rural, South Africa, women.

42

43

44 **Introduction**

45 Obesity is a disease or morphology that exposes vulnerable population to cardiometabolic
46 diseases as well as a pandemic that does not seem to be dissipating. Body mass index (BMI) is
47 used widely in epidemiological studies to estimate the presence of obesity. Recent evidence
48 confirms the varying influence of obesity in different geographical locations, with a trend toward
49 plateauing in affluent countries and a high likelihood of continued upward trend in emerging
50 nations (NCD Risk Factor Collaboration (NCD-RisC) – Africa Working Group 2017, NCD Risk
51 Factor Collaboration (NCD-RisC) 2016). These data also show that poor women living in rural
52 regions in sub-Saharan African (SSA) countries are particularly vulnerable, such as observed in
53 Malawi recently, because the urbanization process (e.g. development of processed energy-dense
54 foods) also includes rural areas (Price et al. 2018). This is particularly the true in South Africa, a
55 middle-income country showing the highest rural and urban prevalence of obesity in SSA region,
56 especially in women. (NCD Risk Factor Collaboration (NCD-RisC) – Africa Working Group
57 2017, van Zyl et al. 2012).

58

59 Evidence has demonstrated that body weight perception has a role in the development of obesity
60 risk in African populations, especially among African women (Gradidge et al. 2015, Cohen,
61 Gradidge, Micklesfield, et al. 2019). Body weight perception can be measured as a proxy of
62 body weight dissatisfaction by the discrepancy between one's perceived versus ideal body size
63 using body image scales (Williamson et al. 1993). In general, it is an exercise in considering the
64 self-perceived attitude towards the body weight and size, in order to develop tailored
65 interventions aiming to prevent obesity complications associated with a distorted body image
66 perception (Puoane et al. 2005, Holdsworth et al. 2004). Earlier studies in South Africa using

67 body image scales to determine body weight perception showed that black African females,
68 either normal weight, overweight or obese, wanted to gain weight or underestimated their body
69 weight, which could increase the risk of obesity (Puoane et al. 2013). These studies suggested
70 that poor health outcomes such as obesity could be a consequence of negative body image
71 perception (Mciza et al. 2005, Sonnevile et al. 2012). The misperception of body weight could
72 also result in behaviors associated with increased obesity risk such as physical inactivity, tobacco
73 smoking and poor dietary behavior (Mchiza et al. 2015).

74

75 Traditionally a larger body weight has been favored more by black South African women,
76 perceived as a symbol of peaceful life, health, wealth and respect (Chesler 1961, Mvo, Dick, and
77 Steyn 1999, Puoane et al. 2005), whereas being lean is considered to be weak, and linked with
78 scarcity and chronic infectious diseases (Matoti–Mvalo and Puoane 2011). This concept is known
79 as the social valorization of stoutness (at least overweight), and appears to be associated with
80 higher risk of obesity amongst African populations (Cohen, Gradidge, Ndao, et al. 2019, Cohen
81 et al. 2013). Indeed, the misperception of unhealthy body weight can influence the risk of
82 overweight and obesity, particularly in obesogenic, urbanized environments where the
83 accessibility to high-calorie food and the development of advancing transport systems exist
84 (Leontiadis and Howden 2010).

85

86 More recent studies have shown that the body image perception concepts are shifting in both
87 adolescent and adult female populations through the influence of Western acculturation in urban
88 South Africa (Gitau et al. 2014b, Gradidge et al. 2015), with an emerging expansion of this

89 phenomenon into rural areas (Prioreshi et al, 2017). Self-perception of body image seems to
90 shifting towards favoring thinner body size among South African adolescent females (Gitau et al.
91 2014a), while in adult South African women, and particularly among obese women, body image
92 constructs are more complex (Cohen et al, 2019), as observed in other African countries (Cohen,
93 Gradidge, Ndao, et al. 2019). A longitudinal study has observed that self-perception of South
94 African urban women could fall into a range of three possible body image constructs; those who
95 are content with body size, those who are dissatisfied with body size and those who desire larger
96 body sizes (Gradidge et al. 2015). Importantly, these studies suggest the existence of complex
97 contemporary paradigms, one where the idea of acculturation towards Western body ideals in the
98 midst of continued acceptance of large body size in African populations.

99

100 Data on the association between different body image constructs and the nutritional health of
101 African women is limited. Most studies conducted in South Africa used one or two body image
102 dimensions (i.e. body weight dissatisfaction or/and body weight underestimation) to assess
103 potential body image constructs associated with higher BMI, limiting the understanding of the
104 association between body weight perceptions and obesity in the context of a traditional and
105 modern coexistence of body image norms in African populations. Therefore, the overall aim of
106 this study was to determine constructs of body weight perception between obese and non-obese
107 African rural women at their work place, using three body image dimensions/indices: body
108 weight dissatisfaction, body weight self-estimation and social valorization of stoutness, in order
109 to determine the association of these measures, coupled with several sociodemographic variables,
110 with BMI. This in-depth investigation on body image can better characterize in the context of
111 urbanization and modernization of South Africa the role of body weight perceptions as a risk

112 factor for overweight and obesity among black women, and support workplace interventions
113 aiming to prevent obesity in this population.

114

115 **Methods**

116 **Study population**

117 This cross-sectional study was conducted at the University of Venda, an academic institution
118 based in the Limpopo province of South Africa. The staff members of the university were
119 initially informed about the study via email and with the assistance of the human resources
120 department and were recruited at a meeting held to inform the staff about the procedures of the
121 study. The eligibility criteria included: aged 18-65 years, working at the University of Venda
122 (full- or part-time), female, no current pregnancy, non-smoker. A total of 394 women at the
123 university were potentially eligible; 132 of these women agreed to participate and provided
124 written consent. The required sample size of 118 is based on data from previous research on body
125 size dissatisfaction in adult African women (Gradidge et al. 2015), with a power of 80% at 0.05.
126 The actual sample size of 132 is above the target sample number. Participants were informed that
127 participation in the study was voluntary, and besides ensuring confidentiality, the researchers
128 assured participants that usual academic activities would not be hampered. The ethics committee
129 of the University of the Witwatersrand granted permission for the study (ethics certificate
130 number: M160518), and the management of the University of Venda granted access to engage
131 with the staff members.

132

133

134 **Anthropometry**

135 Standing height (PHR, USA) and weight (Seca, Hamburg, Germany) were measured to the
136 closest 0.1 cm and 0.01 kg, respectively, using the protocol of the American College of Sports
137 Medicine. Waist circumference was measured using a measuring tape at the narrowest truncal
138 region, with participants standing upright, arms relaxed and feet together (American College of
139 Sports Medicine 2018). Hip circumference was measured in a similar manner around the widest
140 gluteal region. BMI in kg/m^2 and waist-to-height ratios were calculated.

141

142 **Physical activity and socioeconomic status**

143 Self-reported physical activity measures were determined using a validated instrument to
144 determine total moderate-vigorous physical activity (MVPA) and sitting time (Bull, Maslin, and
145 Armstrong 2009). Socioeconomic status (SES) was determined using a household asset
146 questionnaire (Griffiths et al. 2008). The questionnaire elicited ownership of eleven assets
147 ranked in order of value from the lowest to highest value. These assets included radio (coded as
148 '1', computer (coded as '2'), refrigerator (coded as '3'), washing machine (coded as '4'),
149 television (TV) (coded as '5'), telephone (coded as '6'), mobile phone (coded as '7'), monthly
150 internet subscription (coded as '8'), electricity (coded as '9'), satellite TV (coded as '10'), and
151 motor vehicle (coded as '11'). An SES score was calculated by summing the scores from the
152 respective items, with possible scores ranging '0' to '66'. The SES scores were then stratified
153 into low SES (SES score: 0 to 38), moderate SES (SES score: 39 to 51) and high SES (SES
154 score: ≥ 52).

155

156 **Body weight perception**

157 The use of body image scales (silhouettes or pictorial body image models) to assess multiple
158 dimensions on body weight perceptions in black South African women has been validated and
159 accepted for use in epidemiologic studies (Mciza et al. 2005, Mchiza, Goedecke, and Lambert
160 2011). On the Figure rating Scale (FRS) developed and validated by Stunkard et al. (1983),
161 participants were asked to select body silhouettes that best matched their current (or ‘feel’) and
162 ideal body weight perceptions. The silhouettes were coded from 1 to 9, according to body size.
163 Codes 1 and 2 represented underweight category, codes 3 and 4 represented normal weight
164 category, codes 5 and 6 represented the overweight category and codes 7-9 represented the obese
165 category. To assess the body weight dissatisfaction of participants, the ‘feel’ minus the ‘ideal’
166 score (FID) was calculated, with positive scores denoting a desire to be leaner, zero showing
167 contentment, and negative scores indicating a desire to be fatter (Gradidge et al. 2015). For
168 example, if a participant chose a ‘feel’ silhouette coded as 5 and an ideal silhouette coded as 4,
169 then the FID score would be -1. Possible scores would therefore depend on the silhouettes,
170 chosen respectively.

171

172 The perceived (using the recoded ‘feel’ body weight silhouettes) minus the actual weight status
173 (using BMI categories, underweight=1, normal weight=2, overweight=3, and obese=4)
174 discrepancy index or perceived minus the actual weight status (PAD) was determined to assess
175 the body weight self-estimation of participants (Gradidge et al. 2015). The ‘feel’ silhouettes were
176 recoded according to the corresponding BMI category, i.e. codes 1-2 were recoded as ‘1’, codes
177 3-4 were recoded as ‘2’, codes 5-6 were recoded as ‘3’ and codes 7-9 were recoded as ‘4’. The
178 scores for PAD represent a measure of accuracy for perceiving actual weight, with positive scores

179 representing overestimation, negative scores underestimation and zero correct perception of body
180 weight.

181 In addition, a dummy variable for the social valorization of stoutness of participants (a desire to
182 be at least overweight) (Cohen et al. 2013) was created using body image silhouettes with a score
183 ≥ 5 to represent preference for the overweight and obese ‘ideal’ body image silhouettes (Matoti–
184 Mvalo and Puoane 2011).

185

186 **Statistical analysis**

187 The Statistica software package was used for all statistical analyses (version 13.2, TIBCO
188 Software Inc, Palo Alto, CA, USA). Normally distributed continuous data were presented as
189 mean \pm SD, while skewed data is presented as median (interquartile range [IQR]). Independent t-
190 tests were used to determine the differences between obese and non-obese participants. Analysis
191 of variance with Tukey post hoc tests were used to compare variables between the three FID and
192 PAD groups. Bivariate analysis was conducted between BMI and age, SES, FID >0 , FID <0 ,
193 PAD >0 , PAD <0 and social valorization of stoutness.

194 A multiple linear regression analysis was conducted to determine whether social valorization of
195 stoutness was associated with BMI. The model included scientifically plausible independent
196 variables that had a p-value $<.20$ from the bivariate analysis: SES, sitting time and social
197 valorization of stoutness as independent variables. Age was included as a confounding variable in
198 the regression model as studies have observed that BMI increases with age in African women
199 (Gradidge et al. 2014, Gradidge et al. 2015), with. The strength and direction of the association is
200 displayed through standardized beta (β) values. The Variance Inflation Factor (VIF) was used to

201 check collinearity between the exposure variables, and no collinearity was displayed (VIF range:
202 1.03-1.79). The model fit was assessed using the R-squared, overall F-test, and sum of squares.

203

204 **Results**

205 **Participant characteristics**

206 The mean age of the participants was 40 ± 10.1 years; their mean BMI was 31.5 ± 6.82 kg.m⁻²,
207 and mean waist circumference was 93.8 ± 16.5 cm (Table 1). Participants who were obese
208 (54.5%) were older and had longer work experience than those who were non-obese, however
209 this was due to the positive correlation of age with work experience ($r=0.67$, $p<0.0001$).
210 Regarding the preliminary trends on body weight perceptions assessed by the FRS , the
211 participants who were non-obese chose silhouettes that were significantly lower in score
212 compared with the women who were obese. The mean FID values were positive in both groups;
213 however, the obese group had significantly higher FID values than the women who were non-
214 obese.

215

216 **Body weight dissatisfaction**

217 Most of the participants ($n=109$, 82.6%) had a desire to be leaner (FID scores >0) (Fig. 1). The
218 remainder of the participants wanted to be fatter ($n=14$, 10.6%) while 6.8% ($n=9$) of the
219 participants were content with their body weight (FID score = 0). Moreover, 69% of the
220 participants who showed a desire to lower their body weight were obese compared with 36.7%
221 who were non-obese. In a bivariate analysis $FID<0$ was inversely associated with BMI ($\beta=-0.50$,

222 $p < 0.0001$), while $FID > 0$ was positively correlated with BMI ($\beta = 0.56$, $p < 0.0001$). Age was
223 significantly correlated with BMI ($r = 0.50$, $p < 0.0001$). Moderate SES was inversely correlated
224 with BMI ($\beta = -0.16$, $p = 0.06$), while high SES was positively correlated with BMI ($\beta = 0.16$,
225 $p = 0.07$).

226

227 **Body weight self-estimation**

228 Both the obese and non-obese groups showed a tendency to underestimate body weight ($PAD < 0$),
229 but the obese group demonstrated higher negative values for PAD than the non-obese ($p < 0.0001$)
230 (Table 1). The majority of the sample ($n = 84$, 63.6%) were able to correctly perceive their actual
231 body weight according to their BMI (Fig. 1). In addition, most of these participants were obese
232 ($n = 62$, 73.8%) compared with 26.2% ($n = 22$) that were lean.

233

234 **Social valorization of stoutness**

235 A majority of the sample (58.3%) demonstrated a social valorization of stoutness. Social
236 valorization of stoutness was significantly positively associated with BMI ($p < 0.001$), accounting
237 for 30% of the BMI variance in a multiple linear regression including age, sitting time and SES
238 as predictors of BMI (Table 2). In a bivariate analysis, we also observed a non-significant trend
239 for those in the lowest tertile of age (participants aged 23-34 years) to have lower social
240 valorization of stoutness compared to the older participants ($\beta = -0.16$, $p = 0.07$). BMI was
241 negatively correlated with $PAD < 0$ ($\beta = -0.44$, $p < 0.0001$), however $PAD > 0$ was not associated with
242 BMI in a bivariate analysis.

243

244

245 **Discussion**

246 In this study of mostly middle-aged employed South African women, a high prevalence of
247 obesity was observed. Comparisons were made between obese and non-obese African women,
248 and between women who correctly and incorrectly perceived their body weight. Two groups of
249 obese African women were observed, those who wanted to be leaner, and the others who were
250 content with their body size; most of the obese women correctly perceiving actual body weight,
251 while a smaller group underestimated body weight. In comparison, women with BMI values in
252 the normal range (BMI <25 kg.m⁻²) mostly desired thinness, while 50% overestimated body
253 weight status. In addition, increasing age and higher social valorization of stoutness were
254 correlated with higher BMI in a regression analysis. These findings confirm (1) previous African
255 studies confirming acculturation of traditional African body image constructs amidst western
256 ideals beauty, and show that (2) body weight discordance is higher in obese than non-
257 obesewomen indicating persistence of valorization of stoutness as a potential determinant of
258 obesity the potential complexity involved in developing sustainable weight loss interventions in
259 these employed rural South African black women.

260

261 The desire to have a thinner body size among African women is an emerging theme in African
262 literature, with recent data highlighting the acculturation taking place in various sub-Saharan
263 African settings (Cohen, Gradidge, Ndao, et al. 2019, Gradidge et al. 2015). The findings of the
264 present study showed that this study population of mostly obese African women demonstrate

265 three main body image constructs with the majority wanted to be thinner (FID scores > 0), while
266 others desired larger body sizes (FID scores < 0) or were content with existing body size (FID
267 scores = 0) . This finding shows the complexity in body weight constructs, indicating a paradigm
268 shift in the study population, but reflects a broader a shift away from traditional Afrocentric
269 psychocultural processes valuing stoutness. Indeed, the literature in South Africa shows that
270 adolescent African females are experiencing a shift in preference towards a thinner body size
271 (Gitau et al. 2014a). This fundamental change in perception can affect body weight
272 dissatisfaction as indicated by the high FID scores in this study that can be associated with eating
273 disorders (Prioreshi et al, 2017).

274

275 Using the PAD index, it was observed that the scores were significantly different between obese
276 and non-obese women. This study finding therefore supports the hypothesis that an
277 underestimation of actual body weight status is higher in obese African women, and confirms
278 previous evidence suggesting that accurate perception of body weight may influence overall
279 health of African populations (Gradidge et al. 2015). For instance, adult African women with
280 BMI readings in the overweight/obese category ($BMI \geq 25 \text{ kg.m}^{-2}$) can develop eating disorders
281 with resultant co-morbid diseases as observed in adolescent African females (Gitau et al. 2014a).
282 Data suggests that those subjects with higher body dissatisfaction may engage in weight
283 management practices to lower body weight (Mchiza et al. 2015). These can include the physical
284 activity programs to improve cardiovascular health, with recent data showing that the
285 implementation of even small amounts of physical activity can protect against the onset of co-
286 morbid diseases (Kraus et al. 2019). Given the high sitting time of the subjects in our study (~8
287 hours/day) with evidence of body dissatisfaction, urgent intervention in the workplace is

288 required, particularly as the presence of obesity continues to grow in the wider South African
289 context.

290
291 Black African women are particularly vulnerable to obesity-related non-communicable disease in
292 South Africa (Cois and Ehrlich 2014), and this exposure can be exacerbated by a desire for
293 overweight or obesity. Indeed, our findings suggest that the present study population might be at
294 risk of obesity and co-morbid diseases through the high proportion of participants with a social
295 valorization of stoutness. Previous studies of African women in two distinct geographical regions
296 have also observed that the social appreciation for stoutness constitute a determinant of
297 overweight or obesity, as commonly sedentary behaviors and energy-dense diet. Moreover, these
298 studies showed a positive association between this social valorization of stoutness and age
299 (Cohen, Gradidge, Ndao, et al. 2019, Cohen et al. 2013), suggesting also the coexistence of the
300 two paradigms between younger and older African women. Our study also demonstrated this
301 trend, although non-significant, between younger age and lower social valorization of stoutness
302 ($p=0.07$). This raises concern around the poor influence of these body weight perceptions valuing
303 stoutness on the cardiometabolic health of individuals at age range where their exposure to these
304 chronic diseases is the highest (Tang et al, 2013).

305
306 For instance, recent evidence demonstrated that the presence of obesity in African mothers results
307 in a higher desire to lower body weight in their daughters (Cohen, Gradidge, Micklesfield, et al.
308 2019). Other data demonstrates the importance of peer influence on personal body weight change
309 in the workplace, showing that one group of American women of European ancestry dropped

310 body weight from baseline to 12-month follow-up after perceiving peers as thin, while another
311 group increased in body weight from baseline to follow-up after perceiving peers as
312 overweight/obese (Chandler-Laney et al. 2009). These findings require further investigation but
313 indicate the importance of the mother-daughter relationship, which may continue as daughters'
314 transition into employment, and also suggest that collegial relationships at work could influence
315 body weight status and risk of obesity.

316

317 One limitation of this study was that a non-African group of women was not available for
318 comparison of body weight perception. Other potential limitations included the potential for
319 participant bias due to the poor participation rate, which may affect the accuracy and
320 generalizability of the results; the potential for residual confounding; the potential for selection
321 bias due to selecting employees from a single institution, which may have reduced the
322 generalizability of findings; and the potential for reporting and social acceptability bias.
323 However, this study presents valuable information that has bearing on clinical relevance by
324 providing evidence on the understanding of obesity correlates in employed African women.
325 Previous intervention studies demonstrate that workplace intervention can improve employee
326 health. However, these studies are inconsistent and none takes into account body weight
327 perceptions, while our study considered this factor through a global exploration using different
328 body image dimensions to identify the valorization of stoutness as a potential determinant of
329 obesity. Future research should focus on developing sustainable culture- and gender-specific
330 programs, especially at workplace, to better address obesity risk within an African context.

331

332 **Conclusions**

333 The findings of this cross-sectional study has shown that the presence of obesity is high among
334 employed African women, with the obese group of women demonstrating a higher likelihood to
335 desire thinness and underestimate actual body weight compared with lean women. These
336 important findings are reflective of the on-going acculturation towards thinness amidst a growing
337 prevalence of obesity, although a persistent social valorization of stoutness was also observed,
338 associated with higher risk of BMI. Future studies can build on these observations to determine
339 appropriate workplace strategies to address obesity amongst employed African women.

340

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344

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347

348

349 **Author Contributions**

350 Research concept and design: Author 1; Data analysis and interpretation: Author 1, Author 3;
351 Manuscript draft: Author 1; Statistical expertise: Author 1; Acquisition of funding: Author 1;
352 Administrative: Author 1; Supervision: Author 1

353

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355

356

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473 **Table 1: Participant characteristics by obesity status^a**

	All (n=132)	Obese n=72	Non-obese n=60	P-value
Age (years)	40.0 ± 10.1	43.6 ± 9.26	35.7 ± 9.39	<0.0001
BMI^b (kg.m⁻²)	31.5 ± 6.82	36.7 ± 3.99	25.2 ± 3.43	<0.0001
WC^b (cm)	93.8 ± 16.5	105 ± 9.99	79.8 ± 11.0	<0.0001
HC^b (cm)	113 ± 13.8	123 ± 8.26	101 ± 9.31	<0.0001
WHR^b	57.9 ± 10.1	65.2 ± 5.65	49.0 ± 6.45	<0.0001
Feel silhouette score	6.37 ± 1.66	7.35 ± 0.88	5.2 ± 1.63	<0.0001
Ideal silhouette score	4.72 ± 1.30	5.13 ± 1.19	4.25 ± 1.27	<0.0001
FID^b score	1.64 ± 1.65	2.22 ± 1.05	0.95 ± 1.94	<0.0001
PAD^b score	0.11 ± 0.63	-0.58 ± 0.55	-0.05 ± 0.57	<0.0001
SES score	47.3 ± 12.7	48.0 ± 12.3	46.5 ± 13.1	NS
Salary ≥ R15000^c/month (%)	43.2	47.2	38.3	NS
Work experience ≥ 10 years	19.7	26.4	11.7	0.03

(%)				
MVPA^b (minutes/week)	30 (11, 50)	30 (12, 50)	25 (10, 50)	NS
Sitting (minutes/day)	480 (360, 600)	480 (360, 570)	480 (420, 600)	0.03

474 ^aData presented as mean ± SD or median (interquartile range) for continuous data and percent for
475 categorical data

476 ^bBMI=body mass index; WC=waist circumference; HC=hip circumference; WHtR= waist-to-
477 height ratio; FID=feel minus ideal score; PAD=perceived minus actual weight status;
478 SES=socioeconomic status; MVPA=moderate-to-vigorous physical activity

479 ^cEquivalent to approximately \$1020/month

480

481 **Table 2: Multiple linear regression of age, sitting time, SES and body image with BMI**

Category	Parameters	β for association with BMI
Age	Aged 23-34 years [†]	
	Aged 35-42 years	0.39^{***}
	Aged 43-64 years	0.59^{***}
Sitting time	Low sitting time [†]	
	High sitting time	0.01
SES ^a	Low SES [†]	
	Moderate SES	-0.14
	High SES	-0.02

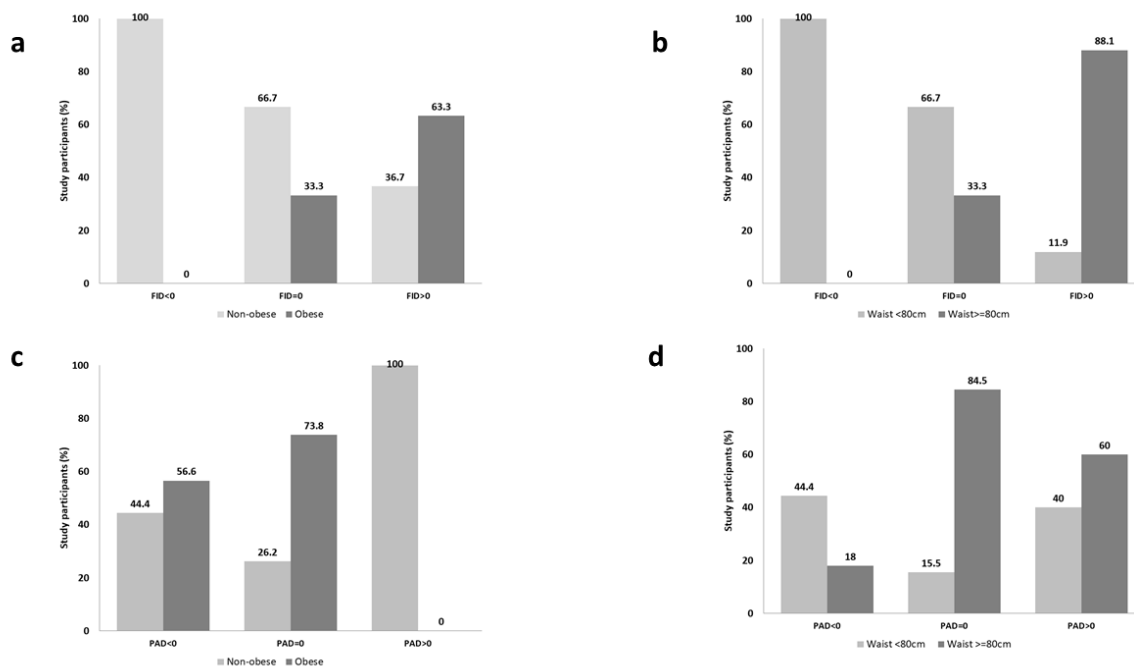
Valorization of stoutness	No valorization [†]	
	Valorization	0.26^{***}
R ²		0.33^{***}

482 ^aLow SES score: 0-38, moderate SES score: 39-51, high SES score: ≥52

483 [†] Reference category

484 p<0.05^{*}; p<0.01^{**}; p<0.001^{***}; BMI: body mass index; SES: socioeconomic status

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487 **Fig.1 Comparison of body weight dissatisfaction (a and c) and body weight perceived-actual**
488 **discrepancy (b and d) in obese and non-obese African women**

489 PAD: perceived minus actual weight status; FID: feel minus ideal score; FID<0 indicates a desire
490 to be fatter, FID>0 indicates a desire to be leaner and FID=0 indicates contentment with body
491 size; PAD<0 indicates underestimation of body weight, PAD>0 indicates overestimation of body
492 weight and PAD=0 indicates accurate perception of body weight.

493