ABSTRACT

Objective: The study compared the level of prejudice against obese individuals (obesity bias) amongst final year health and non-health students, and associated obesity education.

Methods: Cross-sectional online survey of 479 final year students (292 health and 187 non-health) from Griffith University, Australia. Implicit and explicit obesity bias was measured using validated tools, and perceived obesity education ranked from 'None' to 'Excellent'. Data were analysed quantitatively using an Analysis of Variance and Independent sample t-tests. Statistical significance was set at $P<0.05$.

Results: Students' mean age was 26.2±7.6 years and Body Mass Index was 23.2±4.7kg/m^2. Significant levels of obesity bias were exhibited by health and non-health students. Non-health students were more likely to suggest obese individuals lacked willpower. Students' self-reported obesity education varied considerably. Those who reported a higher level of genetics-related obesity education were less likely to believe obese individuals were 'Bad', or show concern about putting on weight.

Conclusions and Implications: Obesity bias exists in health students in Australia and is similar to non-health students' obesity bias levels. Students' self-reported genetics-related obesity education may be associated with obesity bias. Modifications to existing health curricula should be considered to reduce obesity bias amongst future health professionals.

Abstract Word count: 195

Keywords: Obesity, Prejudice, Education, University, health professional

Obesity bias amongst health and non-health students attending an Australian University and their perceived obesity education

INTRODUCTION

Obesity is a significant public health problem and its prevalence is rising.[1] An increased availability of and accessibility to energy dense foods, in conjunction with an increasingly sedentary lifestyle, are the key causes of the problem.[1] In 2011-12, 63% of the Australian population were overweight, including one in four Australians classified as obese.[2]

Overweight and obese individuals experience bias, or unfair prejudice, in everyday society.[3] Obesity bias stems from a cultural emphasis on 'thinness',[4] and a societal belief that an individual's weight is reversible and controllable.[5] These stereotypes are often portrayed in social media, which communicate this behaviour to the watching audience.[6] There are 2 types of obesity bias, explicit bias and implicit bias. Explicit obesity bias can be described as a prejudice against overweight or obese people that is expressed openly and freely.[4] Implicit obesity bias can be described as a prejudice against overweight and obese people that is suggested, but may not be openly communicated.[4]

Health professionals have been shown to possess obesity bias, which is associated with their age, gender, Body Mass Index (BMI), and experience with obese individuals.[7; 8] Obesity bias may result in health professionals perceiving that obese patients are lazy and responsible for their obesity,[8] and that treatment is futile, with less time and effort invested into treating the patient and monitoring treatment goals.[3; 9] In turn, overweight and obese patients may avoid or delay health care due to feeling uncomfortable in the health care environment, receiving negative comments from health professionals, or being embarrassed about their weight.[10; 11; 12] Therefore, high levels of obesity bias in health professionals has the potential to contribute to

47 patients not receiving health care that may assist with weight reduction and reduced risk of
48 chronic disease.

49 Health students are health professionals of the future, and also possess obesity bias.[13; 14]
50 Studies from the USA and UK have investigated methods of reducing obesity bias amongst
51 health students.[15; 16] Education on the genetic and environmental causes of obesity has been
52 shown to reduce implicit obesity bias in health students.[16] Conversely, in the same study,
53 students who were tutored on the more controllable causes of obesity, diet and exercise,
54 showed an increase in implicit bias.[16] The influence of health students' overall obesity
55 education on obesity bias is less studied, as are examinations of obesity bias in comparison to
56 non-health students. It was hypothesised that health students would display less obesity bias
57 than non-health students. In addition, it was also hypothesised that students who perceived
58 receiving more education on the uncontrollable factors of obesity would display less obesity
59 bias. As such, this study aims to investigate the level of obesity bias amongst final year health
60 students across a range of health disciplines in comparison with non-health students. The
61 association between obesity bias and self-reported obesity education was also explored.
62

METHODS

Participants

Participants were final year undergraduate and postgraduate students studying a health degree at a University on the Gold Coast, Australia (Griffith University). Health disciplines included Medicine, Medical Science, Nursing/Midwifery, Pharmacy, Dietetics, Public Health, Exercise Science, Physiotherapy, Dentistry, Psychology, and Human Services/Social Work. Final year students from the University's School of Business were invited to participate in the study as a comparison group. The study protocol was approved by the Griffith University Human Research Ethics Committee (PBH/04/012/HREC).

Data Collection

An online survey was used to collect data on obesity bias, demographics, as well as participants' perceived obesity education. All final year Health and Business students were sent an email in March 2012, which included a description of the study, and a link to the online survey. The study was described as an investigation of students' perception of health, and the description did not include statements related to obesity bias. Participants were able to access the survey at any time within a 7-week period in which the survey remained open.

The online survey was designed with 4 sections; participants' demographics, perceived level of obesity education, explicit obesity bias and implicit obesity bias. The online survey was pilot tested on 6 individuals to ensure clarity of the test instructions. The individuals stated that the questions were clearly interpreted. However, minor amendments were suggested, which were made prior to data collection. These included additional instructions to complete the test as quickly as possible and not to return to previously answered questions.

Demographic characteristics included questions on age, weight and height., Participants were then asked to rank their perceived amount of education in their university degree relating to physical activity, diet, genetic and environmental/social causes of obesity on a 5-point Likert scale (1='None' and 5='Excellent'). Participants were also asked to rank their perceived level of self-education gained through media, peers, and personal reading. Explicit obesity bias was measured using the validated Anti-Fat Attitudes Questionnaire (AFA).[17] Implicit obesity bias was measured using the validated Implicit Association Test (IAT),[18]

Measures

The Implicit Association Test (Implicit Obesity Bias). Paper-based versions of the Implicit Association Tests (IAT) were replicated exactly into an electronic survey tool. Participants were given 20 seconds to classify as many words as possible (e.g. obese, wonderful, terrible, slim), into 2 nominated columns, (e.g. headed either 'Fat'/'Good' or 'Thin'/'Bad'). Headings were then reversed (e.g. 'Fat'/'Bad' and 'Thin'/'Good') and the test repeated in order to identify differences in correct word classifications.

Instructions were initially displayed for each test, with the 20 second time limit started as soon as the participant clicked the 'Next' button on the online survey. The 'Insects/Flowers' IAT test was initially administered to participants as a familiarisation test, before participants were asked to complete both the 'Good/Bad' and 'Lazy/Motivated' IAT tests.

Each IAT test was scored by subtracting the total number of correctly classified words when 'Fat People' was paired with positive attributes ('Good' or 'Motivated'), from the total number of correctly classified words when 'Fat People' was paired with negative attributes ('Bad' or 'Lazy'). Positive scores indicated a level of implicit obesity bias.

The Anti-Fat Attitudes Questionnaire (Explicit Obesity Bias). The Anti-Fat Attitudes Questionnaire consisted of 3 subscales: 'Dislike', 'Fear of Fat' and 'Willpower'. The 'Dislike' subscale assessed the students' explicit antipathy toward fat people, the 'Fear of Fat' subscale assessed students' personal concern about becoming fat, and the 'Willpower' subscale assessed students' belief that being overweight is a matter of personal control or lack thereof.[17] Question 9 was adjusted to read 'kilograms' instead of 'pounds' to reflect the Australian metric system. Questions were answered on a 9-point Likert Scale, '1' being 'Very Strongly Disagree', and '9' being 'Very Strongly Agree'. Scores for each question in each subscale were summed, and divided by the number of questions in the subscale. Scores above 5 (neutral) denote negative explicit obesity bias.[17]. Cronbach alpha indicated good internal reliability on all measures (Dislike α=0.88, Fear of Fat α=0.88, Willpower α=0.72).

Statistical Analysis

Data were analysed using Statistical Package for the Social Sciences data analysis software (SPSS version 19.0, SPSS Inc., Chicago, IL, 2009). The distributions were checked for normality using a Kolmogorov-Sminorv test and all dependent measures were normally distributed. Sample characteristics including age, weight, height and BMI were calculated using descriptive measures. Significant correlations between many of the obesity bias measures and BMI and age were evident. Subsequently, age and BMI were used as covariates when investigating differences between groups. An analysis of covariance (ANCOVA) was used to compare measures of implicit and explicit bias between students in different study areas and with different perceptions of the level of obesity education. Students who completed only 1 of the 2 paired IAT tests had their results omitted for that particular test, as results from both tests were required for analysis (n=23). Additionally, in line with previous research using the IAT,[7; 8; 19] individual IAT tests with less than 4 responses were omitted, because

slow response rates were deemed to indicate a misinterpretation of the test (n=85).[7] These omissions resulted in 70 (15%) 'Good/Bad' and 38 (7%) 'Lazy/Motivated' IAT results being excluded from the data analysis.

RESULTS

Demographics

A total of 292 health and 187 business students completed the online survey between March and April 2012. There were 422 potential health participants, representing a response rate of 69%. There were 1,034 potential business participants, representing a response rate of 18%. The average age and BMI for each health discipline is outlined in Table 1. No demographic differences were found between health and non-health students ($P>.05$).

Implicit Obesity Bias

The Implicit Association Tests (IAT) were completed by 256 health students and 154 non-health students, representing 88% and 82% of participants respectively. For the 'Good/Bad' IAT, students were able to classify on average 7 words when 'Fat' and 'Good' were paired in the same column, and 14 words when 'Fat' and 'Bad' were paired in the same column. For the 'Lazy/Motivated' IAT, students were able to classify on average 9 words when 'Fat' and 'Motivated' were paired in the same column, and 15 words when 'Fat and 'Lazy' were paired in the same column.

The mean scores for each health discipline are displayed in Table 2. Health students had a mean score for the 'Good/Bad' test of 6.6±4.3, and the 'Lazy/Motivated' test of 5.7±3.7. Scores above zero suggest implicit bias, with higher scores indicating higher levels of bias. No differences in either tests were found between health disciplines ($P>.05$). No difference was found in the 'Good/Bad' ($P>.05$) or 'Lazy/Motivated' ($P>.05$) tests between health and non-health students.

Explicit Obesity Bias

The Anti-Fat Attitudes questionnaire (AFA) was completed by 280 health students and 167 non-health students, representing 96% and 89% of participants respectively. Table 3 outlines mean scores for participants on the Anti-Fat Attitudes subscales. No significant differences were found between health and non-health students in any of the three subscales after adjusting for age and BMI ($P>.05$).

Perceived Obesity Education

Survey questions relating to students' perceived obesity education were completed by 283 health students and 152 non-health students, representing 97% of health student participants and 81% of non-health student participants. Students' perceived level of obesity education is outlined in Table 4. The level of obesity education varied considerably in health students, but was consistently rated as none or poor by non-health students. Health students reported more levels of education on diet, exercise and society/environment causes of obesity than non-health students. Both health and non-health students reported similar values for their self-education into the causes of obesity.

Students with an 'Excellent' perceived education into the genetic causes of obesity were found to have less 'Good'/'Bad' implicit bias when compared to 'None' ($P=.000$); 'Poor' ($P=.002$); 'Average' ($P=.010$) and 'Good' ($P=.010$) perceived education. Students with a 'Poor' perceived education into the genetic causes of obesity were found to have a higher explicit 'Fear of Fat' when compared to a perceived 'Average' ($P=.014$) or 'Good' ($P=.017$) education. No other associations where found between any obesity bias measure and perceived education ($P>.05$).

DISCUSSION

The aim of this study was to investigate the level of obesity bias amongst final year health students across a range of health disciplines in comparison with non-health students. In addition, the association between obesity bias and self-reported obesity education was explored. The results indicate that health students exhibit considerable amounts of both implicit and explicit obesity bias, which was similar across health disciplines. Contrary to our hypothesis, implicit and explicit obesity bias results were similar in health and non-health students. Health students' reports of their obesity education varied considerably and as hypothesised the level of self-reported obesity education was associated with some, but not all, obesity bias measures.

Health students in this study exhibited a significant amount of implicit and explicit obesity bias. This result has been found in several other studies examining both health students and health professionals using the same tools as the current study.[3; 13; 14] Interestingly, this study indicated no difference in implicit or explicit obesity bias between health and non-health students. Berryman et al. (2006) have shown that obesity bias is similar in dietetics students compared to an age and sex matched sample of non-allied students at the same university. This suggests that obesity bias could be determined by broader societal and environmental factors such as cultures valuing thinness,[4] or personal experience with obesity,[8] rather than the specific degree program being undertaken.

There are some important limitations to the present study. Percentage response rates differed between health and non-health student populations. Demographic measurements were limited to age, weight and height, which were self reported. Information on gender, race and study campus was not collected in the survey, which limited the analysis of possible covariates on obesity bias. The present study may have also experienced sampling bias. It is acknowledged

that there may have been a bias towards participants who responded to the survey having an interest in obesity. Therefore, a prize draw was included in the study design in order to attract a wider cohort of participants, thus increasing the likelihood that the sample displayed characteristics similar to the health student population. Finally, obesity education was measured in terms of students' perceptions on their education, rather than an accurate empirical measurement of such. Consequently, perceptions varied widely which prevented a reliable association being reported. However, this resulted in an interesting association between students' perceptions and obesity bias being found, and is clearly an area requiring further research.

In conclusion, obesity bias exists in final year health students in Australia. This obesity bias is not different between different health disciplines and is similar to non-health students' obesity bias levels. Students' self-reported levels of obesity education vary considerably and genetics-related obesity education may be associated with reduced obesity bias, however further research in this area is required. Modifications to existing health curricula should be considered to reduce obesity bias amongst future health professionals.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The present study found a reduced level of obesity bias amongst health students in some, but not all obesity bias measures in students with a higher perceived genetics related obesity education. This parallels brief educational intervention studies that have demonstrated that educating health students on the genetic and environmental, or uncontrollable causes of obesity can reduce their levels of obesity bias.[15; 16; 22] Research has also shown that education focusing on the diet and exercise, or controllable causes of obesity had no effect,[15] or actually increased levels of obesity bias amongst health students.[16] Taken together, this suggests that further education with a focus on the genetic or uncontrollable causes of obesity in health professional training programs may be required to reduce obesity bias in health students.

The majority of measures in the present study found no difference in obesity bias between health and non-health students, even though it would be assumed that the level of genetics related obesity education would vary significantly in different degree programs. The use of self-report information from students about the level of obesity education is a limitation of the current study and it is possible that this measure does not accurately reflect the actual amount of genetics related obesity education received. Clearly, future research in this area is required before any specific changes to health curriculum can be recommended, however further education with a focus on uncontrollable causes of obesity may be required to reduce obesity bias in health students.

An interesting finding in this study was the variation in how students perceived their obesity education, which was apparent across all health and non-health study areas, and all areas of obesity education. No clear indication of students' perceptions of their education was evident, which has implications for the interpretation of the results presented in this study. The wide

variation in perceived obesity education could be explained by a real variance in students' education, such as differing elective subjects, inter-university student transfers, or missed lectures. However, the consistent variation in answers by students within every health discipline is more likely to be a function of students' differing perceptions, which are subjective. The implications of this variation are unclear at this stage, but the perception of obesity education received by health students clearly has the potential to influence the amount of obesity bias in these students as they are approaching graduation.

Obesity bias exists amongst future health practitioners in Australia. This has the potential to affect their expectations, treatment and management of obese patients. Education pertaining to the uncontrollable causes of obesity such as genetics may reduce obesity bias in health students. However there is a need for further research on specific curriculum strategies that can address obesity bias amongst future health practitioners.

REFERENCES

1. World Health Organization. Obesity and Overweight. http://www.who.int/mediacentre/factsheets/fs311/en/index.html. Accessed 29th August 2011

2. Australian Bureau of Statistics. Australian Health Survey: First Results 2011-12, Overweight and Obesity. http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/034947E844F25207CA257AA30014BDC7?opendocument. Accessed 21st July 2013

3. Puhl, RM, & Heuer, CA. (2009). The Stigma of Obesity: A Review and Update. *Obesity, 17*, 941-964.

4. Adams, LG. (2008). *Weight Bias among Counselors-in-training: A Qualitative Inquiry.* Unpublished Thesis, Auburn University.

5. Puhl, RM, & Brownell, KD. (2003). Psychosocial origins of obesity stigma: toward changing a powerful and pervasive bias. *Obes Rev, 4*, 213-227.

6. Greenberg, B, Eastin, M, Hofschire, L, Lachlan, K, & Brownell, KD. (2003). Portrayals of overweight and obese individuals on commercial television. *Am J Public Health, 93*, 1342-1349.

7. Teachman, BA, & Brownell, KD. (2001). Implicit anti-fat bias among health professionals: is anyone immune? *Int J Obesity, 25*, 1525-1525-1531.

8. Schwartz, MB, Chambliss, HO, Brownell, KD, Blair, SN, & Billington, C. (2003). Weight Bias among Health Professionals Specialising in Obesity. *Obes Res, 11*, 1033-1039.

9. Foster, GD, Wadden, TA, Makris, AP, Davidson, D, Sanderson, RS, Allison, DB, et al. (2003). Primary care physicians' attitudes about obesity and its treatment. *Obes Res, 11*, 1168-1177.

10. Persky, S, & Eccleston, CP. (2010). Medical Student bias and care recommendations for an obese versus non-obese virtual patient. *Int J Obesity, 35*, 728-735.

11. Reidpath, DD, Crawford, D, Tilgner, L, & Gibbons, C. (2002). Relationship between Body Mass Index and the Use of Healthcare Services in Australia. *Obes Res, 10*, 526 - 531.

12. Drury, CAA, & Louis, M. (2002). Exploring the Association Between Body Weight, Stigma of Obesity, and Health Care Avoidance. *J Am Acad Nurse Prac, 14*, 554-561.

13. O'Brien, KS, Hunter, JA, & Banks, M. (2007). Implicit anti-fat bias in physical educators: physical attributes, ideology and socialization. *Int J Obesity, 31*, 308.

14. Berryman, DE, Dubale, GM, Manchester, DS, & Mittelstaedt, R. (2006). Dietetics Students Possess Negative Attitudes toward Obesity Similar to Nondietetics Students. *Journal of the American Dietetic Association, 106*, 1678-1682.

15. Persky, S, & Eccleston, CP. (2011). Impact of Genetic Causal Information on Medical Students' Clinical Encounters with an Obese Virtual Patient: Health Promotion and Social Stigma. *Ann Behav Med, 41*, 363-372.

16. O'Brien, KS, Puhl, RM, Latner, JD, Mir, AS, & Hunter, JA. (2010). Reducing anti-fat prejudice in preservice health students: A randomized trial. *Obesity, 18*, 2138-2144.

17. Crandall, C. (1994). Prejudice Against Fat People: Ideology and Self-Interest. *J Pers Soc Psychol, 66*, 882-894.

18. Greenwald, AG, McGhee, DE, & Schwartz, JLK. (1998). Measuring Individual Differences in Implicit Cognition: The Implicit Association Test. *J Pers Soc Psychol, 74*, 1464-1480.

19. Chambliss, HO, Finley, CE, & Blair, SN. (2004). Attitudes toward Obese Individuals among Exercise Science Students. *Med Sci Sport Exer, 36*, 468-474.

20. Edelstein, S, Silva, N, & Mancini, L. (2009). Obesity Bias Among Dietitians by Using the Fat People - Thin People Implicit Association Test. *Top Clin Nutr, 24*, 67-72.

21. Peters, DM, & Jones, RJ. (2010). Future Sport, Exercise and Physical Education Professionals perceptions of the physical self of obese children. *Kinesiology, 42*, 36-43.

22. Teachman, BA, Gapinski, KD, Brownell, KD, Rawlins, M, & Jeyaram, S. (2003). Demonstrations of Implicit Anti-Fat Bias: The Impact of Providing Causal Information and Evoking Empathy. *Health Psychol, 22*, 68-78.

309 **Table 1 - Age and Body Mass Index (BMI) of Australian University Health and Non-Health Student**
310 **Participants.**

Discipline	Participants (n)	Average Age (years)	SD	Average BMI (kg/m^2)	SD
Medicine/Surgery	25	26.4	3.7	23.2	3.4
Medical Science	9	20.7	1.5	21.4	2.2
Nursing/Midwifery	64	30.3	10.2	25.4	7.0
Pharmacy	14	23.7	2.4	23.4	3.2
Dietetics	40	26.1	7.8	21.7	3.7
Public Health	15	29.6	9.3	23.1	4.2
Exercise Science	32	22.4	4.6	22.4	2.9
Physiotherapy	9	24.6	3.6	22.5	2.2
Dentistry	40	23.9	4.8	22.7	2.8
Psychology	23	27.0	8.2	23.5	4.1
Human Services/ Social Work	21	32.5	10.2	23.6	4.1
Total Health	**292**	**26.7**	**8.1**	**23.3**	**4.6**
Non-Health (Business)	187	25.3	6.8	23.1	5.0

311 **SD = Standard Deviation n = Number of Participants**
312 **BMI Classifications:' Underweight' = <18.49 kg/m^2; 'Healthy' = 18.5 -24.9 kg/m^2; 'Overweight' = 25.0-**
313 **29.9 kg/m^2; 'Obese' = >30 kg/m^2.**
314

Table 2 – Mean Health and Non-Health Student Participant Scores for the 'Good/Bad' and 'Lazy/Motivated' Implicit Association Tests.

Discipline	Participants	'Good/Bad' Scores		'Lazy/Motivated' Scores	
	(n)	Mean	SD	Mean	SD
Medicine/Surgery	24	6.4	4.3	5.5	4.5
Medical Science	7	4.4	4.1	6.3	1.6
Nursing/Midwifery	55	5.8	4.2	4.5	4.6
Pharmacy	13	7.7	2.6	7.0	3.8
Dietetics	32	7.6	4.3	5.2	3.5
Public Health	13	5.2	4.2	6.9	3.2
Exercise Science	31	5.8	4.9	5.3	4.7
Physiotherapy	7	9.3	5.7	7.9	2.7
Dentistry	34	7.7	5.0	5.8	4.3
Psychology	22	7.1	3.9	5.0	3.7
Human Services / Social Work	18	5.9	4.8	3.6	4.5
Total (Health)	**256**	**6.6**	**4.3**	**5.3**	**3.7**
Non-Health (Business)	154	6.8	4.9	5.8	4.5

SD = Standard Deviation N = Number of Participants.

Scores above zero denote Implicit Bias. No significant differences were found among health disciplines and between health and non-health students ($P>.05$).

Table 3 - Mean Health and Non-Health Student Participant Scores for the 'Dislike', 'Fear of Fat' and 'Willpower' Anti-Fat Attitudes Questionnaire.

Discipline	Participants	Dislike		Willpower		Fear of Fat	
	(N)	Mean	SD	Mean	SD	Mean	SD
Medicine/Surgery	25	3.3	1.3	**6.4**	1.2	**6.3**	1.5
Medical Science	8	4.1	1.1	**7.2**	1.0	**6.8**	1.8
Nursing/Midwifery	60	3.1	1.4	**6.3**	1.4	**6.5**	2.0
Pharmacy	14	3.6	1.9	**6.4**	1.4	**7.2**	1.4
Dietetics	39	3.0	1.6	**5.7**	1.9	**5.6**	2.2
Public Health	14	3.3	1.7	**5.5**	1.4	**5.8**	2.5
Exercise Science	32	3.2	1.3	**7.0**	1.4	**5.4**	2.2
Physiotherapy	8	4.4	1.9	**7.3**	1.2	**6.5**	2.7
Dentistry	36	3.6	1.6	**6.5**	1.6	**6.6**	2.3
Psychology	23	3.3	1.4	**5.7**	1.4	**5.2**	2.4
Human Services / Social Work	21	2.7	1.0	**5.6**	1.1	**6.2**	1.7
Total (Health)	**280**	**3.3**	**1.5**	**6.3**[a]	**1.4**	**6.2**	**2.1**
Non-Health (Business)	167	3.5	1.5	**6.5**	1.5	**6.3**	2.0

SD = Standard Deviation N = Number of Participants. [a]denotes significantly less than non-health students (P=.033). Possible range is 0-9. Scores above 5 (neutral) denotes Negative Explicit Bias, higher scores denote stronger bias.

328 **Table 4 - Perceived Obesity Education ranked by Australian University Health and Non-Health Students.**

	Health Students (n=283)					Non-Health Students (n=152)				
	None (%)	Poor (%)	Average (%)	Good (%)	Excellent (%)	None (%)	Poor (%)	Average (%)	Good (%)	Excellent (%)
Self-Education	1.1	13.8	34.6	40.3	10.2	1.7	13.1	29.5	42.6	13.1
Diet	9.9	15.2	18.7	35.3	20.8	54.0	23.9	11.9	9.7	0.6
Exercise	11.0	13.1	20.8	29.3	25.8	50.6	21.6	19.9	8.0	0.0
Genetics	13.8	25.4	28.6	24.7	7.4	59.1	19.9	15.3	5.7	0.0
Society / Environment	11.0	16.3	26.5	31.4	14.8	46.3	23.4	20.0	10.3	0.0

329 **Scale Scores: 1 = None, 2 = Poor, 3 = Average, 4 = Good, 5 = Excellent**