

2019

Anti-Fat Bias of Occupational Therapy Students

Carli Friedman

CQL | The Council on Quality and Leadership

Laura H. VanPuymbrouck

Rush University

Follow this and additional works at: <https://encompass.eku.edu/jote>



Part of the [Occupational Therapy Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Friedman, C., & VanPuymbrouck, L. H. (2019). Anti-Fat Bias of Occupational Therapy Students. *Journal of Occupational Therapy Education*, 3 (4). <https://doi.org/10.26681/jote.2019.030406>

This Original Research is brought to you for free and open access by the Journals at Encompass. It has been accepted for inclusion in Journal of Occupational Therapy Education by an authorized editor of Encompass. For more information, please contact Linda.Sizemore@eku.edu.

Anti-Fat Bias of Occupational Therapy Students

Abstract

Anti-fat biases in healthcare providers can result in substandard and decreased care, and also result in health disparities. There are very few studies that examine occupational therapists' attitudes towards fat people and implications on practice. Therefore, the aim of this study was to explore the implicit fat prejudice of occupational therapy students. The authors also sought to understand how this prejudice related to the occupation-based models/frames of reference with which students professionally identified. To do so, 58 occupational therapy students from three Midwestern universities, all of whom recently completed their first year of professional occupational therapy education, completed the Weight Implicit Association Test as well as a survey. Findings revealed 69.0% ($n = 40$) of participants preferred thin people, 12.1% ($n = 7$) preferred fat people, and 19.0% ($n = 11$) had no preference. The majority of participants moderately or strongly preferred thin people. According to a one-way ANOVA, there was also a statistically significant difference between the professional focus participants identified with and their implicit scores. Education in theoretical and occupation-based models unique to the profession hold promise for being a method for mitigating the effects of implicit bias. How students in healthcare are educated to understand and reduce their biases is critical to improving equity in care and to reduce health disparities. Grounding focus on occupation may not only strengthen professional identity but also reduce biases of clients based on social prejudices that deprive occupational opportunity.

Keywords

Anti-fat bias, occupational therapy students, models of occupational therapy, prejudice, healthcare

Creative Commons License



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Acknowledgements

This study was funded by a grant from the Spencer Foundation (201700112).

JOTE

Journal of Occupational
Therapy Education

Volume 3, Issue 4

Anti-Fat Bias of Occupational Therapy Students

Carli Friedman, PhD¹

Laura H. VanPuymbrouck, PhD, OTR/L²

The Council on Quality and Leadership¹

Rush University, Chicago²

United States

ABSTRACT

Anti-fat biases in healthcare providers can result in substandard and decreased care, and also result in health disparities. There are very few studies that examine occupational therapists' attitudes towards fat people and implications on practice. Therefore, the aim of this study was to explore the implicit fat prejudice of occupational therapy students. The authors also sought to understand how this prejudice related to the occupation-based models/frames of reference with which students professionally identified. To do so, 58 occupational therapy students from three Midwestern universities, all of whom recently completed their first year of professional occupational therapy education, completed the Weight Implicit Association Test as well as a survey. Findings revealed 69.0% ($n = 40$) of participants preferred thin people, 12.1% ($n = 7$) preferred fat people, and 19.0% ($n = 11$) had no preference. The majority of participants moderately or strongly preferred thin people. According to a one-way ANOVA, there was also a statistically significant difference between the professional focus participants identified with and their implicit scores. Education in theoretical and occupation-based models unique to the profession hold promise for being a method for mitigating the effects of implicit bias. How students in healthcare are educated to understand and reduce their biases is critical to improving equity in care and to reduce health disparities. Grounding focus on occupation may not only strengthen professional identity but also reduce biases of clients based on social prejudices that deprive occupational opportunity.

INTRODUCTION

A person's weight is determined by a complex combination of factors, including biological, social, and environmental factors (Danielsdóttir, O'Brien, & Ciao, 2010). Yet, fat people are highly stigmatized, and anti-fat bias is widespread and pervasive (Carels & Musher-Eizenman, 2010; Danielsdóttir et al., 2010). The word 'fat' is utilized rather than other descriptors for the reasons detailed by Fikkan and Rothblum (2012): "we prefer to use the term 'fat,' as it is descriptive, whereas the term 'overweight' implies unfavorable comparison to a normative standard and 'obese' is a medical term with its own negative connotations" (p. 577). Furthermore, Vartanian (2010) found the language 'obese people' produces stronger negative connotations than 'fat people'. In fact, research suggests anti-fat prejudice rivals, or may even be more prevalent than prejudice towards other stigmatized groups (O'Brien, Hunter, & Banks, 2007) and it is suggested that "anti-fat attitudes are one of the last socially acceptable forms of prejudice, and fat people some of the last acceptable targets" (Alperin, Hornsey, Hayward, Diedrichs, & Barlow, 2014, p. 4). Additionally, concerns have been raised among researchers in anti-fat bias that anti-fat attitudes are increasing globally, even in countries and cultures where fat was previously celebrated (Brewis, SturtzSreetharan, & Wutich, 2018; Schwartz, Vartanian, Nosek, & Brownell, 2006).

Common stereotypes about fat people include that they are lazy, lack self-control/will-power, self-indulgent, lonely, sloppy, gluttonous, unmotivated, unlikable, unattractive, asexual, incompetent, and immoral (Puhl & Heuer, 2009; Schupp & Renner, 2011). It is also commonly believed that a person's weight is completely controllable (Danielsdóttir et al., 2010). In large part these stereotypes and conceptualizations of fat people are tied to prominent ideology about individual responsibility, as well as beliefs consistent with a protestant work ethic, which suggests that hard work always pays off and people get what they deserve; it is also tied to ideology about a just world (Carels & Musher-Eizenman, 2010; Danielsdóttir et al., 2010; Patrick, 2008).

The impact of anti-fat bias is widespread, resulting in prejudice, discrimination, and stigma (Puhl & Heuer, 2009). In addition to being bullied, fat people face a number of social disadvantages (Puhl & King, 2013). For example, fat people face education and employment discrimination and, as a result, often have unequal opportunities (Fikkan & Rothblum, 2012; Puhl et al., 2015; Puhl & Heuer, 2009). Speaking to the ways anti-fat bias interacts with gender, race, ethnicity, sexual orientation, and disability, weight-based employment discrimination impacts fat women 16 times more often than fat men (Fikkan & Rothblum, 2012; Puhl et al., 2015). Evidence and reports from scholars in the field describe how anti-fat bias, and the stress of being the recipient of prejudice and discrimination, as well as the internalization of negative attitudes, can lead to psychological distress, low self-esteem, poor body image, depression, anxiety, and suicidal ideation (Alperin et al., 2014; Brewis et al., 2018; Carels & Musher-Eizenman, 2010; Danielsdóttir et al., 2010; Fikkan & Rothblum, 2012; O'Brien, Puhl, Latner, Mir, & Hunter, 2010; Puhl et al., 2015; Ramos Salas et al., 2017). In fact, researchers surveying fat Americans reported that almost half would exchange a year of their life in order to be thin and 15% would exchange 10 or more years (Schupp & Renner, 2011). Moreover, the stress associated with anti-fat stigma may impact physical health

outcomes, and, for example, make people more at risk for chronic disease and inflammation (Brewis et al., 2018; Pearl & Puhl, 2016; Ramos Salas et al., 2017). Additionally, fat people also have unequal access to healthcare and receive poorer healthcare compared to non-fat peers (Amy, Aalborg, Lyons, & Keranen, 2006; Bertakis & Azari, 2005; Brewis et al., 2018; Carels & Musher-Eizenman, 2010).

Anti-Fat Bias in Healthcare

Healthcare professionals are biased just as much as, if not more than, the general population (Alberga et al., 2016; Sabin, Marini, & Nosek, 2012). In fact, Sabin et al. (2012) found the majority of the 360,000 medical doctors who participated in their study were both explicitly (consciously) and implicitly (unconsciously) prejudiced against fat people, reflecting not only how common anti-fat bias is, but also the social acceptability of expressing negative attitudes explicitly. Within healthcare, anti-fat bias is not limited to medical doctors; research has indicated fat people face stigma and bias from nurses, psychologists, dietitians, fitness professionals, rehabilitation professionals, and healthcare students (Alberga et al., 2016; O'Brien et al., 2010; Wise, Harris, & Olver, 2014). In fact, even health professionals who specialize in obesity have anti-fat bias (Schwartz, Chambliss, Brownell, Blair, & Billington, 2003; Teachman & Brownell, 2001).

Healthcare professionals' stereotypes of fat people commonly reported in the literature include that they are: lazy, gluttonous, lack self-control, weak-willed, undisciplined, and noncompliant (Alberga et al., 2016; Brewis et al., 2018; Drury & Louis, 2002; Puhl & Heuer, 2009; Tomiyama et al., 2018). Fat women in particular are seen as more defensive, cold, incompetent, not likable, less educated, and less likely to benefit from provider help (Fikkan & Rothblum, 2012). Research has found that healthcare professionals rate fat people as less healthy, having poorer diet, and being less compliant *even when* the fat clients have the same exact health profiles as thin clients (Fikkan & Rothblum, 2012). As a result of these attitudes, many healthcare professionals have less respect for fat clients and feel they are a waste of time (Phelan et al., 2015; Tomiyama et al., 2018).

Of growing concern is understanding if, and how, experiences of stigma and the embedding of anti-fat attitudes in medical settings and among healthcare professionals might contribute to health disparities beyond those directly linked to obesity related consequences (Brewis et al., 2018). Research has found that healthcare professionals' anti-fat attitudes can result in substandard quality of mental and physical care (Alperin et al., 2014; FitzGerald & Hurst, 2017). Doctors spend less time with fat patients and, literature suggests, this negatively impacts the client-provider relationship, as well as verbal and non-verbal communication, and professionals' behaviors; in fact, many professionals prefer to not deal with fat clients (Alberga et al., 2016; Miller et al., 2013). Fat people receive less patient-centered care, and also are provided with less information about their health and healthcare (Alberga et al., 2016). Perhaps the most problematic aspect of anti-fat bias in healthcare is that healthcare professionals tend to dismiss or overlook health problems *unrelated* to weight (Alperin et al., 2014). Drury and Louis (2002) explain, "obesity serves as a 'master status,' overshadowing other attributes" (p. 555) causing physicians to link *all* health-related issues of a fat person to

being overweight. As a result, bias impacts professionals' treatment decisions, and they may fail to refer fat people for further testing, or discourage them from seeking further care (Alberga et al., 2016; Bertakis & Azari, 2005).

It has been suggested that lower quality of healthcare in and of itself leads to fat people having poorer health outcomes, including an increased risk of mortality (O'Brien et al., 2010; Ramos Salas et al., 2017). Stigma does not promote weight loss, in fact, it often negatively impacts physical and mental health, and can result in weight gain and unhealthy behaviors (Puhl & Suh, 2015). Moreover, bias not only effects current treatment, but descriptions from the literature expose how it also results in clients delaying or forgoing future healthcare, including preventative care (Alberga et al., 2016; Drury & Louis, 2002; O'Brien et al., 2010; Puhl & Heuer, 2009). Fat people often avoid healthcare because of anti-fat bias that results in negative provider attitudes, including disrespect, mistreatment, unsolicited advice, and denial of medical care (Drury & Louis, 2002; Fikkan & Rothblum, 2012). Healthcare settings themselves may even generate stigma, due to inadequate or ill-fitting equipment producing a sense of embarrassment for the fat person (Alberga et al., 2016).

Anti-Fat Bias and Occupational Therapy

The prevalence of fat people, as well as anti-fat bias, in healthcare creates an imperative for closer analysis by all allied health provider professions (Alberga et al., 2016). Research identifies that negative prejudices and bias contribute to reduced health and social wellbeing for fat people (Lewis et al., 2011). The profession of occupational therapy upholds a commitment to improving the health, wellbeing, and quality of life of individuals, groups, as well as communities (American Occupational Therapy Association, 2014a; Pizzi & Richards, 2017). Yet, literature on occupational therapy and fat people typically focuses only on interventions to promote health promotion and reducing the impact of obesity, rather than also exploring the impact of occupational therapists' anti-fat attitudes (Haracz, Ryan, Hazelton, & James, 2013). In fact, there are very few studies that examine occupational therapists' attitudes or prejudices towards fat people and implications on practice.

To combat prejudice, the existence of anti-fat bias amongst occupational therapists' must first be acknowledged –and then measured (Miller et al., 2013). Vroman and Cote (2011) have previously explored the existence of occupational therapists' biases toward fat people and found occupational therapy students had both explicit (conscious) and implicit (unconscious) prejudice, and this attitude made students more likely to make negative evaluations of fat clients. However, no link was made between students' anti-fat bias and factors that might influence these biases.

Other researchers have attempted to delve deeper into understanding factors that might impact clinician attitudes toward fat clients. Occupational therapist participants in a study by Leemhuis (2006) were found to have explicit prejudice against fat people but no differences were found in levels of explicit prejudice based on the participants' professional designation, education, gender, years of practice, living environments, age, weight, belief in occupational therapy effectiveness, obesity specific education, work

setting, diagnosis, patient population, caseload characteristics, hearing disparaging statements, equipment, comfort with transfers, or staffing (Leemhuis, 2006). Additionally, a study by Forhan and Law (2009) reported the impact of a workshop aimed at raising awareness about obesity and occupational therapy interventions. The findings showed that although occupational therapists reported feeling more prepared to work with fat people, after participating in the workshop occupational therapists' anti-fat bias not only did not reduce, but many occupational therapists' attitudes towards fat people actually became *more* prejudiced. The findings from these studies leave many unanswered questions regarding attitudes of occupational therapy professionals toward clients who are fat and factors that may affect biases.

As the personal attitudes and beliefs of occupational therapists impact client evaluations, clinical reasoning, and the therapeutic relationship (Vroman & Cote, 2011), more evidence-based research is necessary to explore the anti-fat biases of occupational therapists, including future occupational therapy practitioners – occupational therapy students – as “research has shown students’ attitudes positively correlate with those of practitioners of the same profession” (Vroman & Cote, 2011, p. 87). Understanding if there are relationships between anti-fat prejudice and occupational therapy students’ orientation toward theoretical or conceptual practice models and frames of references could also provide insight into influences that reinforce or reduce these biases. This is critical to achieve the *Vision 2025’s* (American Occupational Therapy Association, 2016) goal of effectively facilitating participation for all clients. Therefore, the aim of this study was to explore the implicit fat prejudice of occupational therapy students and any associations with demographic factors. The authors also sought to understand if this prejudice related to the occupation-based models/frames of references students professionally identified with (i.e., ‘biomedical; ‘biopsychosocial’; ‘rehabilitative’ frames of reference (FOR); the Canadian Model of Occupational Performance and Engagement (CMOP-E); Model of Human Occupation (MOHO); Person-Environment-Occupation-Participation (PEOP); or ‘not sure’).

METHODOLOGY

Participants

After approval from the Institutional Review Board, participants were recruited through three large Midwestern universities. A total of 58 first-year occupational therapy graduate students, all of whom recently completed their first year of professional occupational therapy education participated in this study. The majority of participants were women ($n = 53$, 91.4%; see Table 1). Most participants were White ($n = 47$, 81.0%), with fewer people identifying as Asian or Pacific Islander ($n = 6.9\%$), Latinx ($n = 3$, 5.2%), Black ($n = 2$, 3.4%), Middle Eastern ($n = 1$, 1.7%), and other ($n = 2$, 3.4%). Participants’ ages ranged from 22 to 47, with a mean of 25.5 years old ($SD = 5.09$). None of the occupational therapy students were people with disabilities. The majority of participants ($n = 34$, 51.7%) had a family income of \$80,000 or higher. The majority of participants ($n = 47$, 88.7%) identified as liberal, while fewer ($n = 6$, 11.3%) identified as conservative.

Table 1

<i>Demographics (n = 58)</i>				
	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Age			25.47	5.09
Disability				
No	58	100		
Family income				
Less than \$20,000	2	3.4		
\$20,000 to \$39,999	5	8.6		
\$40,000 to \$59,999	7	12.1		
\$60,000 to \$79,999	3	5.2		
\$80,000 to \$99,999	7	12.1		
\$100,000 to \$149,999	11	19.0		
\$150,000 or more	12	20.7		
prefer not to say	11	19.0		
Gender				
Woman	53	91.4		
Man	5	8.6		
Political orientation (<i>n = 53</i>)				
Liberal	47	88.7		
Conservative	6	11.3		
Race				
White	47	81.0		
Asian or Pacific Islander	4	6.9		
Latinx	3	5.2		
Black	2	3.4		
Other	3	5.1		
Primary Model/FOR (<i>n = 57</i>)				
MOHO	28	48.3		
PEOP	9	15.5		
Biopsychosocial	6	10.3		
Rehabilitative	4	6.9		
CMOP	3	5.2		
Biomedical	1	1.7		
Not sure	6	10.3		

Note. Participants could select multiple races.

Measure

Data was collected via an online study, which included the Weight Implicit Association Test (IAT), and a survey about demographics and theory. Knowledge of attitudes is important because they help to understand social interactions. Attitudes can be learned and unconscious, meaning they can also provide information about socialization and prejudice formation (Antonak & Livneh, 2000). There are two levels of attitudes: explicit (conscious) attitudes and implicit (unconscious) attitudes (Amodio & Mendoza, 2011; Antonak & Livneh, 2000). As people may feel pressured to conceal their biases, or may be unaware they hold biased attitudes, there are concerns that explicit measures do not capture all attitudes (Amodio & Mendoza, 2011; Antonak & Livneh, 2000).

Implicit association tests are one of the most prominent methods for assessing implicit bias (Greenwald, McGhee, & Schwartz, 1998). The Weight IAT presents participants with two target-concept discriminations (e.g., fat people and thin people) and two attribute dimensions (e.g., good and bad) and asks participants to categorize stimuli (i.e., silhouettes of thin and fat men and women and words related to good and bad) as belonging to the categories in different stereotype congruent and incongruent ways. The Weight IAT measures reaction time to examine associations; the quicker the reaction time, the stronger the association between groups and traits (Karpinski & Hilton, 2001). Scores are reported for the strength of preference for thin or fat people. In general, they may range from -2.0 to 2.0. Scores of -.14 to .14 reveal no preference for thin or fat people, scores of .15 to .34 a slight preference for thin people, .35 to .64 a moderate preference, and .65 or greater a strong preference (Greenwald, Nosek, & Banaji, 2003). Negative values of the same ranges reveal preferences for fat people (Greenwald et al., 2003). The Weight IAT also has built in safeguards against participants selecting at random or trying to fake, with the updated scoring algorithm eliminating trials with response latencies of greater than 10,000 milliseconds or less than 300 milliseconds (Greenwald et al., 2003).

In addition to being asked about demographics (i.e., age, disability, family income, gender, political orientation, and race), participants were also asked whether there was a specific occupation-based model of practice or frame of reference (FOR) they professionally identified with. Options included: 'biomedical'; 'biopsychosocial'; 'rehabilitative' frames of reference; CMOP-E; MOHO; PEOP; or 'not sure'. The CMOP-E, MOHO, and PEOP were included as they are identified as the top three occupation-based models in professional curricula (Wong & Fisher, 2015). Occupation-based models are described as foundational to the profession's unique focus on occupation and used to "help explain the relationships among the person, the environment, and occupational performance" (Cole & Tufano, 2008, p. 57). Also, the 'biomedical', 'rehabilitative' and 'biopsychosocial' frames of reference were included as these are referenced as theoretical foundations of knowledge of health influential to occupational therapy practice models (Turpin & Iwama, 2011) and common in first year occupational therapy curricula.

Procedure

If interested in volunteering for the study participants accessed the online study website where they were presented with the informed consent and exclusion criteria that specified they must speak and read English, be enrolled in one of the three programs, and be aged 18 and older. By continuing with the study participants were documenting their consent and eligibility.

Participants were then presented with the Weight IAT instructions. They were instructed to push the 'E' key if presented stimuli belonged in the categories on the left side of the computer screen and the 'I' key for the right. They were told to so as quickly as possible and with the least amount of errors. If participants placed stimuli on the incorrect side of the screen a red 'X' appeared until they corrected their choice.

The Weight IAT presents participants with seven blocks (rounds) of categorization tasks. During the first practice block, which lasts 20 trials, the participants *only* sort the target-concept discriminations with 'thin people' on one side of the screen and 'fat people' on the other. The second practice block is similar; 'good' is presented on one side of the screen and 'bad' on the other for 20 trials. For blocks three (20 trials) and four (40 trials) the target-concept discriminations and the attribute dimensions are both presented on the screen at the same time. For example, 'thin people' and 'bad' may be on the left with 'fat people' and 'good' on the right. The computer system randomizes if they are presented with stereotype consistent or inconsistent items during these blocks. Block five (40 trials) is then a practice block where only good and bad are presented on opposite sides of the screens. This allows participants to become familiar with the switched location of these two attribute dimensions. Block six (20 trials) and seven (40 trials) are then very similar to blocks three and four except if they received the stereotype inconsistent layout in those blocks they will receive the stereotype consistent ones in blocks six and seven and vice versa.

Participants then completed questions about their demographics and about occupational models. The study website then thanked the participants for their participation; they were then compensated with a gift card for their time.

DATA ANALYSIS

SPSS 23 was used for all analysis. Implicit attitudes on the Weight IAT were calculated using Greenwald et al. (2003) updated IAT scoring protocol. *D* scores were produced for each participant based on their response latencies in stereotype consistent and stereotype inconsistent blocks.

In order to examine if there were any differences in Weight IAT scores across the occupational therapy students, independent samples *t*-tests and one-way analyses of variance (ANOVAs) were utilized. The following demographics were utilized as variables: age; gender; race; family income; and, political orientation.

The authors also examined if there were differences in Weight IAT scores depending on which occupation-based practice model or FOR participants most professionally identified with (i.e., 'biomedical'; 'biopsychosocial'; 'rehabilitative' FOR; CMOP-E; MOHO; PEO; or not sure). The biomedical FOR was only selected by one participant, therefore it was combined with the rehabilitative FOR; these two frames of reference were combined as each use reductionist methods in evaluation and interventions rather than focusing on more holistic occupation-based approaches found in the practice models. These frames of references also represent a more medical model continuum that moves through restoring function to modification or adaption of the client's inabilities to enable occupational performance (Cole & Tufano, 2008).

RESULTS

The mean score on the Weight IAT was 0.33 ($SD = 0.38$). The Weight IAT scores ranged from -0.48 (moderate preference for fat people) to 1.12 (strong preference for thin people) and were normally distributed according to the Shapiro-Wilk test ($p = 0.74$) (Figure 1). A one-tailed t -test determined this score was significantly different from zero ($t(57) = 6.67, p < .001, \text{Cohen's } d = 0.87$), indicating an implicit preference for thin people.

Findings revealed, 69.0% ($n = 40$) of participants preferred thin people, 12.1% ($n = 7$) preferred fat people, and 19.0% ($n = 11$) had no preference. The majority of participants moderately or strongly preferred thin people; see Figure 2.

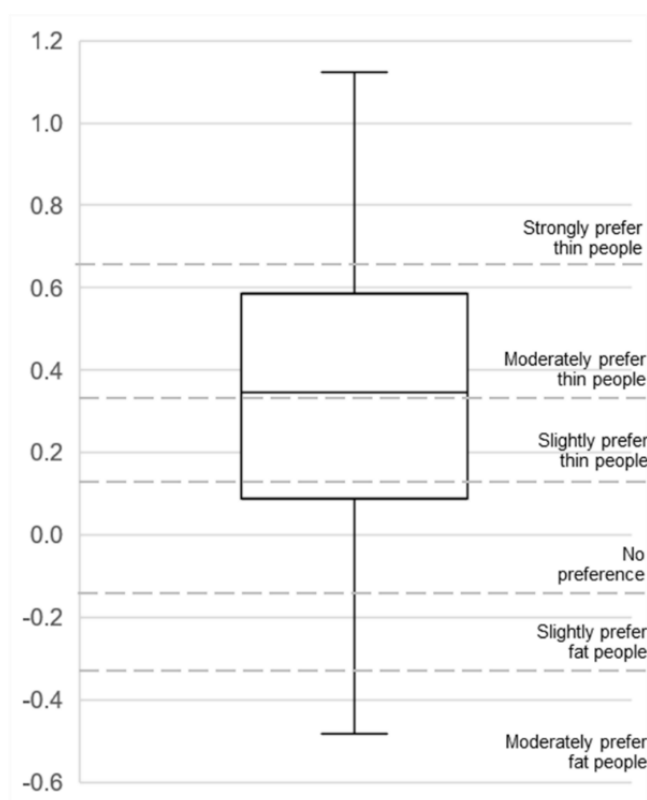


Figure 1. Boxplot of Weight IAT scores.

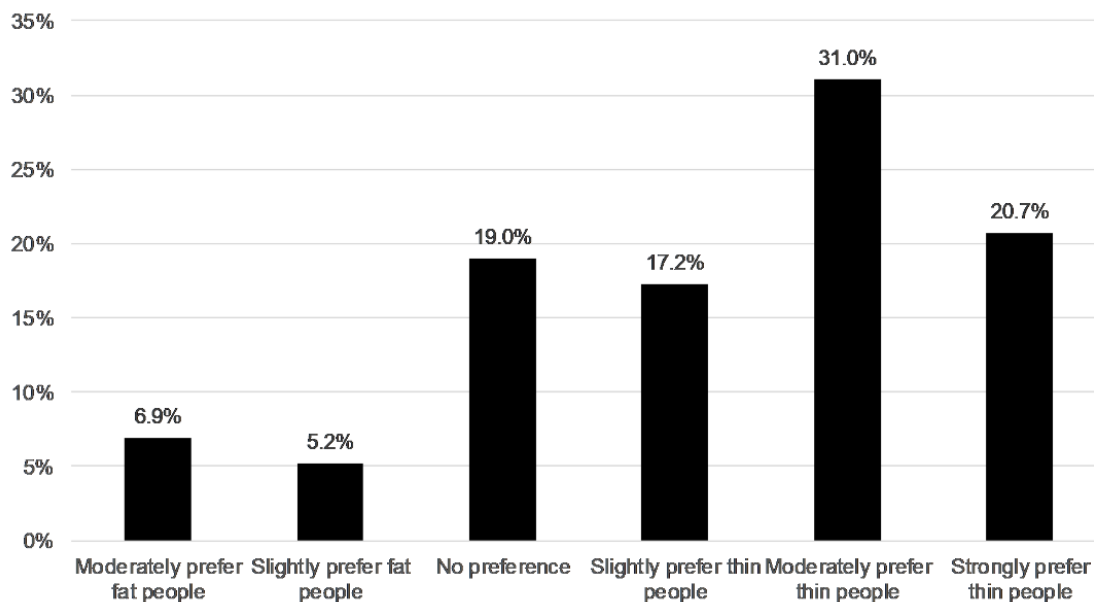


Figure 2. Preferences for Thin or Fat People.

Table 2

Differences in Weight IAT Score by Group

	<i>F</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>M</i>	<i>SD</i>
Age	0.24		5, 52	0.95		
22-23					0.35	0.39
24-25					0.26	0.35
26-27					0.37	0.53
28-29					0.32	0.52
30-31					0.25	0.51
36+					0.47	0.22
Family income	0.9		6, 40	0.50		
Less than \$20,000					-0.28	0.22
\$20,000 to \$39,999					0.34	0.47
\$40,000 to \$59,999					0.44	0.47
\$60,000 to \$79,999					0.35	0.41
\$80,000 to \$99,999					0.37	0.22
\$100,000 to \$149,999					0.36	0.44
\$150,000 or more					0.27	0.39
Gender		0.40	56	0.69		
Woman					0.34	0.38
Man					0.27	0.47

Table 2 Continued

Race	2.37	4,53	0.064		
White				0.30	0.36
Asian or Pacific Islander				0.78	0.43
Latinx				0.21	0.16
Black				0.63	0.28
Other				0.06	0.48
Political orientation	0.83	51	0.41		
Conservative				0.21	0.43
Liberal				0.35	0.39
Practice Model/FOR	2.62	5,51	0.012		
Biopsychosocial				0.39	0.47
CMOP-E				-0.09	0.34
MOHO				0.26	0.37
PEOP				0.30	0.30
Rehabilitative/biomedical				0.83	0.30
Not sure				0.48	0.12

Note. As there was only one person in this category, it was removed from the group differences analysis.

A series of independent samples t-tests and one-way ANOVAs were ran to determine if there were statistically different Weight IAT scores based on participant demographics; the following variables did not produce statistically significant differences: age; family income; gender; race; or political orientation (see Table 2). However, according to an one-way ANOVA, there was a statistically significant relationship between the professional focus participants' identified with and their implicit scores, $F(5,51) = 3.31$, $p = 0.012$, $\eta^2 = 0.25$ (see Figure 3). A post hoc test (Tukey) revealed participants that primarily identified with the CMOP occupation-based model had significantly lower anti-fat bias ($-.09 \pm 0.34$, $p = 0.010$) than those who primarily identified with the rehabilitative/biomedical frames of references (0.83 ± 0.30). Participants that primarily identified with MOHO also had significantly lower anti-fat bias ($.26 \pm 0.37$, $p = 0.021$) than those who primarily identified with the rehabilitative/biomedical frame of references (0.83 ± 0.30). There were no other statistically significant differences across the other FOR or occupation-based practice models.

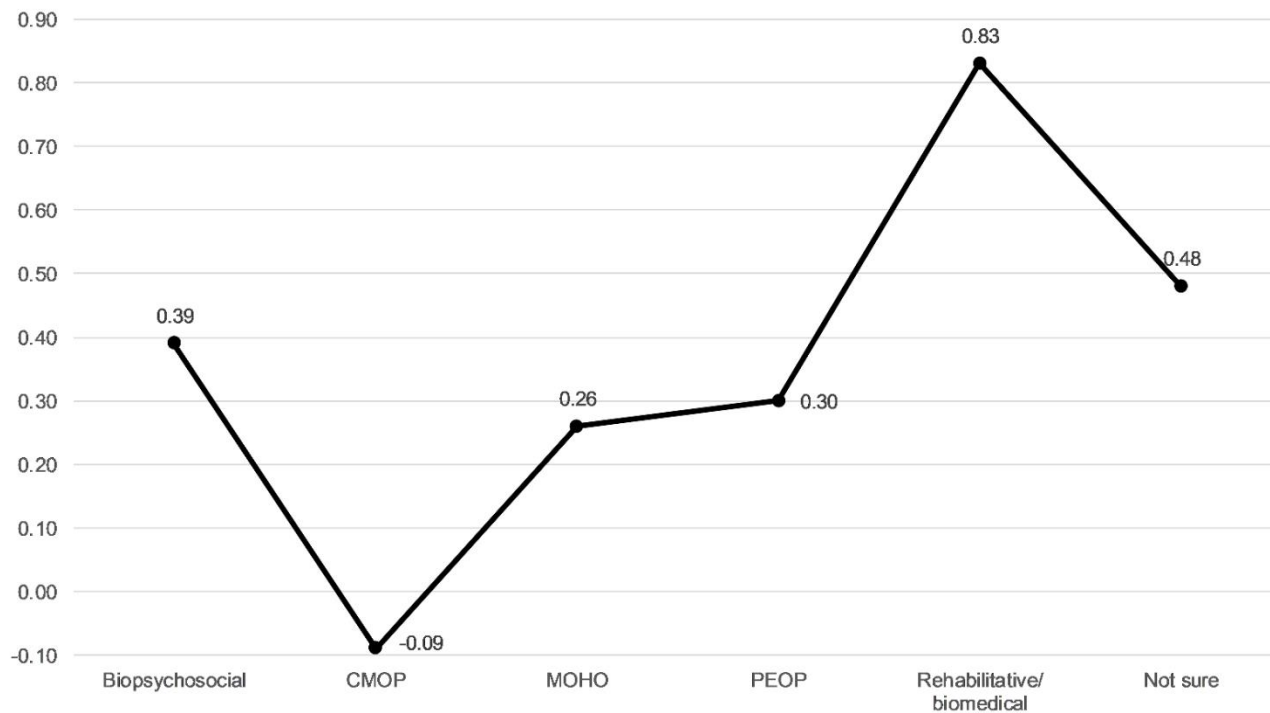


Figure 3. Weight IAT by Participant Framework.

DISCUSSION

Healthcare provider attitudes are a source of anti-fat stigma (Puhl & Heuer, 2009). Moreover, many scholars and researchers have suggested that anti-fat biases in healthcare providers can also result in substandard care and decreased care, which may result in health disparities (Alperin et al., 2014; Brewis et al., 2018; Ramos Salas et al., 2017). For these reasons, the aim of this study was to explore the levels of anti-fat biases of future occupational therapy practitioners – occupational therapy students and any associating demographic factors. The authors also sought to understand if this prejudice related to the occupation-based models/frames of reference students professionally identified with (i.e., ‘biomedical’; ‘biopsychosocial’; ‘rehabilitative’ frames of reference; the CMOP-E; MOHO; PEOP; or ‘not sure’).

According to the findings, the majority of the occupational therapy students preferred thin people over fat people; in fact, most participants moderately or strongly preferred thin people while less than one-fifth of participants had no preference. This study mirrors previous research and literature about the prevalence of anti-fat bias in the United States more broadly, as well as in healthcare professionals (Alberga et al., 2016; Brewis et al., 2018; Miller et al., 2013; O'Brien et al., 2010; Puhl & Heuer, 2009; Sabin et al., 2012; Tomiyama et al., 2018). Although similarly prominent in other fields, the findings regarding the prevalence of anti-fat attitudes in occupational therapy students are nonetheless problematic for occupational therapy service provision and occupational therapists. Occupational therapists may come to see fat as a “master status” wherein “it becomes a primary characteristic upon which other assumptions about a person are based” (Vroman & Cote, 2011, p. 86).

The findings of this study also showed that participants who identified with the rehabilitative/biomedical FOR had significantly higher anti-fat bias than those who identified with occupation-based practice models (CMOP-E & MOHO). Traditionally, the rehabilitative/biomedical FOR locate the cause of decreased occupational performance or the underlying client factors with interventions targeted at domains of functioning (Cole & Tufano, 2008; Puhl & Suh, 2015). The Occupational Therapy Practice Framework states practitioners are primarily concerned with an end result of participation; to achieve this end they enable engagement through adaptations and modifications within the environment (American Occupational Therapy Association, 2014a). The Framework also describes occupation as the means to facilitate change in client factors needed for successful participation in society (American Occupational Therapy Association, 2014a). However, by critically analyzing interventions that prioritize targeting a client's inability to conform to what is considered a socially acceptable appearance/role rather than interventions that prioritize socioeconomic barriers to participation, how deeply rooted anti-fat biases are may be exposed. Normalizing influences may in part explain findings that students with higher implicit fat bias currently align themselves with frames of references that focus more at client factors with associated diagnostic and procedural clinical reasoning focused upon improving individual function. In fact, previous research suggests that therapists who align themselves more within a medical paradigm due to practice contexts tend to prefer biomedical or rehabilitative FOR versus occupation-based intervention approaches (Enemark Larsen, Rasmussen, & Christensen, 2018; Rosewilliam, Sintler, Pandyan, Skelton, & Roskell, 2016). These findings suggest occupational therapists should question interventions with the fat community and the contextual influences of clinical encounters that focus primarily on weight reduction as previous research suggests this focus acts as a barrier to participation (Drury & Louis, 2002) countering professional principles of client care (American Occupational Therapy Association, 2015a).

Reflecting critically upon the intention of interventions with fat clients exposes the influence of anti-fat bias. A study by Forhan, Law, Vrkljan, and Taylor (2010) explored experiences of everyday occupations of fat people to understand personal and environmental factors perceived to influence participation. Participants described that personal and environmental factors wove together to create barriers to participation (Forhan et al., 2010). As such, the authors recommended strategies to promote participation should include ecological interventions to enable participation as well as focus on strengths-based capabilities. These recommendations encourage adapting the context of occupational performance to support a fat person's capability to participate. It is critical to note that increasing social participation and inclusion could stand on its own as a valuable end goal for an occupational therapy intervention for fat people and be the concluding emphasis of occupational therapy related interventions and recommendations of this study. Yet, even while recognizing anti-fat bias, Forhan et al. (2010) continue to describe that the implications of this study's intervention was to facilitate achieving weight loss, highlighting not only fat's master status but the cultural fixation on 'cure' that often emerges in a more medical model paradigm based clinical context (Rosewilliam et al., 2016). Occupational therapy's contribution to healthcare teams, especially those working with clients with chronic conditions, is its unique focus

on optimizing occupational participation through holistic, rather than reductionist, approaches to intervention design (Pizzi, 2013). Attempting to extend intervention to 'cure' this chronic condition (Pollack, 2013) blurs professional boundaries and emphasizes anti-fat bias. In other chronic conditions occupational therapy professes to focus on enabling participation in productive and meaningful life activities through addressing performance deficits, coping strategies, adaptations, and management to support physical and psychosocial health and well-being (American Occupational Therapy Association, 2015b) not eliminating the condition.

Participants who professionally identified with occupation-based models of practice had lower implicit bias than those who did not. These models of practice focus evaluation and interventions on the intersection of person, occupation, and environment to optimize occupational engagement (Cole & Tufano, 2008). However, despite both CMOP-E and MOHO being highly recognized models in the profession (Wong & Fisher, 2015), evidence finds that clinicians view these models as difficult to translate into the demands of many clinical and practice settings (Ikiugu & Smallfield, 2015). Reflecting upon occupational therapists' approaches to intervention design for fat people draw on philosophical discussions of occupational participation as an end versus occupation as a means to improve client factors, and is important in understanding biases of occupational therapists with fat clients (Gray, 1998). Supporting occupational participation as end is the overarching domain of the profession and interventions addressing barriers to participation of fat people should acknowledge fat people as part of the human experience. This requires addressing barriers that include those social and attitudinal barriers of prejudice and bias of fat people as well as physical environmental barriers.

The findings suggest that occupation-based models of practice such as CMOP-E and MOHO that focus intervention outcomes on improving occupational performance, occupational participation, and occupational engagement may be a source for clinical reasoning development in students that supports attending to attitudinal and social participation barriers such as prejudice and biases. There is literature supporting that these models allow practitioners to employ more holistic approaches in intervention (Kielhofner et al., 1999; Polatajko, Townsend, & Craik, 2007). However, there appears to be no literature that explores the phenomenon of these models impacting provider/student biases. Occupation as a means to support doing meaningful activities to treat components or factors of the person offer meaningful participation in relevant activities of daily living and increase volition of the person (Kielhofner, 2002). Occupation as a means is also valuable in developing processing strategies of a client to participate in identified and meaningful life roles (Skidmore et al., 2011). However, it is vital to consider if or how using occupation as means specifically and only to change or remediate underlying personal factors *not* socio-environmental factors that prohibit participation may act to reinforce biases against fat people.

These differences highlight the two sides of the occupational-intervention coin and point to how occupational therapy might further its identity as the profession that promotes social participation versus remediation of individual client factors potentially promoting

stigmatization of clients that contribute to participation barriers. If the goal of occupational therapy is to extenuate the factors that prohibit participation for clients, the primary role on healthcare teams, especially for those clients with chronic conditions, would be occupational participation as end (Rogers, 1982).

Implications for Occupational Therapy and Occupational Therapy Education

More work is necessary to develop interventions for anti-fat bias. Existing interventions from outside the profession of occupational therapy have found it difficult to reduce negative attitudes, even when emphasizing the causes of fat or targeting empathy, because of the pervasiveness of stereotypes (Alperin et al., 2014; Daniélsdóttir et al., 2010). In fact, no evidence was found of effective interventions for reducing implicit anti-fat bias in occupational therapists or other allied health providers beyond a proposal for intervention development (Teal et al., 2012). However, the findings from this study have implications for occupational therapy education and practice that might provide a starting point that include:

- Health education for occupational therapy students should “ensure that information on genetic, social and environmental causes of obesity, and their interactions, is delivered in a convincing manner alongside traditional information on causes and treatments of obesity, such as diet and exercise” (Alberga et al., 2016, p. 186). In order to reduce anti-fat bias in occupational therapy practice, as well as healthcare more broadly, decoupling weight and health (Ramos Salas et al., 2017) in curricula and address obesity as a chronic condition. Despite a dense amount of literature linking weight to illness, there is a growing acknowledgement of the complex interactions of genetic, environmental, and social factors that have a larger influence on health (Braveman, Egerter, & Williams, 2011). Including this information into any dialogue on working with the fat community should be a priority within all occupational therapy curricula.
- Recognize occupational therapy’s distinct value for working with fat clients. It must be acknowledged that there may be contexts where occupational therapists are part of interdisciplinary teams working with clients whose overarching goal is weight reduction. This is especially true as occupational therapy is increasing its presence in primary care settings (American Occupational Therapy Association, 2014b). Moreover, the American Occupational Therapy Commission on Practice supports the role of occupational therapy in working with people who are fat (Reingold & Jordan, 2013). Evidence supporting the value of occupational therapy intervention with clients with chronic conditions lays in increasing successful management of healthy routines, overcoming barriers to role participation and increasing clients’ quality of life, despite minimal to no changes in the disease itself (Clark et al., 2015). In fact, literature on Lifestyle Redesign[®], increasingly recognized as an approach for guiding occupational therapy interventions with chronic conditions, suggest that improvements in the condition may be affected by occupational therapy intervention but this outcome is not the primary focus of occupational therapy treatment (Simon & Collins, 2017). The implications of this study suggest occupational therapy’s role on these teams should be to focus interventions for clients with chronic conditions, including those who are fat primarily on barriers to occupational participation.

- Anti-fat biases must be addressed during the formative stages of occupational therapists' education and careers. Each current educational entry point for clinical practice should incorporate addressing attitudes and beliefs that might bias assessment results as recommended by the recently adopted practice standards (American Occupational Therapy Association, 2018). The first step toward combating students' negative bias is to develop an awareness that it exists (Teal et al., 2012). In fact, according to Teal et al. (2012) increasing students' awareness of implicit bias and how they impact interactions with clients is necessary for students to reflect upon during clinical reasoning. This educational model might be adopted in curricula within occupational therapy to reduce the impact of anti-fat biases. For example, educators could use the Weight IAT to help students reflecting upon their anti-fat biases in order to better understand the role these biases have in shaping their professional reasoning pathways that may contribute to disparate care. Understanding the impact of this educational exposure on student clinical reasoning and implicit biases is a recommended area for further study.
- Findings revealed students that aligned more with occupation-based practice models, such as the CMOP-E or MOHO, had a lower anti-fat prejudice, and those that aligned more with traditional reductionist approaches, such as the biomedical/rehabilitative frames of reference, had higher anti-fat prejudice. This is significant as little literature exists examining the relationship between knowledge or use of occupational-based practice models and provider biases toward stigmatized groups and demands further study. Intuitively this makes sense as these models' assessments and interventions are designed to promote involvement in life roles, the doing and execution of occupation rather than focusing only on reducing or eliminating the underlying impairment (Canadian Association of Occupational Therapists, 2002; Christiansen, Baum, & Bass-Haugen, 2005; Lee, Taylor, Kielhofner, & Fisher, 2008; Wong & Fisher, 2015). Other research findings show that attitudes of students are influenced by exposure and curriculum emphasis on model type (Domenech, Sánchez-Zuriaga, Segura-Ortí, Espejo-Tort, & Lisón, 2011). Domenech et al. (2011) found students educated with a biomedical approach, rather than a biopsychosocial framework, were negatively influenced by their beliefs and attitudes to the extent that they made inadequate recommendations for clients. The findings suggest educational attention to particular frameworks or theoretical models may reduce or reinforce students' anti-fat bias. It may be that how a curriculum embraces a frame of reference/model or an instructor's stated preferences toward reductionist versus holistic approaches with clients also influences attitudes. Although, this knowledge is beyond the scope of this current study, exploring the impact of curriculum and instructor attitudes and beliefs on student attitudes should be better understood and is a suggested area for further research.
- Finally, and perhaps more importantly, research should examine if, and how, interventions for fat clients informed by occupation-based models impact and influence occupational engagement, quality of life, as well as any consequential health benefits that may result from increased occupational participation and performance. However, no research exists in this area with this population. This is an area ripe for further research and could extend the evidence of the unique value of occupational therapy.

Limitations

When interpreting the findings, a number of limitations should be noted. Although participants were compensated for their time, they all volunteered to participate so there is a chance of self-selection bias. Participants were all from Midwestern universities. The majority of participants were White and women; however, this is representative of the profession (American Occupational Therapy Association, 2012). It should also be noted the framework students preferred at this point in their education may change; this study collected data from one point in time and it is recognized that students' beliefs are fluid and fluctuating. Moreover, it should be noted that correlation does not equal causation. Finally, the sample was a small sample of convenience; as such, there was an unequal distribution across groups.

CONCLUSION

The majority of people hold unconscious biases that inform the way they interact with others. How a student in healthcare is educated to understand and reduce their biases is critical to improving equity in care and reduce health disparities. The findings show many occupational therapy students hold anti-fat biases; however, education in theoretical and occupation-based models unique to the profession holds promise as a method for mitigating the effects of implicit bias.

If occupational therapy is to achieve its *Vision 2025* (American Occupational Therapy Association, 2016) the work to demonstrate a unique role in client intervention must continue. The knowledge on how to enhance the fit between the person and environment to support participation in meaningful activity is that unique role (Baum & Law, 1997). Doing so in a client-centered and collaborative manner demands a professional reasoning lens focused on optimizing participation. At their core, occupation-based practice models develop clinical reasoning pathways that target performance outcomes rather than outcomes specifically focused on client factors. Grounding focus on occupation may not only strengthen professional identity but also reduce biases of clients based on social prejudices that deprive occupational opportunity.

References

- Alberga, A., Pickering, B., Alix Hayden, K., Ball, G., Edwards, A., Jelinski, S., . . . Russell Mayhew, S. (2016). Weight bias reduction in health professionals: A systematic review. *Clinical Obesity*, 6(3), 175-188. <https://doi.org/10.1111/cob.12147>
- Alperin, A., Hornsey, M. J., Hayward, L. E., Diedrichs, P. C., & Barlow, F. K. (2014). Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others. *Social Science & Medicine*, 123, 37-44. <https://doi.org/10.1016/j.socscimed.2014.10.051>
- American Occupational Therapy Association. (2012). Work-force trends in occupational therapy. Retrieved from [http://www.aota.org/-/media/Corporate/Files/Education Careers/Prospective/Workforce-trends-in-OT](http://www.aota.org/-/media/Corporate/Files/Education_Careers/Prospective/Workforce-trends-in-OT)
- American Occupational Therapy Association. (2014a). *Occupational therapy practice framework: domain and process* (3rd ed.). Bethesda, MD: AOTA Press/American Occupational Therapy Association. <https://doi.org/10.5014/ajot.2014.68s1>

- American Occupational Therapy Association. (2014b). The role of occupational therapy in primary care. *American Journal of Occupational Therapy*, 68, S25-S33. <https://doi.org/10.5014/ajot.2014.686s06>
- American Occupational Therapy Association. (2015a). Occupational therapy code of ethics. *American Journal of Occupational Therapy*, 69(Suppl. 3), 6913410030. <https://doi.org/10.5014/ajot.2010.64s17-64s26>
- American Occupational Therapy Association. (2015b). The role of occupational therapy in chronic disease management: Fact sheet. Retrieved from https://www.aota.org/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/How/Facts/FactSheet_ChronicDiseaseManagement.pdf
- American Occupational Therapy Association. (2016). AOTA unveils Vision 2025. Retrieved from <https://www.aota.org/AboutAOTA/vision-2025.aspx>
- American Occupational Therapy Association. (2018). Accreditation Council for Occupational Therapy Education (ACOTE) standards and interpretive guide. Retrieved from <https://www.aota.org/~media/Corporate/Files/EducationCareers/Accredit/StandardsReview/2018-ACOTE-Standards-Interpretive-Guide.pdf>
- Amodio, D. M., & Mendoza, S. A. (2011). Implicit intergroup bias: cognitive, affective, and motivational underpinnings. In B. Gawronski & B. K. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications*, (pp. 353-374). New York City: Guilford Press.
- Amy, N. K., Aalborg, A., Lyons, P., & Keranen, L. (2006). Barriers to routine gynecological cancer screening for White and African-American obese women. *International Journal of Obesity*, 30(1), 147-155. <https://doi.org/10.1038/sj.ijo.0803105>
- Antonak, R., & Livneh, H. (2000). Measurement of attitudes towards persons with disabilities. *Disability and Rehabilitation*, 22(5), 211-224. <https://doi.org/10.1080/096382800296782>.
- Baum, C. M., & Law, M. (1997). Occupational therapy practice: Focusing on occupational performance. *American Journal of Occupational Therapy*, 51(4), 277-288. <https://doi.org/10.5014/ajot.51.4.277>
- Bertakis, K. D., & Azari, R. (2005). The impact of obesity on primary care visits. *Obesity Research*, 13(9), 1615-1623. <https://doi.org/10.1038/oby.2005.198>
- Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: Coming of age. *Annual Review of Public Health*, 32, 381-398. <https://doi.org/10.1146/annurev-publhealth-031210-101218>
- Brewis, A., SturtzSreetharan, C., & Wutich, A. (2018). Obesity stigma as a globalizing health challenge. *Globalization and Health*, 14(20), 1-6. <https://doi.org/10.1186/s12992-018-0337-x>.
- Canadian Association of Occupational Therapists. (2002). *Enabling occupation: An occupational therapy perspective* (2nd ed.). Ottawa, ON: CAOT Publications ACE.
- Carels, R. A., & Musher-Eizenman, D. R. (2010). Individual differences and weight bias: Do people with an anti-fat bias have a pro-thin bias? *Body Image*, 7(2), 143-148. <https://doi.org/10.1016/j.bodyim.2009.11.005>

- Christiansen, C., Baum, C., & Bass-Haugen, J. (Eds.). (2005). *Occupational therapy: Performance, participation, and well-being* (3rd ed.). Thorofare, NJ: SLACK Incorporated.
- Clark, F. A., Blanchard, J., Sleight, A., Cogan, A., Florindez, L., Gleason, S., . . . Murphy, M. (2015). *Lifestyle redesign: The intervention tested in the USC well elderly studies*. Bethesda: AOTA Press.
- Cole, M. B., & Tufano, R. (2008). *Applied theories in occupational therapy: A practical approach*. Thorofare, NJ: Slack Incorporated.
- Daníelsdóttir, S., O'Brien, K. S., & Ciao, A. (2010). Anti-fat prejudice reduction: a review of published studies. *Obesity Facts*, 3(1), 47-58.
<https://doi.org/10.1159/000277067>
- Domenech, J., Sánchez-Zuriaga, D., Segura-Ortí, E., Espejo-Tort, B., & Lisón, J. F. (2011). Impact of biomedical and biopsychosocial training sessions on the attitudes, beliefs, and recommendations of health care providers about low back pain: A randomised clinical trial. *Pain*, 152(11), 2557-2563.
<https://doi.org/10.1016/j.pain.2011.07.023>
- Drury, C. A. A., & Louis, M. (2002). Exploring the association between body weight, stigma of obesity, and health care avoidance. *Journal of the American Academy of Nurse Practitioners*, 14(12), 554-561.
<https://doi.org/10.1111/j.1745-7599.2002.tb00089.x>
- Enemark Larsen, A., Rasmussen, B., & Christensen, J. R. (2018). Enhancing a client centred practice with the Canadian Occupational Performance Measure. *Occupational Therapy International*, 2018, 1-11.
<https://doi.org/10.1155/2018/5956301>
- Fikkan, J. L., & Rothblum, E. D. (2012). Is fat a feminist issue? Exploring the gendered nature of weight bias. *Sex Roles*, 66(9-10), 575-592.
<https://doi.org/10.1007/s11199-011-0022-5>
- FitzGerald, C., & Hurst, S. (2017). Implicit bias in healthcare professionals: a systematic review. *BMC Medical Ethics*, 18(19), 1-18.
<https://doi.org/10.1186/s12910-017-0179-8>
- Forhan, M., & Law, M. (2009). An evaluation of a workshop about obesity designed for occupational therapists. *Canadian Journal of Occupational Therapy*, 76(5), 351-358. <https://doi.org/10.1177/000841740907600506>
- Forhan, M. A., Law, M. C., Vrkljan, B. H., & Taylor, V. H. (2010). The experience of participation in everyday occupations for adults with obesity. *Canadian Journal of Occupational Therapy*, 77(4), 210-218. <https://doi.org/10.2182/cjot.2010.77.4.3>
- Gray, J. M. (1998). Putting occupation into practice: Occupation as ends, occupation as means. *American Journal of Occupational Therapy*, 52(5), 354-364.
<https://doi.org/10.5014/ajot.52.5.354>
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74(6), 1464-1480.
<https://doi.org/10.1037/0022-3514.74.6.1464>

- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85(2), 197-216.
<https://doi.org/10.1037/0022-3514.85.2.197>
- Haracz, K., Ryan, S., Hazelton, M., & James, C. (2013). Occupational therapy and obesity: An integrative literature review. *Australian Occupational Therapy Journal*, 60(5), 356-365. <https://doi.org/10.1111/1440-1630.12063>
- Ikiugu, M. N., & Smallfield, S. (2015). Instructing occupational therapy students in use of theory to guide practice. *Occupational Therapy in Health Care*, 29(2), 165-177.
<https://doi.org/10.3109/07380577.2015.1017787>
- Karpinski, A., & Hilton, J. L. (2001). Attitudes and the Implicit Association Test. *Journal of Personality and Social Psychology*, 81(5), 774-788.
<https://doi.org/10.1037/0022-3514.81.5.774>
- Kielhofner, G. (2002). *A model of human occupation: Theory and application*. Baltimore: Lippincott Williams & Wilkins.
- Kielhofner, G., Braveman, B., Baron, K., Fisher, G., Hammel, J., & Littleton, M. (1999). The model of human occupation: understanding the worker who is injured or disabled. *Work*, 12(1), 37-45.
- Lee, S. W., Taylor, R., Kielhofner, G., & Fisher, G. (2008). Theory use in practice: a national survey of therapists who use the Model of Human Occupation. *The American Journal of Occupational Therapy*, 62(1), 106-117.
<https://doi.org/10.5014/ajot.62.1.106>
- Leemhuis, K. (2006). *Obesity, stigma, and occupational therapy (Master's thesis)*. Ithaca: Ithaca College.
- Lewis, S., Thomas, S. L., Blood, R. W., Castle, D. J., Hyde, J., & Komesaroff, P. A. (2011). How do obese individuals perceive and respond to the different types of obesity stigma that they encounter in their daily lives? A qualitative study. *Social Science & Medicine*, 73(9), 1349-1356.
<https://doi.org/10.1016/j.socscimed.2011.08.021>
- Miller, D. P., Spangler, J. G., Vitolins, M. Z., Davis, M. S. W., Ip, E. H., Marion, G. S., & Crandall, S. J. (2013). Are medical students aware of their anti-obesity bias? *Academic Medicine: Journal of the Association of American Medical Colleges*, 88(7), 978-982. <https://doi.org/10.1097/ACM.0b013e318294f817>
- O'Brien, K. S., Hunter, J. A., & Banks, M. (2007). Implicit anti-fat bias in physical educators: Physical attributes, ideology and socialization. *International Journal of Obesity*, 31(2), 308-314. <https://doi.org/10.1038/sj.ijo.0803398>
- O'Brien, K. S., Puhl, R. M., Latner, J. D., Mir, A. S., & Hunter, J. A. (2010). Reducing anti-fat prejudice in preservice health students: A randomized trial. *Obesity*, 18(11), 2138-2144. <https://doi.org/10.1038/oby.2010.79>
- Patrick, E. E. (2008). Lose weight or lose out: The legality of state Medicaid programs that make overweight beneficiaries' receipt of funds contingent upon healthy lifestyle choices. *Emory Law Journal*, 58, 249.
- Pearl, R. L., & Puhl, R. M. (2016). The distinct effects of internalizing weight bias: An experimental study. *Body Image*, 17, 38-42.
<https://doi.org/10.1016/j.bodyim.2016.02.002>

- Phelan, S. M., Burgess, D. J., Yeazel, M. W., Hellerstedt, W. L., Griffin, J. M., & van Ryn, M. (2015). Impact of weight bias and stigma on quality of care and outcomes for patients with obesity. *Obesity Reviews*, 16(4), 319-326. <https://doi.org/10.1111/obr.12266>
- Pizzi, M. A. (2013). Obesity, health and quality of life: A conversation to further the vision in occupational therapy. *Occupational Therapy in Health Care*, 27(2), 78-83. <https://doi.org/10.3109/07380577.2013.778442>
- Pizzi, M. A., & Richards, L. G. (2017). Promoting health, well-being, and quality of life in occupational therapy: A commitment to a paradigm shift for the next 100 years. *American Journal of Occupational Therapy*, 71(4), 7104170010p7104170011-7104170010p7104170015. <https://doi.org/10.5014/ajot.2017.028456>
- Polatajko, H. J., Townsend, E. A., & Craik, J. (2007). *Canadian model of occupational performance and engagement (CMOP-E). Enabling occupation II: advancing an occupational therapy vision of health, well-being, & justice through occupation*. Ottawa: CAOT Publications ACE.
- Pollack, A. (2013). AMA recognizes obesity as a disease. *The New York Times*. Retrieved from <http://www.nytimes.com/2013/06/19/business/ama-recognizes-obesity-as-a-disease.html>
- Puhl, R., Latner, J., O'Brien, K., Luedicke, J., Danielsdottir, S., & Forhan, M. (2015). A multinational examination of weight bias: Predictors of anti-fat attitudes across four countries. *International Journal of Obesity*, 39(7), 1166-1173. <https://doi.org/10.1038/ijo.2015.32>
- Puhl, R., & Suh, Y. (2015). Health consequences of weight stigma: Implications for obesity prevention and treatment. *Current Obesity Reports*, 4(2), 182-190. <https://doi.org/10.1007/s13679-015-0153-z>
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: A review and update. *Obesity*, 17(5), 941-964. <https://doi.org/10.1038/oby.2008.636>
- Puhl, R. M., & King, K. M. (2013). Weight discrimination and bullying. *Best practice & research Clinical Endocrinology & Metabolism*, 27(2), 117-127. <https://doi.org/10.1016/j.beem.2012.12.002>
- Ramos Salas, X., Alberga, A., Cameron, E., Estey, L., Forhan, M., Kirk, S., . . . Sharma, A. (2017). Addressing weight bias and discrimination: Moving beyond raising awareness to creating change. *Obesity Reviews*, 18(11), 1323-1335. <https://doi.org/10.1111/obr.12592>
- Reingold, F., & Jordan, K. (2013). Obesity and occupational therapy. *American Journal of Occupational Therapy*, 67(6), S39-S46. <https://doi.org/10.5014/ajot.2013.67S39>
- Rogers, J. C. (1982). Order and disorder in medicine and occupational therapy. *American Journal of Occupational Therapy*, 36(1), 29-35. <https://doi.org/10.5014/ajot.36.1.29>
- Rosewilliam, S., Sintler, C., Pandyan, A. D., Skelton, J., & Roskell, C. A. (2016). Is the practice of goal-setting for patients in acute stroke care patient-centred and what factors influence this? A qualitative study. *Clinical Rehabilitation*, 30(5), 508-519. <https://doi.org/10.1177/0269215515584167>

- Sabin, J. A., Marini, M., & Nosek, B. A. (2012). Implicit and explicit anti-fat bias among a large sample of medical doctors by BMI, race/ethnicity and gender. *PloS One*, 7(11), e48448. <https://doi.org/10.1371/journal.pone.0048448>
- Schupp, H. T., & Renner, B. (2011). The implicit nature of the anti-fat bias. *Frontiers in Human Neuroscience*, 5(23), 1-11. <https://doi.org/10.3389/fnhum.2011.00023>
- Schwartz, M. B., Chambliss, H. O. N., Brownell, K. D., Blair, S. N., & Billington, C. (2003). Weight bias among health professionals specializing in obesity. *Obesity Research*, 11(9), 1033-1039. <https://doi.org/10.1038/oby.2003.142>
- Schwartz, M. B., Vartanian, L. R., Nosek, B. A., & Brownell, K. D. (2006). The influence of one's own body weight on implicit and explicit anti-fat bias. *Obesity*, 14(3), 440-447. <https://doi.org/10.1038/oby.2006.58>
- Simon, A. U., & Collins, C. E. (2017). Lifestyle Redesign® for chronic pain management: A retrospective clinical efficacy study. *American Journal of Occupational Therapy*, 71(4), 7104190040p7104190041-7104190040p7104190047. <https://doi.org/10.5014/ajot.2017.025502>
- Skidmore, E. R., Holm, M. B., Whyte, E. M., Dew, M. A., Dawson, D., & Becker, J. T. (2011). The feasibility of meta-cognitive strategy training in acute inpatient stroke rehabilitation: case report. *Neuropsychological Rehabilitation*, 21(2), 208-223. <https://doi.org/10.1080/09602011.2011.552559>
- Teachman, B. A., & Brownell, K. D. (2001). Implicit anti-fat bias among health professionals: is anyone immune? *International Journal of Obesity*, 25(10), 1525-1531. <https://doi.org/10.1038/sj.ijo.0801745>
- Teal, C. R., Gill, A. C., Green, A. R., & Crandall, S. (2012). Helping medical learners recognise and manage unconscious bias toward certain patient groups. *Medical Education*, 46(1), 80-88. <https://doi.org/10.1111/j.1365-2923.2011.04101.x>
- Tomiyama, A. J., Carr, D., Granberg, E. M., Major, B., Robinson, E., Sutin, A. R., & Brewis, A. (2018). How and why weight stigma drives the obesity 'epidemic' and harms health. *BMC Medicine*, 16(1), 123-129. <https://doi.org/10.1186/s12916-018-1116-5>
- Turpin, M. J., & Iwama, M. K. (2011). *Using occupational therapy models in practice: A fieldguide*. Edinburgh, UK: Elsevier Health Sciences.
- Vartanian, L. (2010). "Obese people" vs "Fat people": Impact of group label on weight bias. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 15(3), e195-e198. <https://doi.org/10.1007/BF03325299>
- Vroman, K., & Cote, S. (2011). Prejudicial attitudes toward clients who are obese: Measuring implicit attitudes of occupational therapy students. *Occupational Therapy in Health Care*, 25(1), 77-90. <https://doi.org/10.3109/07380577.2010.533252>
- Wise, F. M., Harris, D. W., & Olver, J. H. (2014). Attitudes to obesity among rehabilitation health professionals in Australia. *Journal of Allied Health*, 43(3), 162-168.
- Wong, S. R., & Fisher, G. (2015). Comparing and using occupation-focused models. *Occupational Therapy in Health Care*, 29(3), 297-315. <https://doi.org/10.3109/07380577.2015.1010130>