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Layered stigma? Co-occurring depression and obesity in the public eye

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ABSTRACT

Objectives: Obesity and depression are common conditions in the general public and show a high level of co-morbidity. Both conditions are stigmatized, i.e., associated with negative attitudes and discrimination. Previous research shows that devalued conditions can overlap or combine to produce a layered stigma which is associated with more negative health outcomes than either single devalued condition alone. This study therefore set out to investigate the double stigma of obesity and depression.

Methods: A telephone-based representative study of the German population was conducted. Vignettes describing women with obesity, depression or both conditions were presented, followed by a set of items on semantic differentials based on previous stigma research of depression (depression stigma DS) and obesity (Fat Phobia Scale FPS). Personal experience with depression and obesity was assessed.

Results: All comparisons were significant in univariate ANOVA, showing negative attitudes measured by the FPS and the DS to be most pronounced in the double stigma condition. Multivariate analysis, controlling for age, gender, education and personal experience with the stigma condition (e.g. having obesity or depression), show that the double stigma obesity and depression is associated to more negative attitudes on the FPS ($b = 0.163$, $p < 0.001$) and the DS ($b = 0.154$, $p = 0.002$) compared to the single-stigma condition.

Conclusions: The magnitude of the layered stigma of obesity and depression may need to be considered in mental health settings when treating the depressed patient with obesity, but likewise in obesity care when treating the obese patient with depression.

1. Introduction

Obesity and depression are two of the most common civilization diseases. At any point in time, > 5 million people in Germany (8.1%) are affected by depressive symptoms based on the Patient Health Questionnaire (PHQ, cut-off 10) [1]. The 12-months prevalence of major depression was estimated at 11% based on a clinical interview [2]. Similarly, approximately one fifth of the population in Germany is diagnosed with obesity, defined by a body mass index (BMI) of over 30 kg/m^2 [3].

Both disorders share a high level of co-morbidity. Up to 23.2% of all women with obesity and 11.7% of all men with obesity show the presence of depressive symptoms [4,5]. For Germany, this means that roughly 2 million people are affected by both disorders [6]. Two epidemiological reviews support these assumptions. In a meta-analysis of community-based studies, individuals with obesity have a 18% higher chance of co-morbid depression, compared to their normal-weight counterparts [7]. A later study included longitudinal studies and found a bi-directional relationship. Baseline obesity increased the risk for incident depression by 55% and depression at baseline resulted in a higher risk (58%) for obesity [8].

Both conditions are stigmatized, i.e., associated with negative attitudes and discrimination [9]. From what is known from research in other stigmatized conditions, such as HIV, being associated with more than one devalued condition can be considered a multiple or layered stigma [10,11]. It is conceptualized as the situation where two independent stigmatized conditions are merged into a third, distinct reason for stigmatization. The term also underlines the impact that two or more stigmatizing conditions can have on an individual: With each stigmatizing condition, another layer of blame, marginalization, and reduced quality of life builds up [12]. In HIV stigma research, for example, this concept has helped to identify most vulnerable groups, such

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as homosexual men with HIV, in which this double stigma condition led to worse health care utilization and access to health care, higher rates of discrimination as well as lower quality of life [12].

Given the high level of comorbidity of obesity and depression, it seems reasonable people affected by both conditions face greater stigma and worse health consequences. The existence of this particular double stigma has been proposed for obesity and other serious mental illnesses [13], but has not been investigated in general nor for depression in particular. One finding, pointing in this direction, is the fact that depression among people with obesity is more common in settings where obesity is less prevalent, and where thus obesity constitutes a greater deviation of body norms and is stigmatized as such [14]. Women in-particular are vulnerable to weight stigma and are often the focus of devaluation because of their weight [15,16]. It has been documented in the past, that obesity and weight stigma can be a barrier to access to health care and in particular to preventive services and cancer screenings [17]. For example, a meta-analysis summarizing six representative studies from the United States on mammography showed that women with obesity were less likely to utilize this preventive service [18]. Reasons for delays and avoidance of preventive care include stigmatizing experiences such as negative comments and discriminatory facilities, such as not having equipment for women with obesity [19]. Women also carry a higher risk for depression [1]. Devaluation of patients with depression can also be a potential barrier to help seeking treatment [21]. Layered stigma of obesity and depression may thus result in even lower health utilization than each condition alone. The experiences of people then carrying a double stigma, and the impact of this double stigma, however, remain unknown. In a first step, the public stigma needs to be described to provide a basis for further investigations in patients affected by obesity and depression. The aim of this study, therefore, is to investigate the attitudes of the general public towards women depression and obesity.

2. Methods

2.1. Study design

This study is a population based study from Germany. An institute for research and market research was commissioned to conduct a telephone based survey of people dwelling in the community older than 18. Households were called and participants within a household were randomly selected for participation. A random digital dialing approach was used to include households not registered in the phone book and mobile numbers. The interview schedule, including a vignette-based approach, was developed by the research team and it was pre-tested in a smaller subsample. The interview duration was 33 min on average. The study was approved by the local ethics committee (University of Leipzig).

2.2. Sample

A total of n = 2054 households were contacted and of those 49.2% agreed to participate (sample size: n = 1007). Participants in the final sample were 53 years old on average and slightly better educated than the German general public (Table 1).

2.3. Instruments

2.3.1. Independent variables

Sociodemographics were assessed using a standardized set of questions that covered age, gender, education and occupation. Participants were also asked to indicate their height and weight to allow for BMI calculations. When participants were not willing to give their weight, the interviewer presented pre-calculated weight ranges that were based on the WHO criteria for normal weight, overweight and obesity [20]. Information on the prevalence of obesity is therefore available for most participants (n = 978).

Table 1
Sociodemographic details of the sample (n = 1007).

Variable	N	%	German general adult population[a]
Gender			
Women	509	50.6	51.0
Men	498	49.4	49.0
Age			
< 20	36	3.6	18.3
21–40	225	22.3	24.5
41–60	390	38.7	29.8
61–80	321	31.9	21.6
> 80	35	3.5	5.8
Education			
Student	4	0.4	3.5
8/9 years	220	22.0	37.0
10 years	320	32.0	28.8
12/13 years	453	45.3	25.8
No education	2	0.2	4.1
BMI[b]			
Underweight	24	2.5	1.5
Normal-weight	435	44.5	34.2
Overweight	359	36.7	36.4
Obesity	160	16.4	23.6

[a] Reference values from German Federal Statistics Office (2015) population aged 18 +.
[b] Reference values from Mensink et al. [3], calculated means across genders.

Additionally, the Patient Health Questionnaire (PHQ-9) was used to estimate the occurrence and prevalence of depressive symptoms and major depression in the sample [22].

2.3.2. Dependent variables and experimental manipulation

A vignette-driven approach was used to introduce the two conditions obesity and depression or their co-occurrence. All participants were randomly assigned to one of three possible vignettes, leading to n = 336 participants per vignette. Table 2 gives an overview of participant characteristics across all vignettes, showing no significant differences between the sub-samples.

Vignettes described a 42-year old woman (1) with obesity, (2) with normal weight and depression, and (3) with obesity and depression. The vignettes on obesity and depression were derived from previous research [23] and were combined for the double stigma condition.

All vignettes were followed by a set of adjectives on a semantic 5-point differential. These semantic differentials are comprised of opposite adjective pairs and the respondent is asked to indicate judgment of the person previously described. Two scales were used: The Fat Phobia Scale and a depression stigma scale. The Fat Phobia Scale (FPS, ([24])) consisted of 14 items originally designed for the assessment of weight stigma. The Depression Stigma scale (DS; ([25]) [26]) consists of twelve items. Three items are identical between both scales (lazy, weak-willed and self-indulgent, see Table 3). Cronbach's alpha was alpha = 0.78 for both scales.

2.4. Data analysis

All data was analyzed using STATA 13.1 [27]. Educational attainment was sub-grouped in 12 years of schooling or less, BMI was categorized according to standard WHO criteria to reflect the presence of obesity (BMI ≥ 30 kg/m^2, (28)). A diagnosis of major depression was given when one of two main symptoms and at least 5 other symptoms were present [22]. Having obesity or depression was defined as the presence of a stigmatizing condition in participants themselves. For all dependent variables, scale means were calculated for FPS and DS and both were used as dependent variables in ANCOVA with post-hoc Turkey-Kramer test. Furthermore, univariate ANOVA were used to assess differences across the three vignettes.