

Impact of Obesity on Work Productivity in Different US Occupations

Analysis of the National Health and Wellness Survey 2014 to 2015

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Objective: The aim of this study was to quantify the relationship between workers' body mass index and work productivity within various occupations.

Methods: Data from two administrations (2014 and 2015) of the United States (US) National Health and Wellness Survey, an Internet-based survey administered to an adult sample of the US population, were used for this study ($n = 59,772$). Occupation was based on the US Department of Labor's 2010 Standardized Occupation Codes. Outcomes included work productivity impairment and indirect costs of missed work time. **Results:** Obesity had the greatest impact on work productivity in Construction, followed by Arts and Hospitality occupations. Outcomes varied across occupations; multivariable analyses found significant differences in work productivity impairment and indirect costs between normal weight and at least one obesity class.

Conclusion: Obesity differentially impacted productivity and costs, depending upon occupation.

According to the World Health Organization,¹ obesity is defined as having a body mass index (BMI; calculated on the basis of height and weight) of at least 30.0 kg/m^2 and can be further subdivided into class I (BMI 30.0 to 34.9 kg/m^2), class II (BMI 35.0 to 39.9 kg/m^2), and class III (BMI $\geq 40.0 \text{ kg/m}^2$). Approximately a quarter of US adult men (25.3%) and women (24.6%) are estimated to be in the obese weight category.² Further, obesity has been associated with a range of physical and psychiatric conditions, including, but not limited to, heart disease, cancer, type-2 diabetes, pain and joint-related disorders, such as osteoarthritis,³⁻⁷ and depression.⁸ Unsurprisingly, people who are obese are at risk for reduced life expectancy.⁹⁻¹⁵

The impact of excess weight in the workplace has also been a domain of investigation, with a number of studies detailing the rising prevalence of obesity across industries and occupational groups. Jackson et al¹⁶ reported that from 2004 to 2011, the age-adjusted prevalence of obesity increased in all industries in the US, although estimates differed by race. Specifically, African-American women were more likely to be obese than white women in every industry category, whereas the prevalence of obesity was higher for African-American (vs white) men only in the Health

Learning Objectives

- Become familiar with previous evidence on the prevalence of obesity and its impact on productivity and costs in different industries and occupational categories.
- Summarize the new findings on differences in obesity prevalence, productivity loss, and indirect costs between different types of occupations.
- Discuss the study implications for developing interventions to address the economic impact of excess body weight.

Care and Social Assistance, Education Services, Public Administration, and Manufacturing industry categories. When examined by occupational group, the highest age-standardized obesity prevalence was found for US adults working in the Motor Vehicle Operator occupational category (39.2%), with the lowest prevalence for those working in the Health Diagnosing and Treating Practitioner (15.4%) category.¹⁷

Although preliminary studies suggest that obesity may differentially impact work productivity and costs, based on occupational requirements, there is a paucity of research examining the impact of obese weight status across occupations, and findings have thus far been mixed. A large-scale, cross-sectional Dutch population study reported that obesity was predictive of developing musculoskeletal symptoms, especially among workers whose jobs had low (vs high) physical workloads (ie, the extent to which the respondent's job requires repetitive motions, awkward body positioning, etc).¹⁸ Yet, the researchers acknowledged that their findings could alternatively be explained by individuals with musculoskeletal symptoms tending to self-select into occupations with fewer physical job demands. Gates et al¹⁹ found a significant relationship between excess weight and impaired productivity among a sample of Manufacturing employees. Specifically, individuals with a BMI at least 35.0 kg/m^2 reported a health-related productivity loss of nearly 5.0% and needed additional time to complete physically demanding tasks. Finally, Cawley et al,²⁰ examining costs attributable to obesity-related absenteeism across a number of primarily office-based positions, found that costs differed by occupation, with Management and Professional occupations incurring the highest costs per worker.

The extant research has primarily focused on how BMI impacts work productivity and costs without consideration of occupational requirements; results have consistently highlighted the negative effects of obesity on these outcomes. For instance, obese BMI has been associated with significantly greater absenteeism among US workers than normal BMI, after controlling for demographic characteristics (eg, age, gender, race).²¹ Tunceli et al²² found that excess weight was predictive of future workforce participation, with obese individuals less likely to be employed over time than normal weight counterparts. In addition, a large-scale Canadian-based study found, among a cohort of 56,971 respondents, that obesity was an independent predictor of absenteeism and presenteeism.²³ Notably, obese individuals with cardiometabolic risk factors (ie, diabetes, hyperlipidemia, and/or hypertension)

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reported significantly greater impairments in productivity and higher medical expenditures than normal weight individuals with the same risk factors,^{24,25} which demonstrates the unique contribution of obesity to less favorable outcomes. Excess weight was also associated with impaired health status and work productivity, as well as increased health care resource utilization, among US workers,²⁶ which has serious implications for the societal burden of obesity, given companies often cover the health insurance costs of their employees. Further, among employed US adults, annual direct (ie, medical expenditures) and indirect (ie, work productivity loss) costs totaled \$73.1 billion, and nearly two-thirds of these costs were incurred by morbidly obese workers (BMI > 35.0 kg/m²).²⁷ Obesity additionally accounted for up to 12.6% of annual absenteeism and over \$8 billion in associated costs.²¹

Overall, previous studies have documented the prevalence of obesity by industry and occupational categories and examined the association between obesity and lost work productivity and associated costs.^{16,17} However, these studies have tended to focus on one or a few occupations.^{19,20} Thus, there exists a dearth of empirical research investigating the impact of obesity across varying occupational groups. Such research is critical, as excess weight may be associated with differing degrees of burden depending on profession and job responsibilities.

METHODS

Sample

All respondents from the 2014 and 2015 US National Health and Wellness Survey (NHWS), a self-administered, Internet-based questionnaire of adults (aged 18 years or older) who reported their occupation and had nonmissing weight data were included ($n = 39,259$). If a respondent completed the NHWS in multiple years, only the most recent data were included in this study. Underweight (BMI < 18.5 kg/m²) respondents were excluded from the analyses. The survey was divided into two parts. The primary component was the base survey, which included demographic, health behaviors (eg, smoking), health history (eg, height and weight, current and previous medical conditions), and work productivity questions. The second section consisted of condition-specific (eg, diabetes) and noncondition-specific modules (eg, symptoms).

Measures

Weight Status

BMI was calculated on the basis of responses to items asking “What is your height?” and “What is your weight?” BMI was coded into the following categories: Normal-weight range (BMI 18.5 to 24.99 kg/m²), Overweight (BMI: 25.0 to 29.99 kg/m²), Obese class I (BMI: 30.0 to 34.99 kg/m²), Obese class II (BMI: 35.0 to 39.99 kg/m²), and Obese class III (BMI \geq 40.0 kg/m²).¹

Major Occupational Groups

Respondents of the NHWS were asked to provide their occupation as part of the in-depth demographic profile when they registered to join the Internet panel. Respondent occupations were first categorized into major occupational groups, based on the 2010 Standard Occupational Classification and Coding Structure (SOC), which was developed by the US Department of Labor, Bureau of Labor Statistics (BLS).²⁸ Those occupational groups that included fewer participants were then merged. For example, the Installation, Maintenance, and Repair occupations, Building and Grounds Cleaning and Maintenance occupations, Farming, Fishing, and Forestry occupations, and Construction and Extraction occupations were merged to into one occupational group, Construction/Installation/Maintenance/Repair/Agriculture.

Demographics and Health Characteristics

Participants reported their demographic and health characteristics, which included age, sex, marital status, race, education, household income, smoking status, alcohol use, and exercise behavior. This information was used to describe the sample and was included as covariates in the multivariable analyses.

Comorbidity Burden

The Charlson comorbidity index (CCI) was used to represent overall health by gauging the presence of a range of disparate health conditions (eg, HIV/AIDS, metastatic tumor, moderate/severe renal disease, diabetes, mild liver disease, ulcer disease, connective tissue disease, chronic pulmonary disease, dementia, etc). A higher CCI score indicates that the respondent has more health conditions and is, therefore, not as healthy.²⁹

Overall Work Productivity

Overall work productivity was derived using the Work Productivity and Activity Impairment-General Health (WPAI-GH) questionnaire, a six-item, validated instrument.³⁰ Overall work impairment was measured by combining absenteeism (the self-reported number of work hours missed in the past week because of one's health divided by the total number of hours that one could have worked) and presenteeism (the self-reported level of impairment experienced while at work in the past seven days).

Indirect Costs

Indirect costs were calculated for each employed respondent by using median weekly income figures obtained from the BLS.³¹ For each respondent, an hourly rate was estimated by dividing the median weekly income by the length of the typical workweek. Next, the number of hours missed in the last week because of one's health (absenteeism) and the number of hours missed in the last week because of health impairment while at work (presenteeism) were each multiplied by the hourly rates to arrive at total lost wages. These figures were then multiplied by the average number of workweeks in a year to obtain annual estimates.

Statistical Analyses

Descriptive Statistics

All categorical variables were reported using frequencies and percentages. All continuous variables were reported using counts, means, medians, and standard deviations.

Multivariable Analyses

The independent variable was BMI category. Normal-weight BMI was the reference category. Separate generalized linear models (GLMs) for each occupational group were used to calculate the association between BMI and overall work productivity and indirect costs, controlling for age, sex, race, marital status, education, income, exercise, smoking, alcohol use, and CCI scores. To account for the skewing across the outcome variables, a negative binomial distribution and log-link function were specified. Adjusted means (least-squares means presented at the mean of the covariates) for all outcomes were calculated by using a maximum likelihood algorithm and reported in their original metric.

RESULTS

Demographics and Health Characteristics

In general, the sample was middle-aged (mean [M] = 41.89; SD = 13.13) and female ($n = 11,300$, 52.7%), and the majority self-identified as white ($n = 16,833$, 64.1%). Comorbidity burden, as measured by the CCI, was fairly low (M = 0.30, SD = 0.84). Almost

TABLE 1. Descriptive Statistics for Demographics, Health Characteristics, and BMI for the Total Sample and by Each Occupation Group

Variable	Occupation Group												
	Total	Finance	Education	Healthcare	Computer	Manufac-turing	Construction	Science	Hospitality	Arts	Protective Services	Transportation	Legal
Sex													
Male	19015 (47.3%)	3496 (61.9%)	1884 (38.7%)	1430 (35.6%)	2902 (81.5%)	1798 (77.2%)	1944 (87.5%)	1633 (83.8%)	997 (61.4%)	733 (54.5%)	984 (83.7%)	704 (84.6%)	510 (69.1%)
Female	11300 (52.7%)	2154 (38.1%)	2986 (61.3%)	2588 (64.4%)	659 (18.5%)	532 (22.8%)	277 (12.5%)	316 (16.2%)	627 (38.6%)	613 (45.5%)	192 (16.3%)	128 (15.4%)	228 (30.9%)
Race													
White	16833 (64.1%)	3177 (56.2%)	3199 (65.7%)	2275 (56.6%)	1818 (51.1%)	1172 (50.3%)	1327 (59.7%)	1013 (52.0%)	687 (42.3%)	794 (59.0%)	556 (47.3%)	415 (49.9%)	400 (54.2%)
Minority	13482 (35.9%)	2473 (43.8%)	1671 (34.3%)	1743 (43.4%)	1743 (48.9%)	1158 (49.7%)	894 (40.3%)	936 (48.0%)	937 (57.7%)	552 (41.0%)	620 (52.7%)	417 (50.1%)	338 (45.8%)
Income													
<\$25k	2617 (18.8%)	238 (4.2%)	369 (7.6%)	313 (7.8%)	94 (2.6%)	284 (12.2%)	388 (17.5%)	52 (2.7%)	508 (31.3%)	145 (10.8%)	106 (9.0%)	95 (11.4%)	25 (3.4%)
\$25k-\$50k	6089 (25.8%)	872 (15.4%)	1044 (21.4%)	857 (21.3%)	451 (12.7%)	627 (26.9%)	635 (28.6%)	227 (11.6%)	461 (28.4%)	287 (21.3%)	283 (24.1%)	247 (29.7%)	98 (13.3%)
\$50k-\$75k	6401 (19.2%)	1159 (20.5%)	1186 (24.4%)	835 (20.8%)	758 (21.3%)	497 (21.3%)	507 (22.8%)	357 (18.3%)	292 (18.0%)	277 (20.6%)	235 (20.0%)	209 (25.1%)	89 (12.1%)
≥\$75k	14104 (30.5%)	3202 (56.7%)	2094 (43.0%)	1808 (45.0%)	2163 (60.7%)	848 (36.4%)	620 (27.9%)	1234 (63.3%)	285 (17.5%)	580 (43.1%)	525 (44.6%)	261 (31.4%)	484 (65.6%)
Marital status													
Single	8864 (28.1%)	1589 (28.1%)	1188 (24.4%)	1123 (27.9%)	860 (24.2%)	760 (32.6%)	646 (29.1%)	519 (26.6%)	879 (54.1%)	526 (39.1%)	299 (25.4%)	245 (29.4%)	230 (31.2%)
Married	18163 (56.1%)	3466 (61.3%)	3050 (62.6%)	2397 (59.7%)	2405 (67.5%)	1328 (57.0%)	1308 (58.9%)	1297 (66.5%)	593 (36.5%)	696 (51.7%)	723 (61.5%)	476 (57.2%)	424 (57.5%)
Education attainment													
Less than university degree	8311 (46.2%)	1111 (19.7%)	552 (11.3%)	918 (22.8%)	637 (17.9%)	1060 (45.5%)	1378 (62.0%)	175 (9.0%)	1071 (65.9%)	340 (25.3%)	524 (44.6%)	476 (57.2%)	69 (9.3%)
At least university degree	21976 (53.7%)	4537 (80.3%)	4317 (88.6%)	3095 (77.0%)	2921 (82.0%)	1266 (54.3%)	838 (37.7%)	1772 (90.9%)	549 (33.8%)	1005 (74.7%)	651 (55.4%)	356 (42.8%)	669 (90.7%)
Exercise frequency in past month													
None	7715 (35.8%)	1251 (22.1%)	1164 (23.9%)	1116 (27.8%)	773 (21.7%)	667 (28.6%)	726 (32.7%)	401 (20.6%)	552 (34.0%)	293 (21.8%)	328 (27.9%)	281 (33.8%)	163 (22.1%)
> 20 + minutes	22494 (63.9%)	4375 (77.4%)	3698 (75.9%)	2894 (72.0%)	2764 (77.6%)	1660 (71.2%)	1489 (67.0%)	1544 (79.2%)	1058 (65.1%)	1048 (77.9%)	844 (71.8%)	547 (65.7%)	573 (77.6%)
> 1 time													
Smoking status													
Current smoker	5119 (18.7%)	824 (14.6%)	444 (9.1%)	574 (14.3%)	610 (17.1%)	535 (23.0%)	753 (33.9%)	268 (13.8%)	463 (28.5%)	202 (15.0%)	196 (16.7%)	174 (20.9%)	76 (10.3%)
Former smoker	5973 (24.9%)	1165 (20.6%)	858 (17.6%)	800 (19.9%)	605 (17.0%)	493 (21.2%)	502 (22.6%)	315 (16.2%)	303 (18.7%)	303 (22.5%)	280 (23.8%)	187 (22.5%)	162 (22.0%)
Never smoked	12113 (31.3%)	2203 (39.0%)	2279 (46.8%)	1737 (43.2%)	1423 (40.0%)	812 (34.8%)	616 (27.7%)	822 (42.2%)	590 (36.3%)	544 (40.4%)	469 (39.9%)	315 (37.9%)	303 (41.1%)
Alcohol use													
Does not currently drink	7404 (32.9%)	1268 (22.4%)	1371 (28.2%)	995 (24.8%)	878 (24.7%)	537 (23.0%)	538 (24.2%)	445 (22.8%)	457 (28.1%)	278 (20.7%)	282 (24.0%)	228 (27.4%)	127 (17.2%)
Currently drinks	22900 (67.0%)	4381 (77.5%)	3498 (71.8%)	3021 (75.2%)	2681 (75.3%)	1792 (76.9%)	1682 (75.7%)	1504 (77.2%)	1164 (71.7%)	1068 (79.3%)	894 (76.0%)	604 (72.6%)	611 (82.8%)
BMI													
Normal	11363 (35.6%)	2187 (38.7%)	1879 (38.6%)	1541 (38.4%)	1401 (39.3%)	826 (35.5%)	730 (32.9%)	824 (42.3%)	659 (40.6%)	540 (40.1%)	271 (23.0%)	222 (26.7%)	283 (38.3%)
Overweight	10499 (32.4%)	2030 (35.9%)	1530 (31.4%)	1267 (31.5%)	1281 (36.0%)	807 (34.6%)	843 (38.0%)	716 (36.7%)	527 (32.5%)	460 (34.2%)	444 (37.8%)	314 (37.7%)	280 (37.9%)
Obese class I	4972 (17.4%)	868 (15.4%)	829 (17.0%)	661 (16.5%)	531 (14.9%)	409 (17.6%)	401 (18.1%)	255 (13.1%)	259 (15.9%)	204 (15.2%)	278 (23.6%)	169 (20.3%)	108 (14.6%)
Obese class II	2039 (8.1%)	326 (5.8%)	358 (7.4%)	325 (8.1%)	198 (5.6%)	173 (7.4%)	164 (7.4%)	92 (4.7%)	103 (6.3%)	86 (6.4%)	109 (9.3%)	68 (8.2%)	37 (5.0%)
Obese class III	1442 (6.6%)	239 (4.2%)	274 (5.6%)	224 (5.6%)	150 (4.2%)	115 (4.9%)	83 (3.7%)	62 (3.2%)	76 (4.7%)	56 (4.2%)	74 (6.3%)	59 (7.1%)	30 (4.1%)
Continuous Variables													
Age mean ± SD	41.89 ± 13.13	42.46 ± 13.17	44.75 ± 13.74	42.03 ± 13.07	41.16 ± 11.48	40.64 ± 12.37	42.84 ± 13.16	42.13 ± 13.32	34.61 ± 12.57	39.61 ± 13.64	40.87 ± 11.96	42.60 ± 12.65	43.02 ± 13.38
CCI mean ± SD	.30 ± .84	.31 ± .89	.29 ± .80	.30 ± .85	.30 ± .80	.31 ± .81	.37 ± .97	.23 ± .71	.30 ± .92	.26 ± .78	.26 ± .80	.28 ± .88	.33 ± .93
Overall work impairment	17.00 ± 26.22	16.35 ± 26.28	14.65 ± 23.80	15.16 ± 24.83	19.89 ± 29.08	18.46 ± 26.55	20.54 ± 27.53	16.25 ± 26.23	19.54 ± 26.98	16.48 ± 25.13	16.33 ± 25.18	18.20 ± 28.03	14.88 ± 24.48
Indirect costs	\$6,200.72 ± \$10,865.10	\$5,886.73 ± \$10,483.69	\$5,002.81 ± \$9,215.86	\$5,273.08 ± \$10,019.19	\$7,259.61 ± \$11,726.75	\$6,999.74 ± \$11,439.49	\$8,053.17 ± \$12,119.62	\$6,570.51 ± \$11,978.59	\$6,027.41 ± \$10,259.33	\$5,906.08 ± \$10,542.17	\$6,569.27 ± \$11,140.94	\$7,571.84 ± \$13,275.64	\$5,673.04 ± \$11,127.74
BMI, body mass index; CCI, Charlson comorbidity index; SD, standard deviation.													

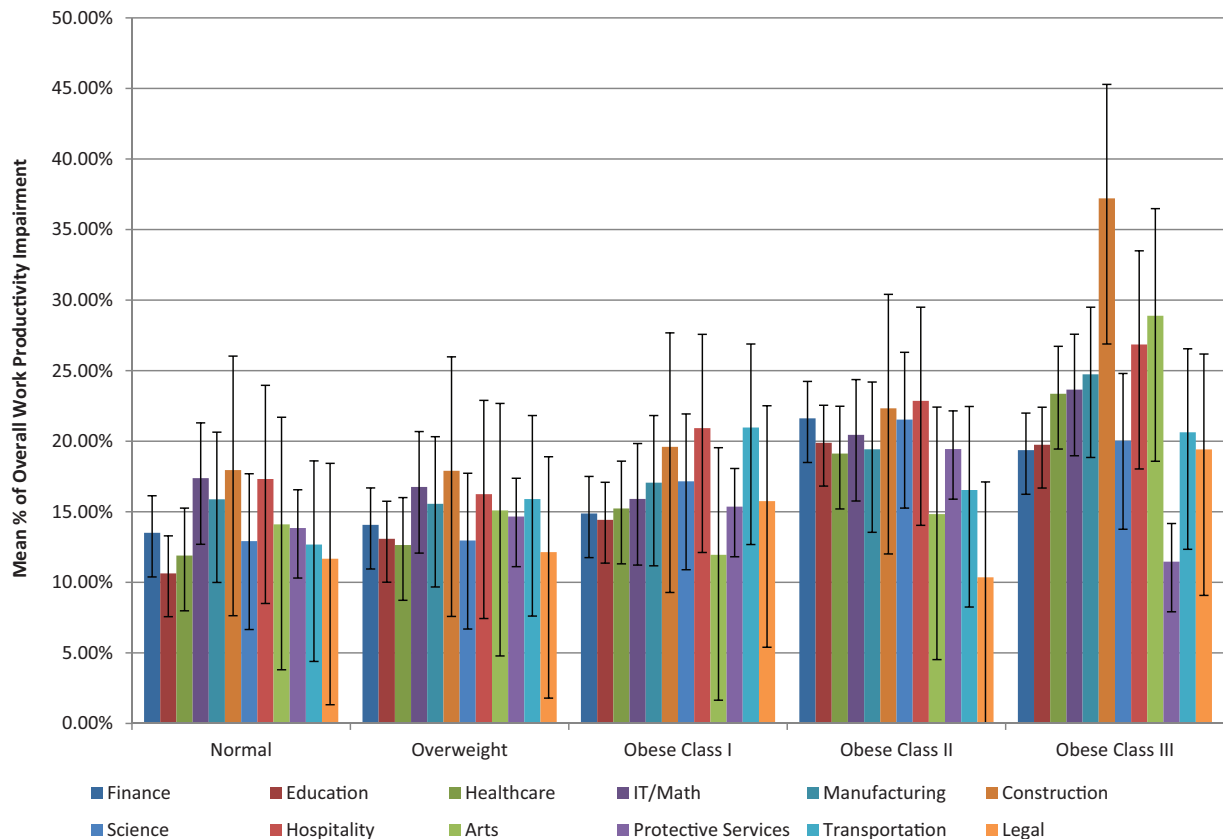


FIGURE 1. Mean percentage of overall work productivity impairment by BMI and occupation group, adjusted for covariates.

one-third ($n = 8453$, 32.1%) of respondents in the full sample were obese. Approximately two-thirds of respondents ($n = 22,900$, 67.0%) reported consuming alcohol, and approximately the same percentage reported exercising within the past month ($n = 22,494$, 63.9%). A plurality ($n = 12,113$, 31.3%) have never smoked (Table 1). Protective Services ($n = 1176$, 39.2%) had the largest percentage of obese respondents, followed by Transportation ($n = 832$, 35.6%) and Healthcare ($n = 4018$, 30.2%) occupations; Science/Engineering had the fewest ($n = 1949$, 21.0%; Table 1).

Overall Work Productivity Impairment

In general, work productivity impairment was positively associated with increases in BMI class. For all 12 occupational groups, there was a significant difference ($P < 0.05$) in overall work productivity impairment between normal BMI and at least one obesity class. The Construction/Installation occupation had the highest level of work impairment [17.95% (normal BMI) to 37.21% (obese class III)], followed by Arts [14.11% (normal BMI) to 28.89% (obese class III)] and Hospitality [17.32% (normal BMI) to 26.85% (obese class III)], whereas the Legal occupational category ($n = 738$) had the lowest level of work impairment [11.66% (normal BMI) to 19.42% (obese class III); Fig. 1]. However, direct comparisons across occupation groups could not be made because the adjusted means were within the confidence intervals.

Indirect Costs

Indirect costs were also positively associated with BMI class. For each occupational group examined, there was a significant difference in indirect costs between normal-weight respondents

and those in one or more of the obesity categories ($P < 0.05$). The Construction occupation group had the highest annual indirect costs [\$7070.70 (normal BMI) to \$12,336.75 (obese class III)], which was followed by Transportation [\$5688.76 (normal BMI) to \$11,741.81 (obese class III)] and Arts [\$5142.21 (normal BMI) to \$10,988.05 (obese class III)] occupations. In contrast, Manufacturing/Production had the lowest costs [\$237.70 (normal BMI) to \$1097.40 (obese class III); Fig. 2].

DISCUSSION

Obesity imposes significant health and economic burden in the US. The current study suggests that obesity has a negative impact in the workplace, which may differ by occupation. These findings reinforce the need for employers to evaluate the burden of obesity on work productivity and to try to address it. Almost one-third of the sample reported that they were obese, which is slightly lower than a recent estimate of 37.7% for US adults.³² Further, in the current study, nearly two-thirds (64.5%) of employed adult participants were overweight or obese. These results provided additional evidence of the considerable scope of the obesity epidemic among US workers.

A number of differences emerged in demographic characteristics, with males generally less likely to be obese than females, and minority participants less likely than whites to report being in higher BMI categories. Lower income respondents (less than \$25k per year) and those with less than a college degree were more likely to be overweight or obese than normal-weight participants. As may be expected, the comorbidity burden (ie, CCI scores) increased along with increases in BMI class, which was consistent with prior research showing the strong links between obesity and a variety

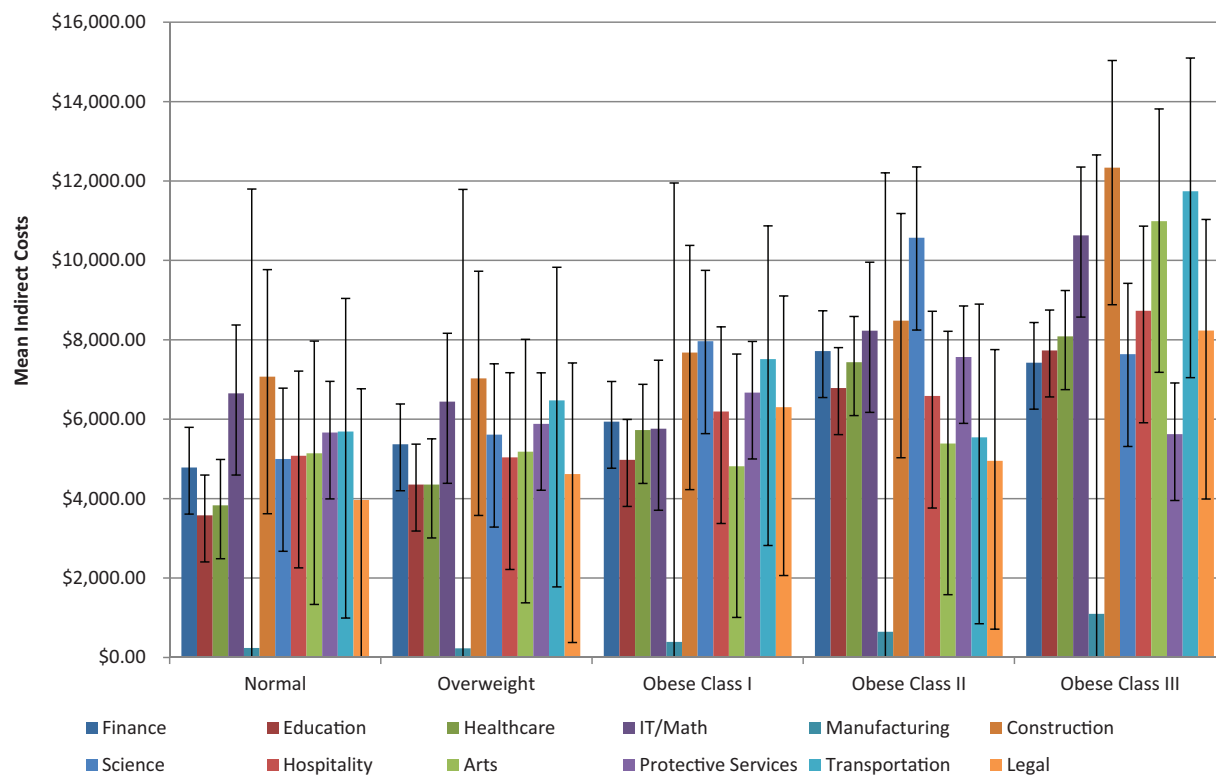


FIGURE 2. Mean indirect costs by BMI and occupation group, adjusted for covariates.

of comorbidities, such as cardiovascular disease, type-2 diabetes, and psychiatric conditions.^{11,14,15}

Occupation-based analyses revealed obesity to be most common among those working in Protective Services professions, consistent with previous findings that reported a sharp increase over time in the prevalence of obesity within this occupation.¹⁷ Despite this finding, the poorest outcomes tended to be concentrated among two other occupational groups, Construction/Installation/Agriculture and Hospitality, which reported the highest comorbidity burden (ie, CCI scores), the highest rate of overall work productivity impairment, and the greatest indirect costs. One can hypothesize that perhaps those occupations that involve more physically demanding work are worst affected by obesity, compared with more sedentary occupations. Future studies may focus on identifying which factors relate to more burden for one occupational group versus another.

Previous studies have reported a significant relationship between obesity and indirect costs via work productivity loss.²⁶ The current study likewise found that, across most major occupational groups, indirect costs typically increased concomitantly with BMI class. In many cases and in line with prior research,²⁷ indirect costs for those in the obese class III group were higher than those incurred by normal-weight respondents, often by 50.0% or more.

Overall, the current findings highlight the considerable burden of obesity among US working adults. Furthermore, these findings provide important clarification regarding how this burden may vary based upon a worker's respective occupation. These results can provide a better understanding of the economic consequences attributable to obesity and inform broad-based interventions targeting education and healthy weight-loss for employees.

Limitations

For the current study, there are some limitations that should be noted. First, all data were self-reported, and no objective

verification of BMI class, health history information, or work productivity was possible. Thus, we cannot exclude the possibility that recall biases or socially desirable responding may have occurred. Second, the data used in this study were cross-sectional, which precludes the ability to infer causality between BMI class and the outcomes of interest. Disability-related costs and other nonwage-related variables were not accounted for in the indirect cost calculation. Therefore, the current study may either underestimate or provide a very conservative estimate of indirect costs. It is also possible that selection bias limited the representativeness of the sample. Specifically, preliminary bivariate analyses (not shown) indicated that NHWS respondents who did not provide occupational data, and were thus excluded from the study, systematically differed on demographics, health history, and outcomes from study participants (ie, those who provided occupational data). Finally, although the NHWS is demographically representative of the general US adult population with respect to age, sex, and race, it is unclear to what extent this sample generalizes to the specific population of obese adults or whether the sample accurately represents the characteristics of workers within each major occupational category examined.

CONCLUSION

Overall, the findings underscored the substantial economic burden of obesity among US workers. Generally speaking, increasing BMI class was positively associated with impaired work productivity and indirect costs. However, this study revealed that these effects were not uniform, with notable differences emerging, based on participants' respective occupation. The current study's findings are important in garnering a more complete understanding of the indirect economic impact of excess weight and in guiding broader occupation-specific interventions that target employee health.

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