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Do access and use of worksite supports for physical activity differ by industry and occupation?

Elizabeth A. Dodson, PhD, MPH,

Research Assistant Professor, Prevention Research Center in St. Louis, Brown School, Washington University in St. Louis, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130. 314.935.0124 (p) 314.935.0150 (f)

J. Aaron Hipp, PhD,

Associate Professor of Community Health and Sustainability, Department of Parks, Recreation, and Tourism Management, College of Natural Resources, North Carolina State University. 5124 Jordan Hall, Campus Box 8004, Raleigh, NC 27695. 919.515.3433 (p) 919.515.3687 (f). At the time work was conducted, Dr. Hipp was Assistant Professor, Brown School, Washington University in St. Louis

Jung Ae Lee, PhD,

Postdoctoral Research Associate, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine in St. Louis., 660 S. Euclid Ave., Campus Box 8100, St. Louis, MO 63110. 314.286.2843 (p) 314.747.1020 (f)

Lin Yang, PhD, MSc,

Assistant Professor of Epidemiology, Department of Epidemiology, Center for Public Health, Medical University of Vienna, Austria, Kinderspitalgasse 15, 1stFloor, 1090 Vienna, Austria. +43 (0)1 40160 - 34705 (p) +43 (0)1 40160 - 934 700 (f). At the time work was conducted, Dr. Yang was Postdoctoral Research Associate, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine, St. Louis, MO

Christine M. Marx, MA,

Senior Public Health Research Coordinator, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine, 660 S. Euclid Ave., Campus Box 8100, St. Louis, MO 63110. 314.362.9656 (p) 314.747.3935 (f)

Rachel G. Tabak, PhD, and

Research Assistant Professor, Prevention Research Center in St. Louis, Brown School, Washington University in St. Louis, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130. 314. 935.0153 (p) 314.935.0150 (f)

Ross C. Brownson, PhD

Co-Director and Bernard Becker Professor, Prevention Research Center in St. Louis, Brown School, Department of Surgery and Alvin J. Siteman Cancer Center, Washington University School of Medicine, Washington University in St. Louis, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130. 314. 935.0114 (p) 314.935.0150 (f)

Structured Abstract

Purpose—To explore combinations of worksite supports (WSS) for physical activity (PA) that may assist employees in meeting PA recommendations and to investigate how availability of WSS differs across industries and occupations

Design—Cross-sectional

Setting—Several Missouri metropolitan areas

Subjects—Adults employed >20 hours/week outside the home

Measures—Survey utilized existing self-reported measures (e.g., presence of WSS for PA) and the International Physical Activity Questionnaire

Analysis—Logistic regression was conducted for two outcome variables: leisure and transportation PA. Independent variables included 16 WSS. Of particular interest were interaction effects between WSS variables. Analyses were stratified by five occupation and seven industry types.

Results—Overall, 2,013 people completed the survey (46% response rate). Often, availability of one WSS did not increase the likelihood of meeting PA recommendations but several pairs of WSS did. For example, in business occupations, the odds of meeting PA recommendations through transportation PA increased when employees had access to showers and incentives to bike/walk (OR=1.6; 95% CI=1.16,2.22), showers and maps (OR=1.25; 1.02,1.55); maps and incentives to bike/walk (OR=1.48; 1.04,2.12).

Conclusion—Various combinations of WSS may increase the likelihood that employees will meet PA recommendations. Many are of low or no cost, including flexible time for exercise and maps of worksite-adjacent walk/bike routes. Findings may be instructive for employers seeking to improve employee health through worksite PA.

Keywords

Health Promotion; Occupation; Physical Activity; Worksite

Indexing Key Words

Manuscript format: research ; Research purpose: descriptive ; Study design: non-experimental ; Outcome measure: behavioral ; Setting: workplace ; Health focus: fitness/physical activity ; Strategy: policy ; Target population age: adults ; Target population circumstances: geographic location

Purpose

Physical activity benefits are many, and include weight control, reduced risk of chronic disease, increased musculoskeletal strength, improved mental health, and increased life expectancy; however, in 2014 only 49% of adults in the United States met federal physical activity guidelines.^{1,2} Multiple sectors exist in which to intervene to increase physical activity, including parks and public spaces, schools, transportation, and worksites.³ Because

employed adults may spend half of waking hours at work, worksites are natural places to assist employees in being active.^{4,5}

Worksite physical activity interventions offer promising solutions to the physical inactivity problem. Previous research has indicated that the presence of worksite supports for physical activity (e.g., treadmills, showers, subsidized health club memberships) can increase the likelihood that employees will engage in physical activity⁶ and meet physical activity recommendations.⁴ Further, systematic reviews from the US Community Preventive Services Task Force indicate sufficient evidence to recommend certain environmental and policy interventions, many of which can be implemented at the worksite (e.g., point-of-decision prompts for stair use).⁷

To date, much of the research examining associations between occupation or industry type and activity has focused on physical risks (e.g., occupational injuries, repetitive motion injuries) faced by employees of various occupations.^{8,9} Further, the growing body of literature examining the role of worksite supports in increasing the physical activity of employees has remained either largely broad – nonspecific for various worksite types – or very specific, applying to only certain worksite types (e.g., university staff, night shift workers, or particular occupations, such as nurses).^{10–12} Additional research has been worksite-support specific, for example, examining the impact of stair-use prompts in a particular population.¹³ Others have studied the collective effect of worksite support interventions for physical activity, by using a count or index (e.g., summing the supports available and comparing categories).^{4,14} However, little research has explored the association of specific combinations of worksite supports with employee physical activity. Identifying such combinations could assist employers with limited budgets in selecting those specific combinations that may be most likely to increase their employees' physical activity.

Wide variation exists in both the types of work employees do and in the settings in which they perform their work. For example, worksite physical activity interventions that assist manufacturing employees in being active may not be those most effective for employees in finance or administration, due to the different nature of the work being done. Recent research recognizes the need to consider occupational differences when creating new policies and worksite interventions to improve employee health, due both to differences in work and in health behaviors of employees in different occupations.^{15,16} For example, in one study, ambulance workers reported smoking more cigarettes per day than other types of employees, but also reported more frequent exercise.¹⁵ Accordingly, Gans and colleagues report an association between occupation and physical activity levels.¹⁷ Other studies call for research that examines the relationships among occupation, obesity, and weight loss intervention programs.^{18,19}

Thus, the purpose of this study was to investigate occupation and industry differences in availability of worksite supports for physical activity and to explore which combinations of worksite supports are associated with employees in various occupations and industries meeting physical activity recommendations. Specific research questions addressed were: (1) Do associations between worksite supports and meeting physical activity recommendations vary by occupation and industry? and (2) Are specific pairs of worksite supports positively

associated with the likelihood that employees in different occupations and industries will meet physical activity recommendations?

Methods

Design

A cross-sectional, telephone-based survey was conducted as part of The Supports at Home and Work for Maintaining Energy Balance (SHOW-ME) study.²⁰ The SHOW-ME study was designed to examine the associations between residential and worksite environmental and policy influences and energy balance behaviors and outcomes. Design and conduct of the study are described in detail elsewhere.²¹

Sample

The SHOW-ME study sought representation in racial minority and income status, as well as variation in built environment; thus, adult participants were recruited from four metropolitan areas in Missouri (St. Louis, Kansas City, Columbia, and Springfield). Home census tracts were selected after meeting the following criteria: population density greater than 10th percentile of the population density of study areas and less than 50% of population inhabitants 15–24 years old. The final sample was derived through a multistage, stratified sampling method that sampled participants within seven strata: metro size (large, small) and within large metro areas, walkability (low, moderate, high) and racial/ethnic minority (low, high).²²

Participants were selected through random-digit-dialing and completed the survey between April 2012 and April 2013. The first eligible adult per household was selected to participate. Inclusion criteria included: age of 21–65 years, employment of at least 20 hours per week outside the home, work conducted at one primary location comprised of five or more employees, not pregnant, no physical limitations preventing walking or bicycling in the past week, and having a household telephone land-line. Verbal informed consent was received from all participants. The Institutional Review Board of Washington University in St. Louis approved the study.

Measures

The survey instrument was part of a larger questionnaire being used for the SHOW-ME study. It drew on existing self-reported measures and environmental assessments and was informed by the experience of the research team and a Questionnaire Advisory Panel, comprised of external researchers and practitioners deemed experts in the fields of physical activity, diet, and worksite wellness.²⁰ The survey underwent significant cognitive response testing via telephone interviews with 12 participants and two trained research personnel. Interview findings were used to revise the survey to improve clarity. Further, test-retest reliability was assessed via a random-digit-dial telephone survey. Test-retest coefficients ranged from 0.41 to 0.97; 80% of items had reliability coefficients >0.6. Survey development, testing procedures and telephone interview protocols are described elsewhere.²⁰

Main outcomes involved physical activity domains (leisure and transportation), and were measured using the International Physical Activity Questionnaire long form (IPAQ).²³ Selected questions from the IPAQ were used to collect data on self-reported frequency and duration of leisure-time and transportation-related physical activity. The IPAQ has undergone significant testing for reliability and validity.²⁴ Testing has revealed good reliability (Spearman's rho ~ 0.8) and validity (median p~0.3) which is similar to other studies of self-reported data.²⁴ For both domains, leisure-time physical activity (LPA) and transportation physical activity (TPA), self-reported frequency of physical activity was dichotomized into more or less than 150 minutes of weekly physical activity. According to national guidelines, those participating in 150 minutes or more of weekly physical activity were considered to meet physical activity recommendations in either category of activity.²⁵ Although data were collected on both total physical activity and physical activity at the workplace, these are not reported here due to the amount of data already presented.

Participants reported data on personal characteristics, including gender, age, race/ethnicity, income, health status, marital status, educational attainment, and worksite size. Self-reported height and weight were used to determine obesity status.

Worksite supports (WSS) for physical activity included 16 items, which were either new or adapted from existing instruments. These instruments included the National Quality of Life Survey,^{26,27} the Environmental Assessment Tool,²⁸ and the Checklist of Health Promotion Environments at Work.²⁹ Most items had substantial reliability (Kappa = 0.60–0.79).²⁰ Participants were asked about the availability of each worksite support or environment individually. Worksite supports included: personal services, such as fitness tests or fitness or nutrition counseling; health fairs; worksite challenge events to encourage exercise or weight loss (e.g., step-count competitions); regular exercise programs (e.g., aerobic classes, team sports); indoor exercise facilities, outdoor exercise facilities; shower facilities; a place to lock a bike; flexible time for physical activity during the work day; physical activity breaks conducted during meetings or at certain times of the day; free or reduced membership to an offsite exercise facility; incentives to walk or bike (e.g., guaranteed ride home); incentives to use public transit (e.g., subsidized transit pass); maps or signs of walking routes within the workplace or offsite in neighborhoods surrounding the workplace; signs encouraging use of stairs; information, such as posters or emails, that encourage physical activity. Response options included yes, no, and don't know. Participants indicating that they did not know if their workplace had a particular worksite support were considered not to have it.

Industry and Occupation—Participants were asked to provide the name and street address of their primary workplace. They then were asked what kind of work they do (occupation) and what type of business or industry it was. Using these data, trained research staff coded each participant's response for occupation and industry.

Occupation was coded using the Bureau of Labor Statistics' Standard Occupational Classification (SOC), using the O*NET OnLine resource for detailed descriptions of each job code, as well as company name, whether the participant said he/she supervised others or not, and education.³⁰ Based on the SOC codes, SOC Job Families (where categorization is based upon similar work performed as well as similar required education and skills), and

research team consensus, occupations were collapsed into five broad occupation types: healthcare, business, education/professional, service, blue collar, office/administrative support.

Industry coding was based on the North American Industry Classification System (NAICS), used by the US government for classifying businesses.³¹ Based on the major groupings of the NAICS codes and research team consensus, seven industry types emerged: labor, healthcare, education, trade (retail/wholesale), service, professional/finance/information, public administration/utilities, and manufacturing. All coding was performed by two trained research team members; discrepancies were minimal, and resolved by consensus.

Analysis

From the list of WSS variables in the survey, a 16×16 table (with each WSS listed as both a row and column heading) was created to guide the selection of plausible WSS pairs with face validity that, together, may increase the odds that employees will meet physical activity recommendations. This was done separately for each outcome: TPA and LPA. These selections determined the relationships to be tested through data analysis. For TPA, the pairs selected included:

Showers: bike storage, incentives to walk/bike, maps

Bike storage: incentives to walk/bike, maps

Maps: incentives to bike/walk, incentives to take transit

For LPA, pairs selected included:

Personal services: flexible time for PA, exercise programs, worksite challenge events

Health fairs: flexible time for PA, subsidized memberships, maps

Exercise programs: outdoor exercise facilities, showers, bike storage, flexible time for PA, maps, posters

Challenge events: all 16 WSS

Indoor exercise facilities: showers, flexible time for PA, posters

Outdoor exercise facilities: showers, bike storage, flexible time for PA, maps, posters

Showers: bike storage, flexible time for PA, incentives to walk/bike, maps, posters

Bike storage: flexible time for PA, incentives to walk/bike, maps, posters

Flexible time for PA: subsidized memberships, incentives to walk/bike, maps, posters

Posters: PA breaks, subsidized memberships, incentives to walk/bike, maps, stair prompts

Outcome variables—Logistic regression was conducted for two outcome variables: TPA and LPA. Both the LPA and TPA variables were binary responses, coded 1 if participants met the physical activity recommendation, according to national guidelines previously described, and 0 if they did not.

Explanatory variables—The 16 WSS variables were the explanatory variables for logistic regression models. Of particular interest were the hypothesized interaction effects of the previously-selected WSS variables. The basic model can be expressed as:

$$TPA(or\ LPA)=WSS1+WSS2+WSS1 * WSS2+Covariates.$$

In this model, the small p-value (<0.05) of the third term indicates the significant effect of the interaction term, meaning WSS1 and WSS2 jointly explain the higher odds ratio of TPA (or LPA) (Tables 2–5).

Further, we were interested in investigating whether these WSS effects varied depending on industry or occupation types, so this model was applied for each subpopulation of five occupation and seven industry types.

Potential control variables were selected from those shown in Table 1 and were included in analyses based on their statistical significance in each regression model. To maximize statistical power, control variables were removed from each model when not statistically significant; thus, models include different covariates, as indicated in Tables 2–5. All analyses were conducted in R version 3.0.3.³²

Results

In total, 2,013 people completed the survey (46% response rate). A majority of the respondents were female (67%), 45 years old or older (64%), married or living with a partner (58%) and white (62%) (Table 1). Over 50% had either a college or graduate degree, 30.8% reported an annual income of \$75,000 or higher, and only 14.8% reported fair or poor health. Table 1 also illustrates the percentages of the sample that reported working in various occupations and industries. Participants reporting the presence and use of each WSS are reported elsewhere.³³

In many cases, results showed that the presence of one worksite support was not associated with an increased likelihood of meeting physical activity recommendations; however, when combined with certain other supports, the likelihood of meeting these recommendations became statistically significant.

Transportation Physical Activity

Overall, those with access to both maps and incentives to walk/bike were more likely to meet recommendations through TPA (OR=1.16; 1.01,1.34). Those working in public administration/utility industries were 1.40 times more likely to meet recommendations through TPA when they had access to both a shower and to bike storage (Table 2).

When analyses were run for the various occupations studied, the overall odds of meeting physical activity recommendations through TPA were also higher for those with maps and incentives to walk/bike (Table 3). This was also true for those in business and service occupations. For those in business occupations, several additional interactions of WSS were shown to increase the odds of meeting physical activity recommendations through TPA: showers and incentives to bike/walk (OR=1.6; 1.16,2.22), showers and maps (OR=1.25; 1.02,1.55); and maps and incentives to take transit (OR=1.29; 1.01,1.65) (Table 3).

Leisure-time Physical Activity

When the outcome of interest was meeting physical activity recommendations through LPA, many other industries and occupations revealed statistically significant interactions of worksite supports. Again, however, this was often true in cases where individual worksite supports were not predictive of meeting physical activity recommendations alone but only in combination with other supports (Tables 4 and 5). More specifically, those in labor industries were more likely to meet physical activity recommendations through LPA when they reported the presence of exercise programs and: bike storage, flexible time for exercise, and maps. Further, the combination of flexible time for physical activity during the day and outdoor facilities increased the likelihood that those employed in labor industries would meet physical activity recommendations through LPA (Table 4).

Employees from the healthcare industry were 1.5 times more likely to meet physical activity recommendations through LPA when they had both exercise programs and outdoor facilities, while those in trade industries saw statistically significant odds of meeting recommendations with multiple combinations of worksite supports. These included challenge events and: showers, flex time, and physical activity breaks; and flex time and posters (Table 4).

Employees in service industries reported increased odds of meeting physical activity recommendations through LPA when they had the combinations of challenge events and bike storage or flex time available to them, as well as bike storage and exercise programs (Table 4).

Those in manufacturing industry jobs were between 1.56 and 2.46 times more likely to meet physical activity recommendations through LPA when they had access to the following combinations of WSS: health fairs and challenge events or flex time, challenge events and bike storage, showers and incentives to bike/walk, and subsidized membership plus flex time or physical activity posters (Table 4).

Similarly, statistically significant combinations of WSS were found in a variety of occupations (Table 5). Those in healthcare occupations were more likely to meet physical activity recommendations through LPA when they had the combination of exercise programs and outdoor facilities or incentives to bike/walk and physical activity posters available to them. Those in business occupations were more likely to meet physical activity recommendations through LPA with the combination of challenge events and physical activity breaks. Service occupation employees increased their odds of meeting physical activity recommendations through LPA with maps and health fairs, as well as the presence of challenge events and flex time (Table 5).

Those in blue collar occupations were more likely to meet physical activity recommendations through LPA when they enjoyed flex time plus exercise programs or maps. This was also true where the combination of outdoor facilities and maps were reported. Finally, those in office/administrative support occupations were more likely to meet physical activity recommendations through LPA when given access to flex time plus subsidized memberships or challenge events (Table 5).

Discussion

Results from this study indicate that even where the presence of one worksite support may not increase the odds that employees will meet physical activity recommendations in various occupations and industries, certain combinations of worksite supports may be associated with higher levels of employee physical activity. These results add to the growing body of literature describing the potential to increase adult physical activity through interventions at the worksite. Further, it offers specific details about which combinations of worksite supports for physical activity may be most effective in particular occupations and industries. Such findings may be instructive for employers seeking to improve employee health through physical activity.

In this study, the potential effectiveness of several combinations of WSS to increase physical activity is clear: when employees have incentives to bike and a place to safely store their bikes, they may be more likely to bike to work. If employees have flexible time during the work day for physical activity plus facilities in which to exercise, maps illustrating suggested walking/biking routes around the worksite, or showers, fewer barriers exist to making exercise a part of the work day. In particular, challenge events that encourage employees to compete with one another as they strive to meet exercise or weight loss goals have excellent potential for success, especially when combined with worksite supports that offer opportunities to participate in physical activity during the work day (e.g., flex time, bike storage).

Two worksite support combinations that were commonly statistically significant for increasing employees' odds of meeting transportation physical activity in this study included maps plus incentives to walk/bike or to take transit. This may be because employees with these incentives available may be more likely to walk/bike or take transit to work if the walking/biking routes around the worksite have been clearly mapped for employees, likewise the routes from transit stops to the worksite. Such maps may illustrate the safest or most scenic ways to reach the worksite, which may help encourage those with additional transportation incentives to actively commute.

The benefits to employers of improving employee health are myriad. A growing body of literature indicates the potential of worksite health interventions to provide substantial financial savings, largely through reduced absenteeism, increased productivity, and decreased employee health costs.^{34–36} In fact, in their meta-analysis, Baicker and colleagues estimate that a return on investment as high as 6 to 1 is possible with well-designed and implemented worksite health interventions.³⁷ However, a 2006 survey revealed that among

employers with over 500 employees, only 19 percent offered worksite wellness programs; participation is even lower for small employers.^{38,39}

Given the potential benefits, it is important to consider why more employers do not implement worksite health promotion interventions. While recent research suggests that employers value employee health and are interested in options to improve it at the worksite, many do not believe they have the financial or human resources to implement suggested interventions.⁴⁰ Other employers, especially small- and medium-sized business owners, cite the lack of tools and guides to aid with worksite intervention implementation as a barrier to such program uptake.⁴¹

If employers have limited funds and staff to implement worksite health interventions, but are motivated to do so, these results may help them select the combinations of particular supports that may be most beneficial for their employees; further, the occupation- and industry-specific results should help narrow the field of potential supports to implement. For example, trade industry employers could sponsor challenge events to help employees increase their physical activity, while simultaneously making showers, flex time for PA during the day, or PA breaks available, as these combinations may increase the odds of success. Using these data to design an employee needs assessment, wherein employers could learn employees' physical activity needs and priorities at the worksite, they may be able to craft a worksite physical activity program that is both feasible to implement and targeted to their specific employees.

Additionally, many of the worksite supports found in this study to be positively associated with meeting physical activity recommendations are not necessarily expensive to implement. For example, in many occupations and industries, worksite challenge events increased the odds that employees would meet physical activity recommendations in combination with other supports, such as flexible time during the work day for physical activity and physical activity breaks. Worksite challenge events to encourage exercise or weight loss may require only simple planning and organizing (e.g., sign-up sheets, step-recording forms, which can be done electronically). Likewise, offering employees flexible time for physical activity during the work day or conducting physical activity breaks during meetings or at certain times in the work day are essentially cost-free interventions that require very little staff effort or infrastructure to organize (e.g., Instant Recess⁴²). Other effective worksite supports reported in this study may be implemented with no or very little cost, including maps or signs of walking routes around the worksite or surrounding neighborhoods, posters or signs that encourage physical activity, and incentives to walk or bike to work (e.g., guaranteed ride home in case of emergency).

Given these inexpensive examples, perhaps cost could be less of a barrier to employers seeking to implement worksite interventions to increase employee physical activity. Of particular help may be the active dissemination of these options to employers and practical implementation tools to assist them in bringing these interventions to the workplace (e.g., WorkWell Missouri Tool Kit⁴³). Further, to capitalize on the results presented here, such dissemination efforts should be targeted and occupation/industry-specific both to reduce the

effort employers must expend to locate potential worksite interventions, and provide employers with suggestions tailored to their specific occupation or industry.⁴⁴

A few study limitations warrant mention. Because of the cross-sectional nature of the study, we are only able to report associations, not determine causality. The sampling strategy used and restricted geographic area included in the sample may limit generalizability of the findings. Some bias may be present because only those with land lines were able to participate in the survey. Additionally, data on the presence of worksite supports and physical activity behaviors were all self-reported by participants; thus, they are subject to inaccuracy. Finally, though authors independently reviewed and agreed to probable combinations of WSS, decisions were made based on face validity and thus, there remains subjectivity in the selection of pairs. Despite these limitations, these study results offer insights into potentially effective combinations of worksite supports in various industries and occupations. Future work should utilize intervention studies to test the effect of these combinations on employee physical activity levels.

Conclusions

Though some studies report only moderate health gains resulting from worksite health promotion programs, such programs are often limited or poorly-evaluated.^{45,46} Comprehensive programs provide more promise, but may be daunting for smaller worksites to implement. As this study illustrates, it is possible that while single worksite supports may have fewer associations with activity, certain combinations of supports may increase the likelihood that employees in various occupations and industries may meet physical activity recommendations. Employers of all sizes seeking to increase employee physical activity should consider the worksite support combinations described here, looking specifically for those that may have the most potential in their industry or occupation and are the most feasible for their employee composition.

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SO WHAT? Implications for Health Promotion Practitioners and Researchers

What is already known on this topic?

Previous research indicates that the presence of WSS for PA can increase the likelihood that employees will meet PA recommendations; however, much research has focused on specific employee groups and/or specific WSS.

What does this article add?

This article explores the effectiveness of various combinations of WSS and whether their effectiveness varies by occupation or industry. Specific combinations of WSS, including challenge events plus flex time, exercise programs plus facilities, etc., are found to increase the likelihood that employees in particular industries/occupations will meet PA recommendations. Many combinations may be of low or no cost to employers.

What are the implications for health promotion practice or research?

Employers seeking to increase employee PA may consult these findings to tailor interventions to those combinations of WSS most likely to increase PA of employees in their specific industries/occupations. Even small employers or those with limited employee-wellness budgets may consider offering worksite challenge events for weight loss/exercise, flexible time for exercise, or PA breaks during meetings.

Table 1

Demographic characteristics of employees completing SHOW-ME Survey, 2013, N=2015

Characteristic		N	%
Gender	Male	652	32.4
	Female	1361	67.5
Weight Status	Under or normal weight	648	32.2
	Overweight	618	30.7
	Obese	643	31.9
Age	21–34	298	14.8
	35–44	399	19.8
	45–54	656	32.6
	55–65	636	31.6
Race	Non-Hispanic White	1250	62
	Non-Hispanic Black	601	29.8
	Other	142	7
Marital Status	Never Married	423	21
	Divorced/Separated	341	26.9
	Widowed	60	3
	Married/Living with partner	1176	58.4
Education	Grade school or some high school	81	4
	High school diploma or GED	366	18.2
	Some college or associate's degree	513	25.5
	College degree	634	31.5
	Graduate degree	414	20.5
Health Status	Poor	33	1.6
	Fair	266	13.2
	Good	760	37.7
	Very good	663	32.9
	Excellent	290	14.4
Income	\$0–29,000	391	19.4
	\$30–49,000	463	23
	\$50–74,000	412	20.4
	\$75,000 or more	620	30.8
Worksite Size			

Characteristic		N	%
	0–49 employees	619	30.7
	50–199 employees	610	30.3
	200 or more employees	690	34.2
Meets CDC Recommendations, through moderate and vigorous physical activity (150 minutes)			
	No	382	19
	Yes	1633	81
Occupation Type	Healthcare	282	14
	Business	336	16.7
	Education/Professional	373	18.5
	Service	347	17.2
	Blue Collar	289	14.3
	Office/Administrative Support	356	17.7
Industry Type	Labor	185	9.2
	Healthcare	398	19.8
	Education	347	17.2
	Trade (retail/wholesale)	205	10.2
	Service	288	14.3
	Professional/Finance/Information	273	13.5
	Public Administration/Utilities	168	8.3
	Manufacturing	126	6.3

Odds of meeting physical activity recommendations through transportation physical activity, given the combination of various worksite supports, controlling for gender, obesity, race, income, and health status, in various industries

Table 2

WSS* 1	WSS 2	Model N	N reporting both WSS	Odds Ratio	Lower 95% Confidence Interval	Upper 95% Confidence Interval	P for WSS 1	P for WSS 2	P for interaction
Overall									
Incentive bike/walk	Maps	1687	75	1.16	1.01	1.34	0.12	0.78	0.03
Public Administration/Utilities									
Shower	Bike storage	140	50	1.40	1.02	1.91	0.11	0.26	0.04

* WSS = Worksite supports

Table 3

Odds of meeting physical activity recommendations through transportation physical activity, given the combination of various worksite supports, controlling for gender, obesity, race, income, and health status, in various occupations

WSS* 1	WSS* 2	Model N	N reporting both WSS	Odds Ratio	Lower 95% Confidence Interval	Upper 95% Confidence Interval	P for WSS 1	P for WSS 2	P for interaction
Overall									
Incentive bike/walk	Maps	1680	77	1.15	1.0	1.32	0.14	0.73	0.04
Healthcare									
Shower	Maps	241	29	1.27	1.0	1.62	0.11	0.29	0.05
Business									
Shower	Incentive bike/walk	283	12	1.6	1.16	2.22	0.33	0.29	0.0
Shower	maps	487	27	1.25	1.02	1.55	0.25	0.64	0.04
Incentive bike/walk	Maps	285	12	1.48	1.04	2.12	0.46	0.95	0.03
Incentive to take transit	Maps	283	13	1.29	1.01	1.65	0.9	0.83	0.04
Service									
Incentive to bike/walk	Maps	297	12	1.59	1.1	2.29	0.86	0.42	0.01

* WSS = Worksite supports

Table 4

Odds of meeting physical activity recommendations through leisure time physical activity, given the combination of various worksite supports, controlling for age, gender, obesity, race, income, and health status, in various industries

WSS* 1	WSS* 2	Model N	N reporting both WSS	Odds Ratio	Lower 95% Confidence Interval	Upper 95% Confidence Interval	P for WSS 1	P for WSS 2	P for interaction
Labor									
Exercise Programs	Bike storage	156	30	1.57	1.105	2.35	0.15	0.89	0.03
Exercise Programs	Flex time	161	26	1.58	1.09	2.31	0.43	0.07	0.02
Exercise Programs	Maps	161	18	1.54	0.99	2.38	0.87	0.3	0.05
Outdoor facilities	Flex time	162	22	1.87	1.12	3.12	0.17	0.1	0.02
Healthcare									
Exercise programs	Outdoor facilities	330	73	1.51	1.15	1.99	0.32	0.02	0.0
Trade									
Challenge	Showers	182	7	1.6	1.0	2.32	0.09	0.52	0.05
Challenge	Flex time	180	14	1.61	1.12	2.32	0.02	0.8	0.01
Challenge	PA breaks	177	13	1.62	1.08	2.43	0.03	0.57	0.02
Flex time	PA posters	180	19	1.42	1.0	2.02	0.86	0.14	0.05
Service									
Challenge	Bike storage	241	43	1.4	1.04	1.9	0.14	0.85	0.03
Challenge	Flex time	248	35	1.43	1.08	1.91	0.15	0.53	0.01
Exercise program	Bike storage	242	41	1.55	1.12	2.13	0.02	0.87	0.01
Manufacturing									
Health fair	Challenge	108	38	1.8	1.16	2.8	0.04	0.32	0.01
Health fair	Flex time	109	22	1.72	1.14	2.59	0.19	0.17	0.01
Challenge	Bike storage	107	28	1.56	1.05	2.31	0.6	0.12	0.03
Shower	Incentive to bike/walk	111	3	2.46	1.13	5.39	0.08	0.13	0.03
Flex time	Membership	105	8	1.94	1.2	3.14	0.57	0.15	0.01
Membership	PA posters	105	23	1.76	1.02	3.02	0.05	0.74	0.04

* WSS = Worksite supports

Table 5

Odds of meeting physical activity recommendations through leisure time physical activity, given the combination of various worksite supports, controlling for age, gender, obesity, race, income, and health status, in various occupations

WSS* 1	WSS* 2	Model N	N reporting both WSS	Odds Ratio	Lower 95% Confidence Interval	Upper 95% Confidence Interval	P for WSS 1	P for WSS 2	P for interaction
Overall									
Challenge	Flex time	1680	362	1.1	1.0	1.21	0.54	0.44	0.05
Healthcare									
Exercise programs	Outdoor facilities	244	52	1.37	1.03	1.83	0.65	0.05	0.03
Incentive bike/walk	PA posters	239	15	2.04	1.11	3.77	0.18	0.94	0.02
Business									
Challenge	PA breaks	292	26	1.43	1.01	0.95	0.2	0.04	
Service									
Health fair	Maps	288	22	1.44	1.02	2.03	0.03	0.14	0.04
Challenge	Flex time	299	51	1.29	1.01	1.64	0.11	0.64	0.05
Blue Collar									
Exercise programs	Flex time	249	39	1.41	1.05	1.88	0.3	0.8	0.02
Outdoor facilities	Maps	250	32	1.42	1.0	2.01	0.88	0.29	0.05
Flex time	Maps	250	30	1.37	1.0	1.88	0.75	0.33	0.05
Office/Administrative Support									
Challenge	Flex time	299	69	1.26	1.0	1.6	0.28	0.69	0.05
Flex time	Membership	284	33	1.3	1.0	1.68	0.8	0.64	0.05

* WSS = Worksite supports