TRANSFORM GRANT RESEARCH PROJECT

AMERICAN SOCIETY OF INTERIOR DESIGNERS FOUNDATION

Title: Stand Up to Work

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EXECUTIVE SUMMARY

PURPOSE OF STUDY

The purpose of this project was to:

1. Assess the impact of adjustable workstations on employee health and wellness, perceived stress, and sedentary behavior, and

2. Assess the sustainability of observed behavioral changes over a one-year period.

RESEARCH SUMMARY

Stand Up to Work evaluates behavioral changes in office workers who receive adjustable workstations (AWS) that allow them to shift between standing and sitting, compared to workers with traditional desks. Using a randomized controlled trial where half the participants—Perkins+Will Atlanta employees—were randomly selected from one floor to receive Steelcase AWS and participants on other floors maintained traditional desks, questionnaires and brief real-time polling ("micropolling") were used to track the office workers' health and wellness behaviors. The polling and questionnaires measure sedentary behavior, perceived stress, and ongoing behavior changes before installation of the AWS and at three months, six months, and twelve months following installation.

Compared with participants using traditional desks, participants who received AWS reported (through polling) significantly less sitting two and a half months after (17 percent reduction in sitting) and six months after (15 percent reduction) installation. After twelve months, 88 percent of participants who received AWS reported the new workstations were convenient to use; 65 percent reported increased productivity; and 65 percet indicated that the AWS positively impacted their health outside of the workplace. Participants with AWS also reported better concentration and overall, would recommend AWS for their worksite.

IMPLICATION HIGHLIGHTS

- Adjustable workstations encourage office workers to stand more and sit less, reducing sedentary behavior.
- With long-term use, adjustable workstations may sustain reduced sedentary behavior and have lasting benefits.
- Adjustable workstations may improve productivity and coworker communication for certain office workers.
- Supplemental tools, such as anti-fatigue mats for standing and reminders to stand may support the use of adjustable workstations.
- Office workers appreciate that adjustable workstations provide options, an insight that could extend to offering other types of flexibility in office environments.

STAND UP TO WORK

BACKGROUND

Over the past several decades, occupation-related physical activity has declined in the United States, with an increase in positions that encourage or even necessitate sedentary to light activity. Sedentary behavior is known to be an independent predictor of conditions including obesity, diabetes, cardiovascular disease, and premature mortality, even in adults who meet physical activity guidelines.

The literature shows a favorable impact of AWS on employee wellness. However, existing literature regarding the feasibility and acceptability of these interventions is qualitative and limited, and evidence regarding the sustainability of observed behavioral changes is lacking.

METHODOLOGY

Stand Up to Work documents sedentary behavior in the workplace and the physical and social well-being of workers with AWS which allow workers to sit or stand, compared to those with traditional desks (TD). This randomized controlled trial surveyed AWS and TD participants, on multiple office floors, with two questionnaires (Workforce Sitting, Health and Work) before AWS installation, and three, six, and 12 months after installation. Participants reported current activity via micropoll three times per day for one week at both all time points and received a one-hour workplace well-being and ergonomics educational training.

KEY FINDINGS

1. AWS reduce the prevalence of sitting and this behavior is somewhat sustained over time.

Compared with participants with traditional desks, participants who received AWS reported (through polling) significantly less sitting three months after (17 percent reduction in sitting*) and six months after (15 percent reduction*) AWS installation. The trend in reduced sitting is sustained at the 12-month follow-up; however, between-group differences were not statistically significant, likely due to the smaller sample size at the 12-month follow-up.

2. AWS may reduce upper back, shoulder, or neck discomfort over time.

Participants who received AWS reported a significant reduction in upper back, shoulder, or neck discomfort at all three follow-up points*. Compared with an average score of 4.9 at baseline (0-No Discomfort to 10-Extremely uncomfortable), participants rated discomfort as 2.7 three months after, 3.3 six months after, and 2.5 twelve months after receiving AWS.

3. The use of AWS have multiple benefits including convenience in use, increased productivity, positive impact on health behavior outside of the workplace, and better concentration.

Participants who received AWS reported the new workstations were convenient to use (96 percent at six months; 88 percent at 12 months); reported increased productivity (65 percent at both six months and 12 months); and indicated that the AWS positively impacted their health outside of the workplace (61 percent at six months; 65 percent at 12 months). At the six- and 12-month follow-ups, participants with AWS also reported better concentration and, overall, would recommend AWS for their worksite.

4. AWS may also have social and mental health benefits concerning job satisfaction, coworker communication, and work efficiency.

An analysis of social and mental health outcomes after the three-month follow-up found a positive association between workday sitting and job satisfaction among men. Among women, reductions in workday sitting correlated with better coworker communication. Employees less than 30 years old had associations between reductions in weekday sitting and better coworker communication and improved work efficiency. These relationships were not statistically significant. Future studies should assess the long-term benefits of AWS and mental health outcomes.

PUBLICATIONS

- Su, C. (2016). Standing Desks Can Improve Office Productivity and Mood. ICON, ASID Foundation. June 3, 2016: http://icon.asid.org/index.php/2016/06/03/standing-desks-can-improve-office-productivity-and-mood/

PRESENTATIONS

- Garland, E. J. (2015). Stand Up to Work. Presented at the Healthcare Design, Washington, DC. November 16, 2015.
- Frank, J. (2015). Workplace Megatrends. Presented at the Greenbuild, Washington, DC. November 19, 2015.
- Frank, J. (2016). Building a Healthier Work Environment. Presented at Human Resource Executive (HRE) Conference. Las Vegas. March 30, 2016.
- Baumet, K., Sanchez, S.H., Foley, M., Doucette, J., Claflin, A., Mallin, E., Lopez, I., Hasan, H., Garland, E. (2016, November). Stand Up To Work: Prevention Through Workplace Design. Poster presented at the American Public Health Association Annual Meeting, Denver, CO.
- Claflin, A., Casanova, R. (2016, November). Promoting Health through Workplace Design: Results from the Stand Up to Work Study. Presented at NeoCon East, Philadelphia, PA.
- Claflin, A., Baumet, K., Rajupet, S., Foley, M., Doucette, J., Garland, E. (2017, February). Stand Up to Work: Promoting Movement in the Workplace with Adjustable Workstations. Poster to be presented at Active Living Research Annual Conference, Clearwater, FL.
- Frank, J. (2017, March). [Translating Research to Practice: Findings from the Stand Up to Work Study.] Presentation scheduled for Active Working Summit, London, UK.

RESEARCH BIO

Dr. Elizabeth Garland, principal investigator, is associate professor in the Departments of Environmental Medicine and Public Health and Pediatrics at Icahn School of Medicine at Mount Sinai. Since 2009, Dr. Garland has presented and published 14 abstracts with a focus on the health impacts of design strategies.

The Center for Active Design is a recognized expert in providing a multi-disciplinary perspective in the translation of health research into design solutions.

Perkins+Will informs the design of an estimated 34 million square feet of space each year. An estimated 17 million square feet of this space is corporate office space. Perkins+Will has extensive knowledge of interior design and experience implementing large-scale change to the work environment.

Steelcase has been bringing human insight to businesses by researching how people work, wherever they work for over 100 years. Those insights can help organizations achieve a higher level of performance by creating workspace ecosystems that unlock the promise of their people. Steelcase research has been shared in national and international publications, including in the *Harvard Business Review.*