

How Small Changes to Individual Workstations in an Unassigned Environment Can Impact Employee Effectiveness: A Collaborative Study Conducted by SmithGroup – Dallas and Haworth

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Do height-adjustable, unassigned workstations influence employees' job satisfaction, performance, and stress? And, given a choice of where to work in an unassigned environment, does the height of workstation divider screens impact where employees choose to sit?

Interested in exploring and understanding newer trends in the workplace, Haworth collaborated with design firm, SmithGroup's Dallas office, to study things that are important to our customers. Haworth's Global Design and Innovation team established baseline data using Haworth's HumanSpace™, a survey which identifies key workspace design and planning features that are most important to work performance, and set out with SmithGroup to explore this connection to work within the office environment.

Study Overview

Using a mixed method approach, the study took place October 2017 through February 2018 at SmithGroup in Dallas. Using HumanSpace, Haworth conducted a baseline survey with 59 participants from that office location in October of 2017. The results of the survey indicated that the areas for improvement involved the ability to work with confidential materials, support for focus work, and the management of overall noise and acoustics.

In response to project demands and growth at the Dallas office, SmithGroup wanted to explore unassigned workstations for a small subset of their employees. This gave SmithGroup the opportunity to test height-adjustable tables, within these unassigned spaces. It also gave Haworth an opportunity to test screen heights in response to our Human Performance Lab research study, looking at the effects of visual distraction on focus work. The visual distraction study found that, overall, increasing protection from visual distractions directly in front of workers is responsible for 16 percent of any performance improvement for time-sensitive, high-focus tasks.¹

In short, the purposes of this project were:

1. To measure employee satisfaction, performance, stress levels, and well-being with unassigned workstations.
2. To see how screens and, more specifically, screen height, affects privacy/the ability to focus.
3. To look at the trend of sit-to-stand workstations; is it here to stay?

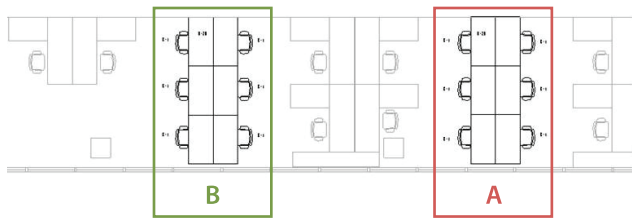
The team conducting this research made the following hypotheses:

1. Participants in self-selected (unassigned) workstations would choose 50-inch-high screens to enhance their focus work performance over 42-inch-high screens.
2. The 50-inch-high screens would enhance focus work.
3. Unassigned workstations would enhance work performance for some activities, but not all, and assist the ebb and flow of workstation needs within the Dallas office.
4. Height-adjustable, sit-to-stand tables within unassigned workstations would offer a more preferred workstation.

This 10-week study consisted of 12 test-group participants, who performed their job duties in designated, unassigned worker locations, with variable screen heights and height-adjustable tables, on the south side of the office. A separate location with assigned workstations was located on the north side of the office, where baseline/control occupants worked in workstations typical to existing SmithGroup standards.

¹ Johnson, 2017.

The unassigned test group's 12 height-adjustable workstations were configured in two clusters of six workstations. Power connections for these workstations ran through the beam partitions.



Workstation Cluster A had screens with a height of 42 inches. **Workstation Cluster B** had a screen height of 50 inches.

At the end of the test period, 22 employees—10 of whom were in the control group—were asked to participate in the post-move analysis HumanSpace survey to understand whether the new workspace features impacted their perceived performance and well-being. These findings were shared with the participants, and four focus groups were hosted for verification—two with the unassigned test group participants, one with the assigned control group, and one with managers.

Results

Using the HumanSpace™ survey data, the team conducted a multiple regression analysis that identified the top three most important workplace features that contributed to the higher scores on performance and well-being at the SmithGroup Dallas location.

The post-move analysis scores showed that the employees who worked at unassigned workstations rated the workspaces lower than assigned workers, citing that workstations were smaller with fewer amenities. Design features like storage, privacy, sound, and acoustics also contributed to lower rankings. Although employees had a lower preference for the unassigned workstations, employee performance improved for the unassigned test group. Employees ranked their individual performance and engagement (feelings about their job) higher than the initial survey, specifically in the test group. There was a significantly lower frequency of physical stress symptoms, and scores met the benchmark for sense of meaningful work and well-being for all participants. Cluster A was always occupied and was rated higher for its ability to balance team work and focus work. Cluster B had higher rankings for providing a sense of enclosure—likely due to the taller screen height.

Based on our focus group findings, other unassigned and height-adjustable workstation benefits include increased interaction and access to shared information, as well as the individual user control of choosing where to work. Collaborative benefits (better access to team, greater productivity, decreased response time, and increased interactions) ranked high amongst the unassigned workers.

The unassigned workers did identify opportunities for consideration, including how to help new people learn the rhythm, unspoken rules, and locations of coworkers. The unassigned workers had significantly smaller workstations, with cords, phones, and task lighting all being opportunities for improvement. However, almost all claimed the benefits outweighed the opportunities for improvement.

Regarding the height-adjustable workstations, our survey measured the level of ease or difficulty for employees to complete typical tasks and maintain attention on them while seated or standing. While participants were able to complete task work with ease while standing in an unassigned workspace, focus work and tasks requiring high levels of attention proved to be difficult.



Half of the participants found their typical tasks extremely or moderately easy while seated in an unassigned workspace. When assessing participants' ability to focus, more than half of participants found it easy to maintain attention to their typical tasks while seated in an unassigned workspace.

Almost half of the participants found their typical tasks extremely or moderately easy while standing in an unassigned workspace. More than half of participants found it difficult to focus on their typical tasks while standing in an unassigned workspace, but found that standing increased their ability to collaborate.

The screen findings pointed to participants occupying cluster A (with the 42-inch screens) being more productive, due to the test group ranking collaborative benefits as having greater value than focus work. Users felt the lower heights improved communication and legibility of space. The large monitors already served as visual barriers to help with focus, and many of the users didn't see benefits of the screens due to the large monitors. These findings differ from our Human Performance Lab findings, however those findings centered around the desire to focus, and the test group sought collaborative opportunities.

The variables we tested encouraged multiple affordances, or conditions that allow people to do their best work. Affordances are an item's properties that indicate the potential and/or expected use, thereby showing the

relationship between the object and the person and influencing the person's use. Utilizing Haworth's Affordances Framework, which speaks to the physical, cognitive, and emotional needs of the worker, let's examine each affordance in more detail.

Unassigned vs. Assigned Workstations

Well-Being – Autonomy: *The independence or freedom to make individual choices regarding personal artifacts, location, or activity.* The test group liked having the freedom to choose where to work.

Movement – Activity Based: *Various work settings that encourage movement in and around campus.* While unassigned, the test group used other spaces for privacy needs and larger group collaboration.

Affinity – Belonging: *The sense of being a member or part of a particular group, organization, or class.* Many unassigned workers liked to work within the same team and thought that they worked better in close proximity to each other. They liked the uniqueness the unassigned workstations created for their group identity.

Embedding: *The placing and retention of memories based on consistent work location.* This affordance wasn't present. Very little was given to the unassigned workers to help with the lack of not owning a workspace, thereby limiting the ability to embed. Small personal pedestals were provided to each unassigned worker. However, only 25% were actually used.

Externalization: *The ability to create, record, and express thoughts within the physical environment.* This affordance wasn't present. Very little workspace was provided, and space was taken away when switching from assigned to unassigned workstations. The unassigned workers' monitors were one way they could share information. The unassigned workers desired additional worksurface space to share plans and discuss work together.

Height-Adjustable Tables

Well-Being – Recovery: *The capacity to restore an individual's depleted physical and cognitive resources.* After sitting for periods of concentration, the team would raise their desks together for a quick mental break.

Affinity – Interaction: *An exchange between two or more individuals governed by self-created rules, institutions, and systems.* The unassigned group used the height-adjustable tables for quick engagements, referencing their monitors, and found the standing height preferable for collaboration.

Anthropometrics – Static: *The measure of body sizes at rest and when using devices.* The unassigned group included people of varying heights. Because the workstation heights were adjustable, unassigned workstations were always the right size, regardless of which desk they used.

Movement – Interaction: *The distance a person is willing to walk for face-to-face interactions impacted by visibility, accessibility, and openness (visible co-presence).* The occupants liked the quick access to other people's information at a standing height, non-standard work point. The height-adjustable workstations encouraged more frequent collaboration, which occupants believed was better for their work.

Movement – Physiology: *The role of "incidental activity" and occupational sitting.* Too little exercise is not the same as too much sitting. The occupants used their desk frequently throughout their day to change posture and to increase comfort.

Screen Heights 42-inch vs. 50-inch

Insulation – Focus: *The ability to attend to a single task, when optimized, known as the flow state.* The occupants who worked in the 50-inch screen height workstations liked the increased privacy created by the screens. The taller screen heights improved the ability to focus. According to a Haworth Human Performance Lab research study, when people working in benching with no visual barrier get visually distracted, they make more mistakes than people with no visual distractions at all. Also, people with a 42-inch visual barrier performed the same as the people with none—the 42-inch visual barrier did nothing to protect performance from visual distractions. People with a 50-inch visual barrier, however, made fewer mistakes than these other two groups of people.²

Insulation – Stimulus Control: *Purposeful management of stimuli based on task, activity or timing.* The occupants who liked working at the 42" screen workstations ranked the ability to connect with other team members higher than the ability to focus, therefore they did not want the 50" height workstations.

Movement – Interaction: *The distance a person is willing to walk for face-to-face interaction impacted by visual accessibility.* The occupants who chose the lower, 42" screens appreciated the ability to find and locate people quickly for spontaneous interactions.

Conclusion

Within a quick study, Haworth and SmithGroup were able to collaborate and learn more about workplace solutions and their impact on human behaviors. In studying the change from assigned to unassigned workstations—which many customers are implementing or experimenting with—we learned it would be helpful to provide adjustable features within unassigned individual workspaces to give employees the ability to personalize the space based on their focus and collaborative needs throughout the workday. We studied height-adjustable workstations for unassigned workers in a workplace where seated height was standard and found that the opportunities for height-adjustable workstations also positively influenced collaborative and team interactions. In addition, we studied screen heights, as the need for focus continues to rise, especially because the open workspace continues at an overall workstation

² Johnson, 2017.

³ Johnson, 2017.

height of 42 inches or less. This study confirmed a Haworth research study on the impact screens have on the ability to enhance high-focus, cognitive tasks.³

Overall, while this study was brief, it provided insights into our customers' behaviors. It also inspired us to ponder some additional questions for possible future research, including:

- Is the standing-height posture easier and more supportive of collaboration work than sitting?
- What new process of onboarding must be considered as a new employee enters into an unassigned working culture?
- Besides a taller screen, what other tools and products support cognition at the workstation?

As we continue to look at workplace questions and research new workspace solutions, we are thankful to collaborators, like SmithGroup, who are willing to explore and ask questions with us.

Contributor

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Reference

Johnson, Beck. "Good Stress, Bad Stress, and High-Focus Work Performance," Haworth, Inc. research brief. Holland, Michigan. 2017.

Haworth research investigates links between workspace design and human behavior, health and performance, and the quality of the user experience. We share and apply what we learn to inform product development and help our customers shape their work environments. To learn more about this topic or other research resources Haworth can provide, visit www.haworth.com.