The Influence of Personality on Where People Choose to Work

Nancy A. Schaubhut, Richard C. Thompson, and Jenny O'Hara
CPP, Inc.

Recent progress in mobile technology has allowed individuals to perform work almost anywhere in the world. Gaining an understanding of how personality may relate to where people choose to work has implications for the future of work design. Analyses showed some significant differences between MBTI® preference pairs regarding how and where people choose to work.

In many office settings individuals have available to them a variety of choices for where to get their work done and the type of work they choose to complete in these assorted work spaces. Most individuals have a workstation, either an office, cubicle, or other assigned work space where they accomplish a majority of their tasks. Still, conference rooms, lunchrooms, meeting areas, and project spaces are often available for different types of individual and group work. Moreover, with advances in technology, an opportunity for utilizing space in new and varied ways becomes a modern-day reality (Lee & Brand, 2005). More and more people are working from home, hotels, coffee shops, and other diverse locations. These advances are already seen in innovative companies like Capital One, whose flexible offices created from their "Future of Work" program allows mobile workers to choose where they conduct their work (Pratt, 2006). As ties to an individually assigned workstation lessen, research is needed to examine how different types of individuals will react and adapt to these changes. As stated by Gottfredson and Holland (1996), "individuals are more successful when they operate in environments that are compatible with their personality types".

Industrial and Organizational Psychologists have thought about work space concerning how it affects many organizationally relevant outcomes. Some of the more common outcomes investigated in relation to work space include communication (Oldham, 1988), employee turnover (Oldham & Fried, 1987), satisfaction (May, Reed, Schwoerer, & Potter, 2004), productivity (Becker, Gield, Gaylin, & Sayer, 1983), group cohesiveness (Lee & Brand, 2005), creativity (McCoy, 2005), and worker health (Lundberg & Lindfors, 2002; May, et al., 2004). This work has typically focused on controlling or manipulating environmental variables such as levels of available space (Oldham & Fried, 1987), privacy (DeCroon, Sluiter, Kuijer, & Frings-Dresen, 2005), personal control (Lee & Brand, 2005; Huang, Robertson, & Chang, 2004), work station comfort (May, et al., 2004), and light (Oldham & Fried, 1987). Individual difference variables have typically been researched secondary to more controllable environmental variables. However, recent research has started to look at some individual difference variables. For example, conceptual work relating personality type to office characteristics, summarized in "The Negotiable Environment" (Williams, Armstrong, & Malcolm, 1992), has suggested that offices are generally configured in a manner that is not consistent with the workforce's personality. Still other researchers, such as Davis (1984), Oldham and Fried (1987), and Vilnai-Yavetz, Rafaeli and Yaacov (2005) have recognized the need for further

Poster presented at the Annual Convention of the American Psychological Association, Boston, MA, August 14-17, 2008.

research on individual differences relating to the physical office environment.

Types of Work Spaces

One model for characterizing work spaces is a concept called the New Office Landscape (NOL). The NOL is explained in a recent article in See Magazine (Duffy & Goeman, 2004). A main idea of the NOL concept is that in most office settings, there exists differing types of work spaces available to employees. Characterizing an office environment allows research to focus on identifying how people currently use such spaces. The spaces of primary concern under the NOL fall into three general categories.

- Individual Space – a work space assigned to an individual for his or her exclusive use.
- Group Space – a space that may or may not be assigned to a specific group, but is available for group work, impromptu meetings, or can be used for individual work.
- Community Space – a space that is open for the use of everyone in a building, or, a company. This includes areas such as walkways, entryways, cafeterias, printer/fax/copier rooms, auditoriums, etc. Community spaces can also include spaces that are designed to be used by people on an ad hoc basis.

Individual Differences: Personality

One concept of individual differences often used to examine relationships with behavior is personality. Personality is generally accepted to be a set of enduring preferences, traits, or orientations that can be measured and relate to general behavior in predictable ways. Personality can be measured in a number of ways, with a variety of theories used to determine the specific personality measure. One of the most widely used models of personality is based on Jungian Types, and is measured using the Myers-Briggs Type Indicator® (MBTI®) assessment.

The MBTI® assessment measures four sets of dichotomies or preference pairs. Based on responses to the assessment, individuals are reported as preferring one pole of each dichotomy over the other. The preferences associated with each dichotomy are:

- E-I Extraversion/Introversion – orientation to the world, what energizes you;
    - E's draw energy from the outside world of people, activities, things, whereas
    - I's draw energy from one's inner world of ideas, emotions, and impressions.
- S-N Sensing/Intuition – how you take in information, what you pay attention to;
    - S's take in information through the five senses, noticing what is actual, whereas
    - N's take in information through a "sixth sense" and notice what might be.
- T-F Thinking/Feeling – how you make decisions;
    - T's organize and structure information to decide in a logical, objective way, whereas
    - F's organize and structure information to decide in a personal, values-based way.
- J-P Judging/Perceiving – what you present to the world, the lifestyle a person adopts;
    - J's prefer living a planned and organized life, whereas
    - P's prefer living a more spontaneous and flexible life.

The MBTI® assessment aims to identify which of the poles is *preferred* for each of the four dichotomies. A numerical score is obtained based on responses favoring one pole or the other. The letters E or I, S or N, T or F, and J or P are assigned based on the numerical score to designate a preference for each dichotomy. While people possess and use qualities for both poles of each dichotomy, the MBTI® assessment allows for recognition of those that are preferred, or used to respond first, most often, and most comfortably (Myers, McCaulley, Quenk, & Hammer, 1998).

In this study, the individual's personality type is considered while looking at daily work space usage trends. It also considers the influences of job type (the kind of work individuals perform) on where people work and the tasks they choose to perform. This exploratory research establishes patterns of relationships between what tasks are done, where they are commonly performed, and personality type, as measured by the MBTI®. The question in which we are specifically interested in, is does personality have any relationship with what type of work individuals choose to conduct in the various kinds of work spaces available to them?

METHOD

Working with an interested organization, survey and MBTI® data was collected. Occupation and MBTI® type data were used to analyze differences in work space usage. The survey focused on a variety of topics, and was developed to serve multiple purposes. For this study, however, the focus is on measures of personality, occupation, and the location and type of work performed.

Participants

Six-hundred and nineteen participants working in diverse divisions of a large U.S. industrial manufacturing organization completed the survey and the MBTI®. Invitations to complete the measures were e-mailed to the participants by the organization as part of a larger redesign of the work environment. Participation on both assessments was voluntary, and completed in a two-week period in early September, 2005.

Materials

The survey used in this study contained items measuring participant characteristics, satisfaction with individual and group spaces, types of work and locations where work is performed, and some measures of general job attitudes. The other measure was the 93 item Form M MBTI® assessment (Myers, et al.; 1998). Both of these assessments were completed on the Internet. Participants who completed both assessments were entered into a drawing to win a prize. In addition, participants who completed the MBTI® assessment were offered the opportunity to attend an interpretation session regarding personality type.

Measures

Occupation category. The research team developed occupation categories and assigned participants to the categories. The categories were based on the O*NET occupational classification scheme. Assignments were made based on a combination of item responses to demographic items on the survey and company records. Individuals in 15 categories were retained for inclusion in the study: executives; managers; first line supervisors/team leaders; marketing, program and project managers; sales; materials, commodities, and inventory; human resources; tech support; programmers and developers; customer service or support; legal, compliance, and controllers; engineering and architecture; finance and accounting; and administration

and support. Approximately 30 individuals were dropped because they could not be meaningfully included in an occupational category. The occupation category variable was used as a covariate in the analyses.

MBTI® Preferences. Participants were categorized based on their indicated preference: Extraversion or Introversion, Sensing or Intuition, Thinking or Feeling, and Judging or Perceiving, after completing the MBTI® assessment. These preference pairs, or dichotomies, were used for all analyses. Whole type analyses were not included due to insufficient sample sizes for the sixteen possible whole types.

Type and Location of Work. This measure was derived from the responses to two items. One item asked respondents to rate the percent of time they spend working on five types of tasks:

- Individual "heads down" work (concentrated work, reading, e-mailing, working on a computer, etc),
- Scheduled face-to-face meetings with others,
- Impromptu face-to-face meetings with others,
- Communication by telephone or teleconference, instant messaging, etc, and
- Administration and miscellaneous work.

The second item asked respondents to summarize where they work, without regard to the specific activities performed. Based on the NOL concepts presented earlier, definitions were made available in the survey for participants to connect these concepts to the spaces available to them. A change in terms helped participants identify the spaces in their environment in which they were already familiar. Therefore, the term "individual space", as defined in the NOL, was termed "workstation" in the survey, "group space" was changed to "conference room," and "community space" was named "open area". There were six primary locations assessed:

- In my individual workstation,
- In a conference room,
- In a dedicated project space,
- In an open area, and
- Off-site.

Responses to these two items were combined to create percentage summaries of types of work and location of work. This combination of responses was developed by multiplying each of the five locations by the five types of work and dividing by 100. By combining the items this way, there are 25 combinations of type and location of work, each reflecting the percentage of time spent doing a specific type of work in a specific location. From this set of 25, we focus our analyses on 12 type and location of work measures for the sake of brevity. The 12 measures were chosen primarily because they accounted for a larger percentage of the work time. One exception to this is the measures of time spent communicating by telephone, teleconference, and instant messaging. This did account for a large percent of work time for the sample, but in the organization studied being on the telephone tended to mean being confined to ones workspace, to answer incoming calls from customers. The 12 measures of interest are indicated in Table 1.

RESULTS

Personality Type

MBTI® preference pair percentages are presented in Figure 1 for the entire sample. The results indicate that Introverted (55%), Sensing (63%), Thinking (58%), and Judging (55%) are the more preferred dichotomies representing this sample. These are typical results for working adults in the United States (Myers, et al,; 1998).

Type and Location of Work

A 2 (Extraversion – Introversion) x 2 (Sensing – Intuition) x 2 (Thinking – Feeling) x 2 (Judging – Perceiving) Multivariate Analysis of Covariance (MANCOVA) was conducted. The occupation category was used as a covariate. The MBTI preference pairs were treated as dichotomous predictor or independent variables, and the measures of type and location of work were treated as predicted or dependent variables. This analysis was significant (F(30,573) = 1.52, $p < .05$), with the covariate and the preference pairs relating to the measures of type of work and location of work. Follow-up analyses were run, and are reported below. Few of the interaction terms were significant, and as a result, only the comparisons of the preference pairs are reported.

Occupation Category

The occupation category was a significant predictor in the model (F(30,573) = 14.16, $p < .01$). This variable also accounted for the most variance of any of the variables. This was not surprising, however, as different occupations by definition perform different tasks. In addition, there is a relationship between occupation and MBTI preferences for many occupations (Hammer, 2005).

Personality Type Related to Type of Work and Location of Work

The MBTI® preference pair analyses are summarized for each of the dependent variables in Tables 2 – 13. Although many of these comparisons resulted in significant differences, the effect sizes were generally small. However, the pattern of differences suggests there is a relationship between personality and where people choose to work, and the kinds of work they choose to do in various locations. The results of the analyses are discussed for each of the preference pairs in isolation, as this approach helps to illustrate the pattern of differences.

The Extraversion – Introversion dichotomy resulted in only two significant differences (see Tables 2 and 13). Those who are more Introverted spent significantly more time conducting heads down work in a workstation (F(1, 617) = 9.64, $p < .01$). Extraverts spent significantly more time conducting administrative and miscellaneous work in open areas (F(1, 617) = 5.27, $p < .05$).

The Sensing – Intuition dichotomy resulted in eight statistically significant differences, of the twelve presented (see Tables 2, 5, 7, 8, 9, 11, 12, and 13 respectively). Sensors tend to spend significantly more time conducting heads down work in their workstation (F(1, 617) = 33.77, $p < .01$) and conducting administrative and miscellaneous tasks in their workstation (F(1, 617) = 15.42, $p < .01$). Intuitives tend to spend significantly more time outside of their workstation conducting a wider variety of work. In conference rooms, Intuitives spend significantly more time conducting scheduled face to face meetings (F(1, 617) = 17.06, $p < .01$), impromptu face to face meetings (F(1, 617) = 17.84, $p < .01$), and miscellaneous and administrative work (F(1, 617) = 15.58, $p < .01$). In addition, in open areas, Intuitives spend significantly more time working in scheduled face to face meetings (F(1, 617) = 25.61, $p < .01$), in impromptu face to face meetings (F(1, 617) = 9.79, $p < .01$), and doing administrative and miscellaneous type work (F(1, 617) = 6.75, $p < .01$).

The Thinking – Feeling dichotomy resulted in the second largest number of significant differences (see Tables 2, 4, 5, 8, and 12 respectfully). With individuals preferring Thinking reporting a significantly higher amount of time in impromptu face to

face meetings in a workstation ($F(1, 617) = 8.75$, $p < .01$), in conference rooms ($F(1, 617) = 13.94$, $p < .01$), and in open areas ($F(1, 617) = 19.01$, $p < .01$). Individuals who prefer the Feeling preference pair spent significantly more time doing heads down work in a workstation ($F(1, 617) = 7.78$, $p < .01$), and administrative and miscellaneous work in a workstation ($F(1, 617) = 19.17$, $p < .01$).

The Judging – Perceiving dichotomy resulted in a couple of significant results as well (Tables 5 and 11). Judgers reported spending significantly more time doing administrative and miscellaneous tasks in their workstation ($F(1, 617) = 8.48$, $p < .01$), and Perceivers spent more time in scheduled face to face meetings in open areas than Judgers ($F(1, 617) = 3.97$, $p < .05$).

DISCUSSION

Although no specific hypotheses were developed for this study, it was expected that the most meaningful Jungian dichotomy would be Extraversion-Introversion. According to the theory, Extraverts seek and gain energy from their environment. As a result, it was expected that Extraverts would spend more time outside of their individually assigned workstation, regardless of the task. Instead, surprisingly, the Sensing – Intuition dichotomy seems to be most strongly related to where people choose to work, and the kinds of work they do there. Although not anticipated to be the primary component of the theory to be related to type and location of work, this finding seems consistent with what type theory suggests. Individuals with a preference for Sensing collect information through their five senses and prefer hands on activities. Working in an individual workstation could result in fewer distractions, and improve the ability to work with the five senses to accomplish work. Individuals with an Intuitive preference, however, tend to connect information and see possibilities. This activity may be better accomplished with more time away from the individual workstation and meeting with others in the environment. These results suggest that Intuitives may be more open to using the variety of types of work spaces that are becoming more and more common today, due largely to the advances in mobile technology.

The majority of the Thinking – Feeling differences was related to impromptu meetings. Individuals with a Thinking preference typically make decisions in an orderly and rational manner. It is possible that as they are working and making decisions, they seek out information as needed from colleagues. Individuals with a Feeling preference tend to make decisions based on their own personal values. As a result, it may be less necessary to communicate with others when making decisions. Again, these results can be interpreted as being consistent with Jungian theory, but may require further research to determine why this dichotomy is primarily related to impromptu meetings.

Similar to the Extraversion – Introversion dichotomy, it was anticipated that the Judging and Perceiving dichotomy would be related to a number of differences in type and location of work. Instead, there were very few. Typically, individuals with a Judging preference are perceived as those who like to accomplish work, and complete tasks. They start tasks early, and finish on time. Individuals with a Perceiving preference are typically characterized as those who like to be pressure prompted, start tasks to finish them just in time, and may miss deadlines or be late for appointments. The differences that were found here make sense within Jungian theory, where individuals with Judging

preference spend more time completing administrative work in their workstation because they tend to prefer things to be orderly, and may wish to get these mundane tasks completed, while individuals with a Perceiving preference delay this work, or simply pay less attention to it. Similarly, individuals with a Judging preference may be less interested in meetings compared to individuals with a Perceiving preference.

From these analyses, it appears that the combined influence personality type, both through occupational selections and as an individual difference variable, is worth further consideration in studies of work space utilization. An advantage of this study is that it included a variety of occupations in an organization that encourages people to work in the spaces they prefer. This provided a sizeable sample for the examination of personality preferences. However, because all of the individuals work for the same organization in a specific industry, generalization of the results may be limited. Future studies should disentangle the confound of personality type in occupations, as well as sample employees in a variety of organizational settings to determine if more meaningful effects of personality can be found, and, if the results reported here are applicable in a variety of environments.

References

Becker, F. D., Gield, B., Gaylin, K., & Sayer, S. (1983). Office design in a community college: Effect on work and communication patterns. *Environment and Behavior 15(6),* 699-726.

Davis, T. R. V. (1984) The influence of the physical environment in offices. *Academy of Management Review, 9(2),* 271-283.

DeCroon, E. M., Sluiter, J. K., Kuijer, P. P. F. M., & Frings-Dresen, M. H. W. (2005). The effect of office concepts on worker health and performance: a systematic review of the literature. *Ergonomics, 48(2),* 119-134.

Duffy, R. & Goeman, D. (2004). The New Office Landscape: Why Variety and Choice are good for work environments. *SEE: The potential of place,* 8-33.

Gottfresson, G. D., & Holland, J. L. (1996). *Dictionary of Holland occupational codes.* Odessa, FL: Psychological Assessment Resources.

Hammer, A. L. (2005). *MBTI® Career Report User's Guide.* Mountain View, CA. CPP, Inc.

Huang, V-H., Robertson, M. M., & Chang, K-I. (2004). The role of environmental control on environmental satisfaction, communication, and psychological stress: Effects of office ergonomics training. *Environment and Behavior, 36(5),* 617-637.

Lee, S. Y., & Brand, J. L (2005). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology, 25,* 323 – 333.

Lundberg, U., & Lindfors, P. (2002). Psychophysiological reactions to telework in female and male white-collar workers. *Journal of Occupational Health Psychology, 7(4),* 354-364.

May, D. R., Reed, K., Schwoerer, C. E., & Potter, P. (2004). Ergonomic office design and aging: A quasi-experimental field study of employee reactions to an ergonomics intervention program. *Journal of Occupational Health Psychology, 9(2),* 123-135.

McCoy, J. M. (2005). Linking the physical work environment to creative context. *Journal of Creative Behavior, 39(3),* 169-191.

Myers, I.B., McCaulley, M. H., Quenk, N. L. & Hammer, A. L. (1998). *MBTI® Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator.* Palo Alto, CA. Consulting Psychologists Press.

Oldham, G. R. (1988). Effects of changes in workspace partitions and spatial density on employee reactions: A quasi-experiment. *Journal of Applied Psychology, 73(2),* 253-258.

Oldham, G. R., & Fried, Y. (1987). Employee reactions to workspace characteristics. *Journal of Applied Psychology, 72(1),* 75-80.

Pratt, M. K. (2006). Office space reconsidered: IT has changed work; now it's up to IT to set workers free. *Computerworld, July 31, 2006,* 32-33.

Vilnai-Yavetz, I., Rafaeli, A., & Yaacov, C. S. (2005). Instrumentality, aesthetics, and symbolism of office design. *Environment and Behavior, 27(4)*, 533-551.

Williams, C., Armstrong, D., & Malcolm, C. (1992). *The Negotiable Environment: People, White-Collar Work, and the Office*. Zeeland, Michigan: Herman Miller, Inc.

Figure 1. MBTI® Type Preference Pair percentages for the sample.

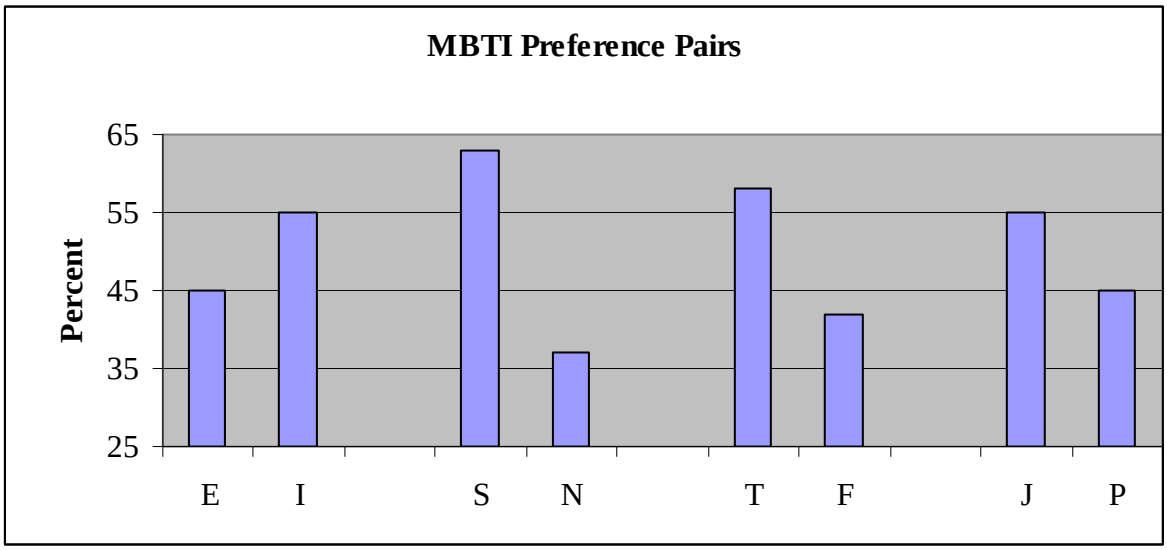

Table 1. Average percentage of time spent on type of work and location of work.

	Individual Heads Down Work	Scheduled Face to Face Meetings	Impromptu Face to Face	Telephone, Telecom, and IM*	Administrative and Miscellaneous	Total Time Spent on Where Work is Done
In Workstation	37.3%	8.7%	6.5%	9.8%	3.8%	66.1%
In Conference Room	6.2%	4.1%	2.1%	2.0%	0.9%	15.3%
In Dedicated Project Space*	1.1%	0.6%	0.4%	0.3%	0.2%	2.6%
In Open Area	4.1%	1.9%	1.3%	1.3%	0.6%	9.2%
Off-site*	3.0%	1.4%	0.9%	1.0%	0.4%	6.7%
Total Time Spent on Type of Work Being Done	51.7%	16.7%	11.2%	14.4%	5.9%	100%

* Measures not included in present study

Table 2. MBTI preference pair differences on heads down work in an individual workstation.

Preference	M	*F*	*p*
E	34.05	9.64	.00**
I	39.78		
S	41.22	33.77	.00**
N	30.39		
T	35.00	7.78	.01**
F	40.19		
J	38.60	2.78	.10
P	35.51		

df (1, 617), ** $p < 01$, * $p < .05$

Table 3. MBTI preference pair differences on scheduled face-to-face meetings in an individual workstation.

Preference	M	*F*	*p*
E	8.90	0.32	.57
I	8.68		
S	8.48	0.80	.37
N	9.28		
T	8.93	2.70	.10
F	8.57		
J	8.80	0.02	.90
P	8.75		

df (1, 617), ** $p < 01$, * $p < .05$

Table 4. MBTI preference pair differences on impromptu face-to-face meetings in an individual workstation.

Preference	M	*F*	*p*
E	6.68	0.82	.36
I	6.35		
S	6.40	0.49	.49
N	6.66		
T	6.95	8.75	.00**
F	5.89		
J	6.45	0.10	.75
P	6.56		

df (1, 617), ** $p < 01$, * $p < .05$

Table 5. MBTI preference pair differences on administrative and miscellaneous work in an individual workstation.

Preference	M	*F*	*p*
E	3.66	0.61	.43
I	3.89		
S	4.23	15.42	.00**
N	3.05		
T	3.25	19.17	.00**
F	4.53		
J	4.18	8.48	.00**
P	3.33		

df (1, 617), ** $p < 01$, * $p < .05$

Table 6. MBTI preference pair differences on heads down work in conference rooms.

Preference	M	*F*	*p*
E	6.30	0.02	.89
I	6.35		
S	6.17	1.32	.25
N	6.58		
T	6.56	2.51	.11
F	6.00		
J	6.45	0.59	.44
P	6.18		

df (1, 617), ** $p < 01$, * $p < .05$

Table 7. MBTI preference pair differences on scheduled face-to-face meetings in conference rooms.

Preference	M	*F*	*p*
E	4.18	0.02	.90
I	4.11		
S	3.32	17.06	.00**
N	5.53		
T	4.53	3.04	.08
F	3.61		
J	3.94	0.74	.39
P	4.39		

df (1, 617), ** $p < 01$, * $p < .05$

Table 8. MBTI preference pair differences on impromptu face-to-face meetings in conference rooms.

Preference	M	*F*	*p*
E	2.38	3.03	.08
I	1.98		
S	1.79	17.84	.00**
N	2.78		
T	2.52	13.94	.00**
F	1.67		
J	2.03	1.53	.22
P	2.31		

df (1, 617), ** $p < 01$, * $p < .05$

Table 9. MBTI preference pair differences on administrative and miscellaneous work in conference rooms.

Preference	M	*F*	*p*
E	0.96	2.01	.16
I	0.85		
S	0.78	15.58	.00**
N	1.11		
T	0.93	0.56	.45
F	0.86		
J	0.90	0.00	.95
P	0.90		

df (1, 617), ** $p < 01$, * $p < .05$

Table 10. MBTI preference pair differences on heads down work in open areas.

Preference	M	*F*	*p*
E	3.99	0.44	.51
I	4.20		
S	3.92	2.36	.12
N	4.42		
T	4.33	2.70	.10
F	3.80		
J	4.00	0.48	.49
P	4.22		

df (1, 617), ** $p < 01$, * $p < .05$

Table 11. MBTI preference pair differences on scheduled face-to-face meetings in open areas.

Preference	M	*F*	*p*
E	2.13	1.73	.19
I	1.83		
S	1.54	25.61	.00**
N	2.69		
T	2.12	2.61	.11
F	1.75		
J	1.76	3.97	.05*
P	2.21		

df (1, 617), ** $p < 01$, * $p < .05$

Table 12. MBTI preference pair differences on impromptu face-to-face meetings in open areas.

Preference	M	*F*	*p*
E	1.51	3.83	.05
I	1.20		
S	1.15	9.79	.00**
N	1.66		
T	1.64	19.01	.00**
F	0.94		
J	1.20	3.72	.05
P	1.51		

df (1, 617), ** $p < 01$, * $p < .05$

Table 13. MBTI preference pair differences on administrative and miscellaneous work in open areas.

Preference	M	*F*	*p*
E	0.74	5.27	.02*
I	0.56		
S	0.57	6.75	.01**
N	0.77		
T	0.66	0.37	.54
F	0.62		
J	0.61	0.79	.37
P	0.68		

df (1, 617), ** $p < 01$, * $p < .05$