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Interior design features predicting satisfaction with office workspace privacy and noise

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ABSTRACT

Background and aim – Lack of privacy is a prominent issue in contemporary offices. This study aimed to identify interior design features that jointly influence satisfaction with privacy and noise in the office workspace, and estimate their predictive power. This knowledge can inform strategic workplace design.
Methods – Eight design features were defined that were expected to influence visual, acoustic and physical privacy, noise from other people and acoustic quality, and which would be easy to report for users. Data were collected through an online survey among office workers in the Dutch public sector (*N* = 323). The joint impact of design features on the experienced privacy and noise was calculated through ordinal regression analysis.
Results – The data indicate that small, relatively isolated rooms predict privacy and noise satisfaction better than privacy screens, soft flooring, and visibility control. Workspace soundproofing increases satisfaction with sound privacy and acoustics, but it does not reduce noise annoyance.
Originality – This study operationalizes architectural privacy along several dimensions and from a user perspective, and hierarchically relates them to specific workspace satisfaction outcomes, generating actionable insights for workplace designers.
Practical and social implications – The study can serve as a source for evidence-based workplace design and management that aims to balance user needs for privacy and quiet against their need for social interaction. Currently, this balance is especially important because hybrid working may increase the need for informal interaction at the office while there still is a need for privacy and quiet spaces.
Type of paper – Research paper (full).

KEYWORDS
Office space, interior design, satisfaction, privacy, noise, acoustics.

INTRODUCTION
Workspace satisfaction has been observed to influence job satisfaction, which in turn is related to productivity and turnover (Davis et al., 2011; Van der Voordt, 2004; Wright & Bonett, 2007). It is therefore important for organisations to support user needs towards workspace privacy. The prolonged working from home during the covid-19 pandemic has once more underlined that many offices fail to adequately support individual user needs. For the average employee, the home office performs better than the office workplace (Leesman, 2021). It offers considerably more privacy and quiet, and a better ambience than their pre-Covid workspace at the office (Colenberg & Keyson, 2021).

In the past years, perceived lack of privacy and noise annoyance have been the most prominent issues in office environments, especially in open-plan offices and activity-based working environments (Bodin Danielsson & Bodin, 2009; Engelen et al., 2019; Kim & De Dear, 2020; Marzban et al., 2021; Vanhoutte,

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2015). Noise annoyance and perceived lack of privacy refer to unwanted social interactions. The tension between privacy and interaction may be especially salient if substantial working from home results in a higher need for social interaction at the office than before, while there still is a need for quiet workspaces at the office. Recent research showed that the expected crowdedness and the availability of private spaces for concentration and meetings determined employees' choice to return to the office (Appel-Meulenbroek et al., 2022).

However, without detailed knowledge about the sources of privacy dissatisfaction and their relationship with office workspace design, it is difficult to decide upon changes for improvement. Empirical studies that relate actual workspace characteristics to noise annoyance are scarce (Colenberg et al., 2021). Furthermore, in real-life settings, design features do not occur in isolation but are related to each other. Privacy is a complex concept with several dimensions which may impose different needs on the physical environment. Therefore, this study aims to explore to what extent specific workspace design features jointly predict satisfaction with specific dimensions of perceived privacy and noise in offices.

Experienced privacy at the office

A widely used conceptualisation of privacy is by Altman (1975), who defines privacy as the individual's ability to regulate and maintain an optimal level of social interaction. According to Gifford (2014, p. 171) current typologies of privacy are often based on the ideas of Alan Westin, who distinguished being alone (solitude), group privacy (intimacy), being among others without interaction and while not being identified (anonymity), and psychological barriers against intrusion (reserve). Solitude with no one else nearby is referred to as isolation. At the office, isolation from the sights and sounds of other people may be needed for concentration work and recovery from stress, intimacy for private conversations and bonding, and reserve to prevent feelings of crowding and reduce distractions.

In studies on satisfaction with office workspace privacy, there often is a distinction between visual privacy, which refers to not being seen, and sound, acoustical, or speech privacy, which refers to not being overheard (Kim & de Dear, 2013; Leder et al., 2016; Oldham, 1988). A recent application of Altman's theory to the work context distinguishes between input from others and output to others of general, social, visual, and acoustic stimuli (Weber et al., 2021). According to this perspective, perceived privacy at the office not only includes control over how much others can see or hear of you (disclosure), but also the absence of unwanted sound (noise) caused by other people. This means that the concepts of workspace privacy and noise from others are entwined. Since the intrusion of personal space could be considered a violation of physical privacy, this was added to the studied privacy dimensions.

Privacy by interior design

In this study, workspace design refers to the interior design of office space, which ranges from layout and arrangement of spaces to surface materials and furniture (Ching & Binggeli, 2018). In contrast to experienced privacy, *architectural* privacy (Sundstrom et al., 1980) at the office refers to the actual enclosure of the workspaces and whether a door can be closed. Architectural workspace privacy is importantly influenced by spatial arrangement (Gifford, 2014, p.350). Naturally, a smaller room or more partitions will provide more enclosure and restrict accessibility. The number of workstations impacts the density and proximity of people within the workspaces. Spatial and social density reduce the possibilities to achieve desired privacy and can induce feelings of crowding. Even the arrangement of furniture matters, for example, whether users face each other or not, and the distance to neighbours (Laurence et al., 2013). According to the theory of prospect and refuge (Appleton, 1984), people prefer having their back covered, while being able to overview the area in front of them.

Furthermore, layout and spatial organisation determine the travel routes of people and sound within the office building. Passers-by can violate the office workers' privacy by looking into the workspace or producing noise by walking and talking. According to space syntax theory, office workspaces having a central, integrated position on the floor will attract more users than those having a less central, more isolated position (Sailer & Koutsolampros, 2021). In large or open office workspaces, people passing by closely can infringe the worker's personal space, since the preferred interpersonal distance in business relations is 1.20 to 3.50 m (Hall, 1966). Apart from physical openness, the use of transparent building materials enables vision from one space into the other and thereby reduces visual privacy. Solid partitions obstruct vision and additionally reduce sound transmission, especially if they are covered with sound-absorbing material. Surface finishes, such as floor covering, may influence the reflection and distribution of sound.

Conceptual framework

Based on the above definition of privacy dimensions, and the theoretical and practical identification of possibly related workspace characteristics, eight design features were chosen that were expected to reflect the architectural privacy and acoustic quality of an office workspace (see Figure 1). They include spatial characteristics, finishes and furniture, which cover important components of interior design. Furthermore, these design features were assumed to be easy to identify and report by office users. Self-report measures are appropriate for individual experience and satisfaction. Noise, for instance, is a psychological interpretation that depends on sensitivity and situational aspects and not just on the sound level. Regarding design features, measurement of some might be more detailed or accurate when taken by independent observers, for example, the height of partitions, but we expect self-report measures reasonably accurate while much easier to obtain.

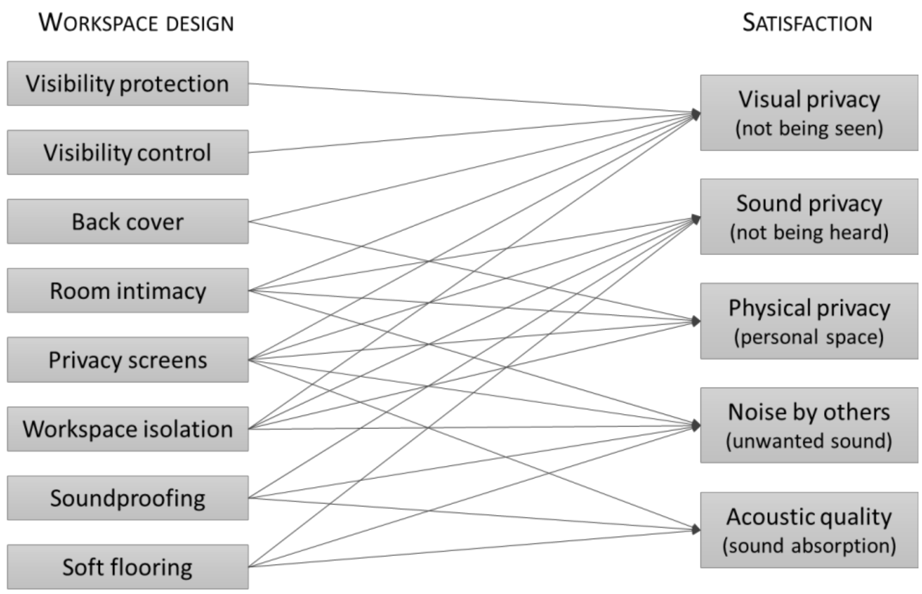

Figure 1 Hypothesized design predictors of satisfaction with privacy and noise.

It was expected that satisfaction with visual privacy (not being seen) would be predicted by the visibility of the user from outside the workspace, possibilities for the users to adapt their visibility, for instance through closing the door or closing curtains, and a back cover preventing others to approach them unseen or look at their computer screen. Furthermore, the number of roommates (room intimacy), the presence and height of privacy screens attached to the workstation, and the isolated location of the workspace were expected to affect visual privacy. Isolation of the workspace in the spatial layout was chosen to reflect the risk of privacy violence and noise from people passing by. Sound privacy (not being heard by others) was expected to depend on room intimacy, screens, isolation and the degree of speech transmission (soundproofing). Physical privacy (personal space, distance to others) was expected to depend on the back cover, room intimacy, screens, and isolation. Annoyance with the noise of others was expected to be predicted by large workspaces, lack of (sound-absorbing) screens, regular traffic around the workspace, and lack of soundproofing and soft flooring. Acoustic quality was expected to depend on screens, soundproofing and flooring material.

METHOD

Variables and measurement

The aspects of architectural privacy and acoustic quality that were chosen to reflect the scope of interior design and the various dimensions of privacy, as explained above, were operationalized into eight ordinal variables (Table 1), which were to be measured by self-report rather than direct observation.

Table 1 Operationalization of the degree of architectural privacy and acoustic quality of the office workspace ranging from a low (1) to a medium (2) and high (3) level.

Design feature	Level 1 (low quality)	Level 2 (medium)	Level 3 (high)
a. Visibility protection	Look in at eye level from 2+ sides	Look in at eye level from 1 side	Worker not visible at eye-level
b. User visibility control	No possibilities for adjusting the visibility	Limited possibilities	Several possibilities
c. Back covered when seated	No cover (back towards open space)	Half-high or transparent cover	High & solid back cover
d. Room intimacy	Large/open (> 6 pers.)	Medium (4-6 persons)	Small (1-3 persons)
e. Privacy screens workstation	No screens attached/ next to the workstation	Low screens (can look over standing-up)	High screens (not able to look over)
f. Isolation of workspace	People pass by regularly/ continuously	People pass by now and then	Few passers-by due to isolation
g. Soundproofing of workspace	Any speech can be overheard	Only loud speech/ intonation passes	Workspace (almost) soundproof
h. Flooring material	Hard, reflecting sound	In between, walking makes sound	Soft & absorbing sound

Architectural privacy, or actual enclosure, was operationalized into six variables (Table 1, row a-f) that were measured by self-report. Visibility protection (a) within the workspace was indicated by the reported number of sides from which passers-by could look into the workspace from outside, the door (if present) closed, due to openness or transparency of the wall or door at eye level. The degree of visibility control (b) was measured by the perceived amount of possibilities for workers to prevent people to look into their workspace from outside. Room intimacy (d) measured the number of persons sharing the room, i.e. the number of workstations as reported. Open workspaces were included in the category of large rooms. Isolation of the workspace (f) from traffic was expressed by the usual amount of passers-by. Other aspects of workspace enclosure were measured by (e) the self-reported presence and height of non-transparent privacy screens attached or placed next to the workstations, and (c) to what extent the users feel their back covered by for example a wall or bookcase while seated at their workstation.

As self-report measures of acoustic quality, two acoustic design solutions were included that should be easy to identify by ordinary office users: (g) the degree of soundproofing, expressed by how well people at one metre outside the workspace can overhear speech from within the workspace, and (f) sound absorption by type of workspace flooring, ranging from a surface that is perceived as hard and sound-reflecting to one that is soft and well absorbing the sound of walking. Privacy screens attached to the workstation may also support acoustic quality, but they will only absorb speech if they are sufficiently high (above 1.40m from the ground) and covered by sufficiently sound-absorbing material.

Satisfaction with privacy and noise in the workspace was measured through satisfaction with five workspace characteristics which were phrased and explained in the questionnaire as follows: visual privacy (yourself or your screen not being seen by others), sound privacy (not being heard by others), personal space (others sitting or passing by at a comfortable distance), the amount of noise by other people, and acoustics (echo and sound spreading). Respondents were asked to indicate their average satisfaction with these aspects of the workstation(s) they use at the office on a 5-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

Questionnaire and data collection procedure

Data were collected through an online survey among office workers in The Netherlands, which was developed for a larger study on workplace design and well-being. In this questionnaire, items with Likert scales were presented in a random order to prevent anchoring bias. The order of responses to ordinal variables alternated between low-high and high-low to prevent primacy bias. In the case of desk-sharing, participants were instructed to answer the questions with their usual or most used workstation in mind.

Four organisations in the Dutch public sector, recruited through the network of the first author, participated in the study. They occupied three different office buildings featuring a variety of workspaces, with an emphasis on traditional cellular offices but also featuring activity-based working environments. In each organisation, a key person distributed the anonymous link to the questionnaire among all employees, between November 2020 and February 2021. Of the approximately 1200 employees that were invited, 589 (± 49%) responded to the survey. Respondents who had joined the organisation after the first lockdown of March 13, 2020, were excluded from our analysis because they had not experienced the office at its normal occupancy. Between the lockdowns of Spring and Autumn 2020, working from home was still advised in these organisations and the Summer holidays further reduced occupancy. Additionally, respondents were excluded who did not indicate that they had been working at the office for at least several days since that first lockdown, because then memories of their office workspace experience might have faded or changed. In total, 323 valid questionnaires were used for this study.

Sample characteristics

Approximately half (48%) of the respondents in our sample were 40 to 59 years old, 18% were younger than 40 and 34% older than 59. The majority (68%) had been working in their current department for more than two years. At the office, most of the respondents either formally (47%) or practically (17%) owned a workstation, and an additional 24% nearly always resided in the same area; only 10% indicated using a wide range of workspaces in the office. Due to COVID-19 restrictions, 43% of the respondents were completely working from home when they completed the survey, although they had been working in the office regularly or incidentally in between lockdowns, a few months before.

Statistical analyses and modelling

We tested our expectation that privacy and noise would be related by calculating Spearman's rank correlations between the five satisfaction variables. The distributions of all variables were explored through descriptive analyses. To evaluate the predictive power of combined design features and forecast the effects of design changes, we performed ordinal (i.e. cumulative logistic) regression analyses. Ordinal regression is a parametric statistical test to determine whether one or more predictor variables have a statistically significant effect on an ordinal outcome, such as Likert scale variables (Eiselen & Van Huyssteen, 2021). Each regression analysis took one aspect of satisfaction as the dependent variable and several design features as independent variables (see Fig.1). According to (Norusis, 2012), the complementary log-log link function is best for variables heavy in positive values, the negative log-log for positively skewed variables, and the logit for more or less evenly distributed variables. For our data, the logit link provided the best results.

The ordinal regression analyses were started by including all of the predictors that were expected to be important to the dependent variable (see Fig. 1). When predictors seemed not to be helpful in the model, they were removed and the model was re-estimated. To check if the data met the required assumptions, they were assessed for multicollinearity and proportional odds. Since odds ratios provide additional interpretations of the regression models in real-world contexts (Eiselen & Van Huyssteen, 2021), they were calculated through $e^{-\beta}$, β being the estimated coefficient (Norusis, 2012). All statistical analyses were performed using IBM SPSS Statistics 25.

RESULTS

Correlations

As expected, satisfaction with privacy and noise are entwined. Table 2 shows substantial and statistically significant correlations between all aspects of perceived privacy and noise annoyance, with the strongest relationship between visual and physical privacy (ρ = .600), and the least strong connection between visual privacy and acoustic quality (ρ =.479).

Table 2 Non-parametric correlations (Spearman's rho) between satisfaction variables.

	Visual	Sound	Physical	Noise	Acoustic
Visual privacy	1	.528**	.600**	.520**	.479**
Sound privacy		1	.542**	.585**	.529**
Physical privacy			1	.554**	.557**
Noise of others				1	.599**
Acoustic quality					1

** Correlation is significant at the 0.01 level (2-tailed).

The reported design features also correlate to each other, but coefficients are much lower (see Table 3) and do not indicate problematic multicollinearity (Field,2013, p.335).

Table 3 Non-parametric correlations (Spearman's rho) between design features.

	Room	Isolated	Visible	Control	Screen	Cover	Sound	Floor
Room intimacy	1	-.199**	.274**	.339**	-.404**	.556**	.376**	.136*
Isolation		1	.162**	.123*	.110	-.042	.012	-.048
Visibility protect			1	.264**	-.188**	.287**	.357**	.065
Visibility control				1	-.154**	.275**	.202**	.091
Screens					1	-.295**	-.254**	-.039
Back cover						1	.239**	.109
Soundproof							1	.150*
Soft flooring								1

** Correlation is significant at the .01 level (2-tailed); * significant at .05 level

Table 3 shows that in the studied sample, smaller, more intimate rooms more often have privacy-supporting design features such as a covered back, less visibility of the user in the workspace, more control of visibility, and a more soundproof workspace, and more soft flooring which could reduce noise. Not surprisingly, privacy screens more often appear in larger rooms and open spaces than in smaller rooms. More remarkable is the centrality of smaller rooms: apparently, in this sample they are more often located within the office traffic flow (less isolated, more passers-by) than large workspaces. Extending the sample to other office buildings might lead to different correlations due to different design choices influenced by for example user preferences or budget.

Frequencies and distributions

Figure 2 illustrates that the majority of the respondents were satisfied with personal space and acoustics in their office workspace, but relatively many of them were dissatisfied with noise, sound privacy, and visual privacy. Note that this may have been influenced by the home working experience, which offered many office workers more quiet and privacy than working at the office.

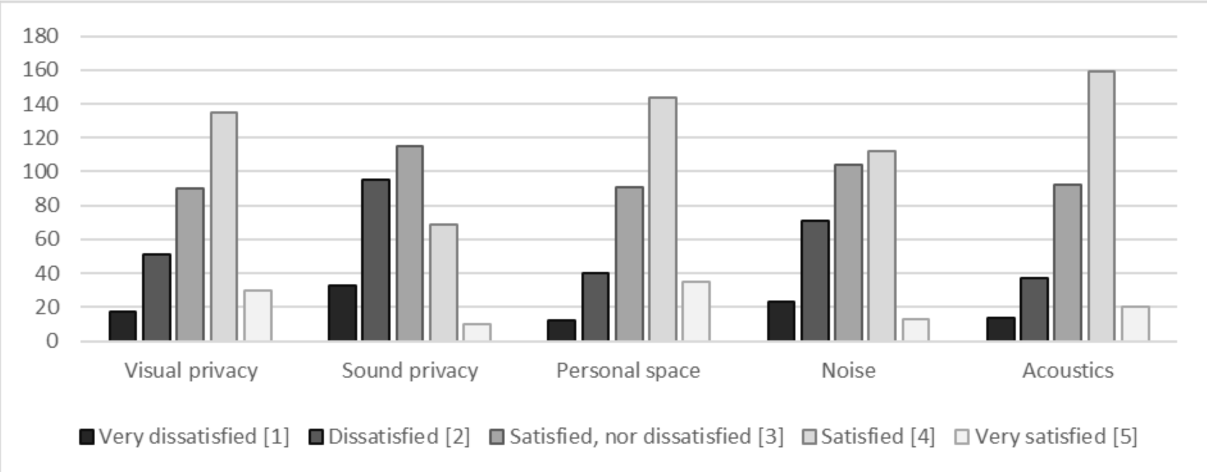

Figure 2 Frequencies (count) of the dependent variables.

Figure 3 reflects the differences in workspace design within the sample. In these offices, only a few workstations featured privacy screens around them, but many had a high and solid partition behind them. Soft flooring was more common than a hard floor surface, soundproofing is reasonable, and the majority of the workspaces were integrated rather than isolated.

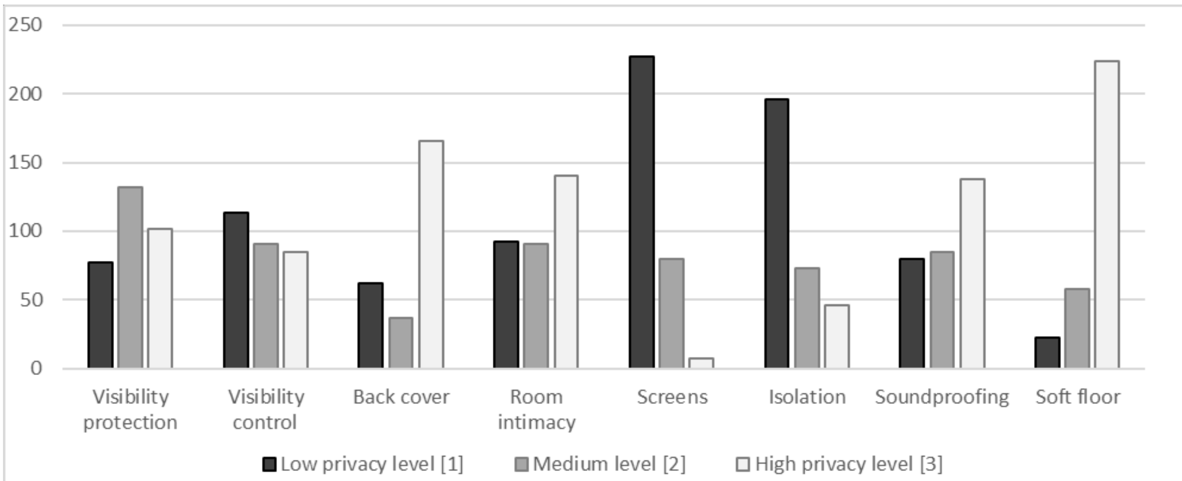

Figure 3 Frequencies (count) of the independent variables.

Figures 2 and 3 show that neither of the variables is normally distributed, hence a parametric test is a right choice to analyse relationships. They also show that several categories are filled with less than fifty cases. Sparse levels increase the risk of empty cells in the regression analysis, which undermine the reliability of the chi-square-based fit statistics and parallel lines test for proportional odds. To reduce this risk, the dependent variables were condensed into three categories: (1) dissatisfied, (2) neutral, and (3) satisfied. Furthermore, the two smallest categories of independent variables *Back cover*, *Screens, Isolation,* and *Flooring* (see Fig. 3) were collapsed into their adjacent categories to form dichotomous variables: *Back cover* either high and solid (2) or low/transparent/none (1), *Screens* present (2) vs. absent (1), *Isolation* scored as isolated with infrequent passers-by (2) vs. central (1) with frequent passers-by, and *Flooring* as soft (2) vs. medium/hard (1).

Regression analyses

The first regression analysis of *Visual privacy* with all six hypothesized predictors (Fig. 1) showed that three of them did not significantly contribute to the model according to Wald's test: *Visibility Control*, *Isolation* and *Screens.* These predictors were removed from the model. To solve the problem of empty cells, either *Back cover* or *Visual protection* had to be dropped, since dichotomizing *Visual protection* did not reduce the number of empty cells to zero. *Visual protection* was retained because the model fit was better (R^2 = .208) than for the model including *Back cover* (R^2 = .186).

Regarding satisfaction with *Sound privacy*, predictors of *Isolation*, *Screens* and *Flooring* appeared to not significantly contribute to the model. They were removed while keeping *Room intimacy* and *Soundproofing* (R^2 =.159). *Screens* and *Back cover* did not significantly contribute to satisfaction with physical privacy, and neither did *Screens* contribute to satisfaction with noise or acoustics. Excluding those variables resulted in a model including *Room intimacy* and *Isolation* for predicting satisfaction with physical privacy (R^2 = .098), and a model including *Soundproofing* and *Flooring* for predicting satisfaction with acoustics (R^2 = .129). In the first regression analysis with satisfaction with noise as the dependent variable, neither *Screens* nor *Isolation* and *Soundproofing* had significant estimates. However, in the model with the remaining *Room intimacy* and *Flooring*, the p-value of *Flooring* raised above 0.05. A model containing *Room capacity* and *Isolation* performed better (R^2 = .125)

The final regression models have a good fit to the data, indicated by a statistically significant 2-log likelihood test (p <.001) and a non-significant Pearson and Deviance test (p >.05) for each model. Additionally, a non-significant parallel lines test with a p-value above .05 for each model confirms the required assumption of proportional odds. Table 4 summarizes the results of the ordinal regression analyses using the logit link function for each model and taking the highest value of the predictors as the reference category.

Table 4 Estimated coefficients of design variables [value] predicting satisfaction with privacy and noise.

	Visual privacy	Sound privacy	Physical privacy	Noise of others	Acoustic quality
Large room/open space [1]	-1.838**	-1.357**	-1.473**	-1.524**	
Not a small room [1, 2]	-1.230**	-0.949**	-0.805**	-0.818**	
Regular passers-by [1]			-0.528*	-0.479*	
Visual open workspace [1]	-1.181**				
Not visually closed [1, 2]	-0.591**				
Not at all soundproof [1]		-0.868**			-1.334**
Hard/medium flooring [1]					-0.853**

** Wald test (95% confidence) significant at .01 level; * significant at .05 level

All estimated coefficients are negative, which means that users in the categories listed in Table 4 are associated with poorer satisfaction scores compared to users in the remaining categories of the ordinal predictor variable. The absolute value of the coefficients reflects the strength of the association. An empty cell in Table 4 means the predictor variable was not included in the regression model for theoretical or statistical reasons, as previously explained.

Table 4 shows that an intimate room shared by less than four people is the best predictor of satisfaction with noise and any dimension of privacy. People working in a large room with more than six workstations or an open workspace are far more likely to rate their privacy and quiet as poor than people working in small rooms (OR 6.04, 3.88, and 4.36 for visual, sound and physical privacy respectively, and OR 4.59 for noise). For people working in a large/open or medium-sized room, a poor satisfaction score is still two to three times more likely. This aligns with Leder et al. (2016), who found that workstations enclosed by full-height walls and doors contributed more to satisfaction than more subtle acoustic design.

A central position of the workspace with regular passers-by is more likely to trigger dissatisfaction with physical privacy and noise than an isolated workspace (OR 1.70 and 1.61), but this effect is not as strong as for lower levels of room intimacy. An isolated position of the workspace in the building only affects satisfaction with physical privacy together with room intimacy, and it does not significantly affect satisfaction with visual or sound privacy. Apparently, passers-by are not perceived as a threat to visual or speech privacy, but people walking by regularly reduces physical privacy (OR 1.70) and increases noise annoyance (OR 1.61). In contrast, Appel-Meulenbroek et al. (2022) found that office workers preferred a workspace next to a walking route instead of an isolated workspace. Perhaps these preferences result from different needs than a desire for quiet and personal space.

A visually open workspace where people outside can look in from several sides is three times more likely to negatively affect satisfaction with visual privacy (OR 3.25) than a visually enclosed workspace. A workspace that is not entirely closed and transparent at eye level at one or more sides, is still likely to have a negative effect, albeit less than open spaces alone (OR 1.80). This means that adding solid partitions around workstations or covering glass walls may enhance satisfaction with visual privacy, even if one side still is open. As expected, soundproofing of the workspace, i.e. speech transmission, affects satisfaction with sound privacy, the amount of noise from other people, and perceived acoustic quality. However, absorption of the floor covering material only affects satisfaction with acoustics (OR 2.35). Apparently, soft flooring can reduce sound reflection but does not reduce speech transmission.

The hypothesized effects (as depicted in Figure 1) of possibilities for controlling visibility and the presence of privacy screens at the workstation have not been confirmed by the regression analyses. The poor effectiveness of privacy screens could be due to their mostly low height in our sample (see Fig. 3), thereby barely capturing the sound of speech and enabling a standing person to look over them. The effect of a back cover on satisfaction with visual privacy was overruled by the effect of visual openness, which created a more powerful model. Possibly, regarding physical privacy presence of a high back cover is largely captured by room capacity, since in small and medium rooms workstations usually are situated with the chair between desk and wall, automatically providing a high obstacle that prevents people from approaching users from behind.

CONCLUSION & DISCUSSION

This study investigated the joint contribution of a variety of interior design features to satisfaction with noise and privacy in office environments. The results indicate that among the studied design variables, ceiling-high, speech-absorbing enclosure and a relatively isolated position of the workspace best predict satisfaction with privacy and noise, as needed for concentration and confidential work and personal talks. Privacy screens, a separate back cover, and possibilities for managing visibility in the workspace add little to the prediction. These findings implicate that providing sufficient enclosure and stimulating casual encounters to take place outside the large workspaces may add more to solving problems with noise and privacy than applying acoustic solutions or privacy measures within those workspaces.

Facility managers could use these insights when supervising office renovations to prioritize small-scale workspaces located away from traffic zones and having solid walls and doors above applying acoustic solutions in large open workspaces. They could collaborate with human resources managers to use interior design and signage to steer social interactions towards dedicated social spaces that occupy central positions in the office configuration, for instance by placing attractors such as water coolers (Fayard & Weeks, 2007).

Post-Covid research should confirm the findings using samples with more young office workers and a larger variety of design features and office settings, and analysing possibly interfering variables such as individual differences, situational factors, and organizational culture. Because although this study identified interior design features that significantly increase the probability of satisfaction with workspace privacy, these features do not *determine* satisfaction. Within the field of environmental psychology, it is widely recognized that perception of the physical work environment and perceived fit are influenced by many factors (e.g. see model Bell et al., 2001, pp. 434-435). Research shows that, for instance, a high personal need for privacy reduces perceived privacy-fit (Hoendervanger et al., 2019), negative emotionality reduces satisfaction with acoustic privacy (Marzban et al., 2021), and people who are more extravert, affiliative, and field-oriented have a smaller interpersonal space (Gifford, 2014, p.133). Additional to individual differences, the social situation interferes with the design-perception relationship. For example, the possibility to choose from a variety of settings and adherence of others to protocols contribute to privacy fit (Weber & Gatersleben, 2021). Organizational policies regarding desk-sharing, the employee-desk ratio, and possibilities for identity marking may influence feelings of ownership, which mediate privacy satisfaction. For instance, Laurence et al. (2013) found that workspace personalization reduced the negative effects of low levels of privacy on well-being. Future workplace research could use the design features that were identified in this study to develop more powerful models that predict privacy satisfaction through a path that includes these types of mediators and moderators beyond workplace design and by adding observational data to the self-report measures.

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