# Sunlight at Home: Exploring Preferences and Their Impact on Building Design

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**Abstract**

In dense urban housing, particularly at high latitudes, the provision of direct sunlight creates a critical trade-off between its value as a residential amenity and the need to ensure occupant comfort and energy-efficient performance. This study investigates indoor sunlight preferences through a national survey in Sweden, providing updated empirical evidence for residential building design. The findings reveal a significant appreciation for direct sunlight, with 90% of residents wanting sun in their homes. However, this desire is conditional, defined by a hierarchy of priorities and a strong seasonal dynamic. When ranked against other qualities, abundant natural light and a pleasant view out were considered more important than direct sunlight. This conditionality is underscored by a concern for summer overheating, which appears more prominent than in similar studies from previous decades. A key contribution of this paper is a practical, function-based guide that translates these nuanced preferences into recommended room orientations. The results call for a design approach that moves beyond maximizing static solar access towards creating flexible, user-controlled environments that align with modern comfort expectations.

*Keywords: direct sunlight, urban planning, building design, Sweden, daylight, residential*

## 1. Introduction

Access to sunlight is a valuable asset in cities, not only for energy generation but also for enhancing the liveability, comfort, and economic value of urban indoor environments (Loro et al., 2024; Turan et al., 2020). Decisions made during the early stages of urban planning are critical, as they determine the long-term availability and distribution of sunlight in neighbourhoods (Czachura et al., 2022a, 2022b). Once built, these conditions are essentially irreversible without major interventions (Lechner, 2015). Despite the acknowledged benefits of sunlight — including improved health (Holick, 2004; Nagare et al., 2021), reduced energy use (Littlefair, 2001), and potential for on-site renewable energy production (Hachem et al., 2013) — urban planners still face uncertainty regarding appropriate targets and metrics for solar access (Kanters et al., 2021).

In Sweden, as in many countries, national regulations primarily address indoor daylighting during later building design stages (Czachura et al., 2024), while sunlight access and solar energy potential remain largely underdefined (Kanters et al., 2021). Moreover, existing guidelines on sunlight, such as the European daylight standard EN 17037 (SSI and CEN, 2021), are likely grounded in qualitative research conducted several decades ago (Bitter and Van Ierland, 1965; Gilgen and Barrier, 1976; Ne'eman et al., 1976). The seminal work by Ne'eman et al. (1976), for example, established that residents had a strong desire for sunshine indoors, valuing it primarily for its "therapeutic" and psychological benefits. In that era, the added warmth from solar gain was often perceived as a welcome contribution to thermal comfort rather than a significant nuisance.

However, the context in which these foundational preferences were recorded differs from today's reality, creating a critical knowledge gap. Firstly, building envelopes have become significantly more airtight and thermally insulated; where solar gain was once a useful supplement for heating, it is now a primary driver of overheating in modern homes (Farahani et al., 2024; Schade et al., 2025). This technological shift is compounded by the effects of climate change, with an increasing frequency of summer heatwaves that turn solar gains into a significant liability (Brown, 2017). Secondly, contemporary lifestyles have altered how indoor spaces are used; the prevalence of digital screens makes visual discomfort from glare a much more


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prominent concern than in previous decades. It is therefore crucial to revisit how sunlight is perceived and prioritised by residents today to provide updated, empirical knowledge for the design of resilient and comfortable housing.

This study presents the results of the 'Sunlight Home' national survey aimed at capturing Swedish residents' preferences and attitudes towards sunlight exposure in their homes. The goal is to provide empirical evidence that can support more informed and human-centred urban design.

The study is guided by two main research questions: 1) What are people's attitudes and preferences regarding direct sunlight in their homes? and 2) What potential implications do these preferences and attitudes have for residential building design? By addressing these questions, the study aims to contribute to a better understanding of how sunlight should be considered in planning and design processes.

## 2. Methodology

### 2.1. Survey Design and Procedure

To investigate people's preferences and attitudes toward direct sunlight in residential spaces, a large-scale online survey was conducted. Performing an online survey was expected to generate a sufficient sample size to allow for statistically valid insights. The survey was open to adults globally but focused on Swedish society to inform national urban development contexts. Participation was anonymous and voluntary, ensuring ethical compliance and inclusivity. A convenience and snowball sampling strategy was employed for dissemination. The survey was primarily promoted through institutional mailing lists and physical posters with QR codes at Lund University, supplemented by posts on social media platforms. The survey was accessible from January 30th to April 10th, 2025, at which point the data was downloaded for analysis.

The survey questions were inspired by a foundational study by Ne'eman et al. (1976) on sunlight requirements in buildings. Questions were adapted from their original interview-based format to suit an online, self-administered format suitable for remote and large-scale distribution. The full questionnaire is provided in the Appendix.

The survey was divided into six main sections:

1. Demographics – Participants were asked about their age group (10-year bins, excluding under 18), gender, and their country of origin and residence (free-text, optional).

2. Attitude Toward Sunlight – General attitudes were gauged using two 5-point Likert scale questions: 1) "I generally enjoy being in the sun," and 2) "I usually avoid direct sun and seek shade." These questions did not specify indoor or outdoor context to assess baseline tendencies.

3. About Your Current Residence – This section asked about participants' housing type (e.g., apartment, detached house, student accommodation) and the room in which they spend most of their morning and afternoon hours.

4. Housing Qualities – Participants rated six housing-related attributes when choosing a new home: a) view out, b) natural light, c) direct sunlight, d) window orientation, e) private outdoor space, and f) window size. Ratings were given on a 5-point Likert scale (Very Important to Not Important).

5. Sunlight Preferences in an Ideal Home – Participants specified their preferences for receiving direct sunlight in different rooms and time periods (morning or afternoon). They also rated various effects of indoor sunlight—additional light, warmth, visual appearance, and mood/energy/wellbeing—on a 5-point scale from "Like Very Much" to "Dislike Very Much." A forced-choice question was included to weigh preferences between having ample sunlight or a pleasant outdoor view. Finally, participants ranked rooms in order of importance for receiving direct sunlight.

6. Additional Comments – A final open-ended comment box allowed respondents to provide additional thoughts. These qualitative responses were analysed through thematic analysis.

### 2.2. Data Analysis

A mixed-methods approach was employed for data analysis, integrating quantitative and qualitative techniques

to provide a deeper understanding of sunlight preferences.

Quantitative data from the structured survey questions were analysed using Microsoft Excel. Descriptive statistics, including frequency distributions and percentages, were calculated to identify overarching trends, patterns in room-specific preferences, and relationships between different housing attributes.

For the qualitative data, a thematic analysis was conducted on the voluntary free-text comments. Using NVivo software, these comments were systematically coded to identify, analyse, and report patterns of meaning. Initial codes were generated from frequently occurring words, which were then grouped into themes reflecting common perspectives. This process resulted in the development of several key themes that captured the nuances of residents' attitudes and the reasoning behind their choices.

Crucially, the two datasets were analysed in conjunction. The qualitative themes were used to explain and contextualize the quantitative findings, providing a deeper interpretation of the motivations behind the observed trends. This integrated approach was essential for understanding complex issues like the distinction between direct sunlight and natural daylight, the importance of seasonality, and the reasons for specific room preferences, ultimately allowing the survey data to be translated into interpretive design recommendations.

# 3. Results

## 3.1. Quantitative Survey Findings

A total of 758 responses were collected, with 461 being from residents of Sweden. The subsequent analysis was restricted to the Swedish sample ($n = 461$), based on the assumption that sunlight preferences are culturally and climatically dependent. The demographic distribution of the Swedish sample is presented in Figure 1.

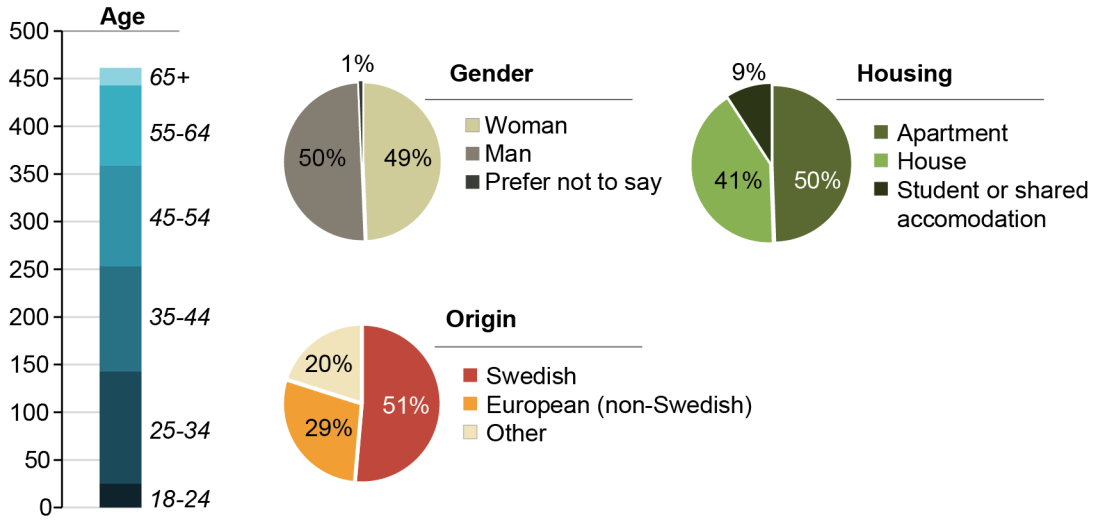


**Figure 1: Distribution of Swedish survey respondents by age, gender, origin, and housing type.**

The survey established typical daily routines, revealing that, on a day spent at home, participants spent the majority of their afternoon time in the living room (69%), while mornings were split between the kitchen (33%) and living room (37%) (Figure 2).

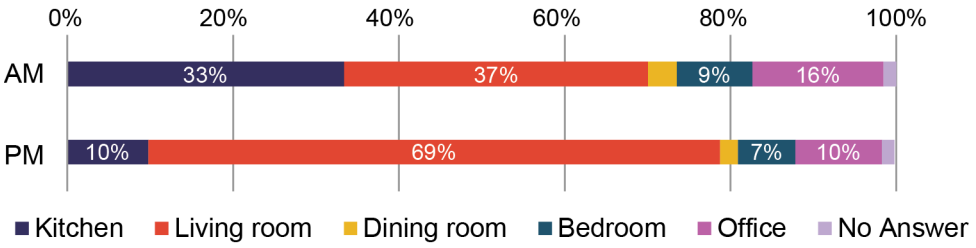


**Figure 2: Rooms where respondents spend most of their time on a day spent at home, by time of day.**

The analysis revealed a nearly universal preference for sunlight, with 90% of respondents expressing a desire

for it at home (Figure 3). The breakdown of this preference showed that 67% desired indoor sunlight year-round, while an additional 23% expressed a preference for it specifically during the winter months. However, preferences for specific rooms varied considerably, establishing a clear hierarchy of importance. When participants were asked to rank rooms based on the importance of receiving direct sunlight, the results revealed a distinct order from highest to lowest priority: living room, kitchen, dining room, children's room, office, and bedroom. This hierarchy is reflected in the specific desires for each space. While the living room (the highest ranked space) was where the majority of respondents wished to have direct sunlight, the lower-ranked office and bedroom proved more contentious, with approximately half of the respondents reporting they did not want direct sunlight in the bedroom, and a third feeling similarly about the designated home-office room (Figure 3).

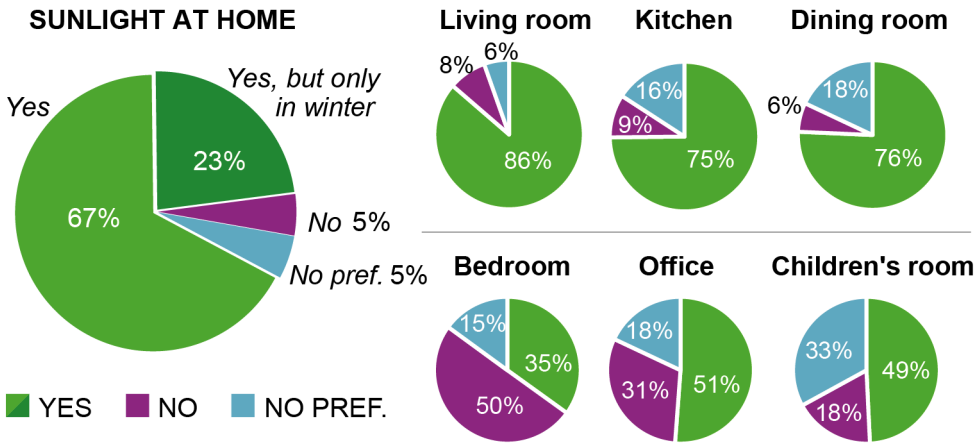


**Figure 3: Preferences for direct sunlight at home in general and by specific rooms.**

Analysis of time-of-day preferences revealed significant room-specific trends (Figure 4). A strong preference for morning sunlight was observed for the kitchen, with 41% selecting 'morning'. Summing these responses together with people satisfied with sunlight 'whenever', could lead to 86% satisfied with morning sun access in the kitchen and only 9% dissatisfied (sum of 'afternoon' and 'never'). For the living room, the dominant preference was for sunlight 'whenever' (53%), with a secondary preference for 'afternoon' (28%), suggesting that 81% of respondents would be satisfied with afternoon sunlight. In contrast, the bedroom and office exhibited a higher proportion of 'never' responses (28% and 20%, respectively). Among those wanting sunlight in the bedroom, 45% preferred it in the morning. However, orienting a bedroom to receive morning sun would dissatisfy a significant portion of residents, including the 28% who prefer 'never' and the 7% who prefer 'afternoon'.

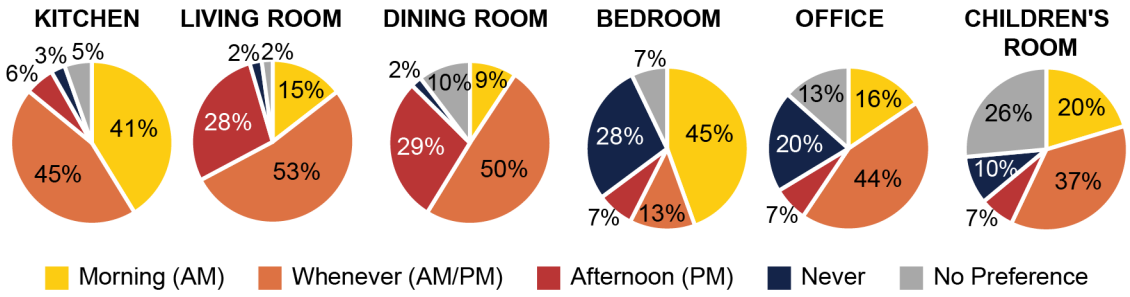


**Figure 4: Time of day preferences for direct sunlight access by room.**

Natural light was considered more important than direct sunlight indoors. In a comparative analysis of six housing qualities, natural light received highest importance ratings overall, with a significantly higher mean score than direct sunlight (Figure 5). The preference for natural light was followed by a pleasant view and private outdoor space, while window orientation, which is highly linked to the amount and quality of sunlight access, was considered the least important attribute. The distinction between natural light and sunlight is further illustrated in Figure 6, which shows a noticeable contrast in the distribution of importance ratings.

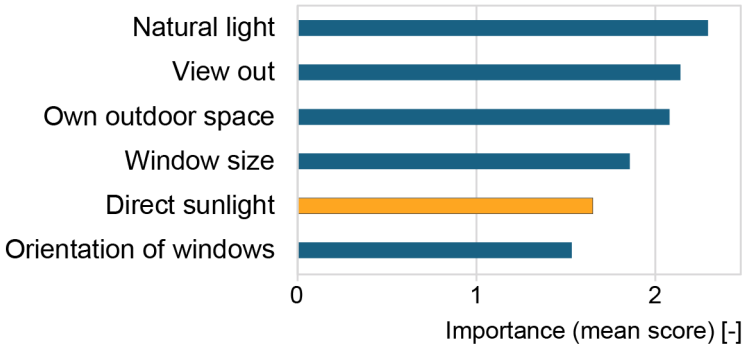


**Figure 5: Average importance ratings of six different housing qualities (scale from -1 = *Not Important*, to 3 = *Very Important*).**

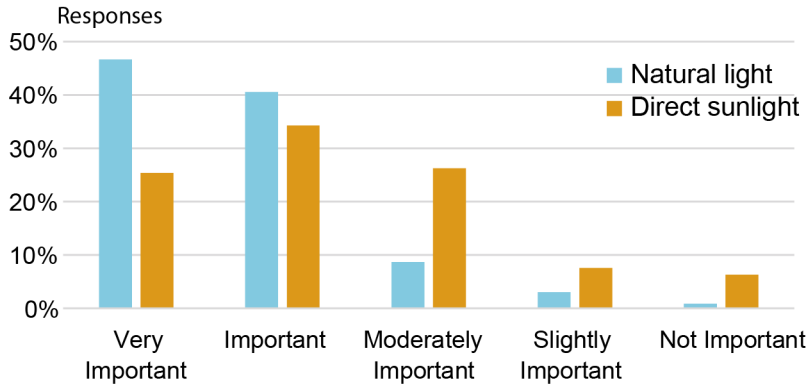


**Figure 6: Comparison of importance rating distributions for natural light and direct sunlight.**

The preference for a pleasant view is further demonstrated by a forced-choice dilemma question that required respondents to choose between two options: a pleasant view out from a window with little indoor sunlight or a less favourable view with ample sunlight inside. The results showed that nearly two-thirds of respondents (63%) favoured a pleasant view, while only 31% would choose ample sunlight over pleasant views (Figure 7).

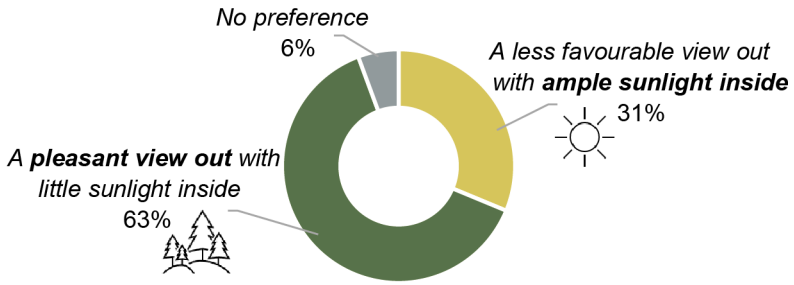


**Figure 7: Forced-choice preference between a pleasant view out and plentiful sunlight inside.**

## 3.2. Qualitative Analysis of the Final Open-Ended Comments

The final section of the survey invited participants to add comments, providing rich qualitative data that complements the quantitative results. A thematic analysis of these comments revealed several key themes that articulate the nuances, motivations, and contextual factors behind respondents' preferences.

- Theme 1: The Duality of Sunlight – Seasonality and Thermal Comfort

The most dominant theme was the strong seasonal dependence of sunlight preference, primarily linked to thermal comfort. Many respondents articulated a clear distinction between wanting sunlight in the winter and avoiding it in the summer. Winter sunlight was desired for its warmth and positive psychological effect during the dark months. One respondent stated, "In the summer when it is hot I do not want too much sunlight... In the winter, all sunlight is welcome."

Conversely, the risk of overheating in summer was a major concern and the primary reason for disliking direct sunlight. This was often linked to modern, well-insulated homes where solar gains can quickly lead to uncomfortable indoor temperatures. As one participant noted, "Direct sunlight is problematic since it gives

high indoor temperatures during summer." Another added, "Warmer summers make it less desirable to have direct sunlight unfortunately." This highlights a significant conflict between the desire for light and the need for thermal comfort.

- Theme 2: The Quality of Light – Direct Sunlight vs. Daylight and Glare

Many participants made a clear and unprompted distinction between "direct sunlight" and "daylight" (or "natural light"). This supports the quantitative finding that natural light is valued more highly than direct sunlight. Respondents expressed a desire for bright, naturally lit spaces but were wary of the potential downsides of direct solar radiation. Representative comments include, "The most important thing for me inside is not direct sunlight but large windows with a lot of daylight," and "Abundance of natural light (indirect sunlight) is much much more important than direct sunlight."

A key reason for this preference was the issue of visual discomfort and glare. This was mentioned most frequently in relation to home-offices and living rooms, where screen-based activities are common. One respondent explained, "I do not prefer direct sunlight when interacting with screens, e.g. computer/tv." Another put it simply: "Want light not glare."

- Theme 3: The Importance of Control and Context

The need for control over sunlight was a recurring point. Respondents frequently mentioned the importance of shading systems, such as blinds or curtains, to mediate the negative effects of heat and glare. This suggests that the presence of sunlight is acceptable or even desirable, provided the occupant has the means to easily control it. As one person stated, "A lot of sunlight inside is nice, but in summer, you need to be able to shade as well."

The context of daily activities and geographical background also heavily influenced preferences. For example, a desire for sunlight in the kitchen was linked to the activity of eating, while a dislike for it in the office was tied to focused work. Furthermore, several respondents from sunnier climates noted how their preferences had shifted since moving to Sweden, or how they maintained a habit of avoiding direct sun. One commented, "I realised how important it is for me to have a lot of sunlight coming into my home only when I moved to Sweden, where there is lack of light in some part of the year."

- Theme 4: Sunlight, Well-being, and Practicalities

A significant number of comments reinforced the perceived positive link between sunlight and well-being, mood, and energy. Respondents used phrases like "sunlight brings more will to live", "sunshine certainly impacts my sense of wellbeing", and "sunlight affects my productivity, mood and the way I go through the day."

On a more practical level, some comments pointed out the domestic downsides of direct sunlight, such as its tendency to reveal dust ("Direct sunlight is wonderful, but it means you dust at least twice a week"), and its potential to damage furniture and artwork through bleaching.

## 4. Discussion

The results of this study provide an updated perspective on solar access in residential environments, confirming that while sunlight is a valued amenity, its desirability is highly conditional. The findings suggest that occupant priorities are not focused on maximizing direct sun exposure, but rather on achieving a balanced and controllable indoor environment, challenging a design approach that might over-prioritize solar gain metrics.

The findings can be contextualized by comparison with historical studies, which suggests a notable evolution in certain residential preferences. The forced-choice question, which intentionally used the broader term 'sunlight' to replicate the original study's phrasing (Bitter and Van Ierland, 1965), revealed a two-to-one preference for a pleasant view over ample sunlight, highlighting the high value placed on visual connection to the outdoors. This trend is opposite to the original 1960s study of Dutch homes (Bitter and Van Ierland, 1965) in which 70% of urban residents chose indoor sunlight over a good view. The change may be attributed to advancements in building insulation (which reduce the need for passive solar heating), the increasing scarcity of open views in dense urban areas, and a growing concern for overheating due to more frequent heatwaves.

To further explore how specific attributes of sunlight are valued today, a comparison was made with the foundational study by Ne'eman et al. (1976). In their work, interviewees were asked if they liked sunlight in their homes; positive responses were categorized as ‘Light’, ‘Warmth’, ‘Improved appearance of interiors’, and ‘Therapeutic benefits’, with the latter being the most frequently mentioned. Negative aspects were categorized as ‘Fading’, ‘Thermal discomfort’, and ‘Visual discomfort’. Figure 8 compares the overall sentiment from their interviews with responses from the current survey's structured Likert scales. The data shows a continued high appreciation for the psychological and lighting benefits of the sun. The high positive rating for 'mood, energy' in our survey aligns with 'therapeutic benefits' being the most liked aspect in the 1976 study.

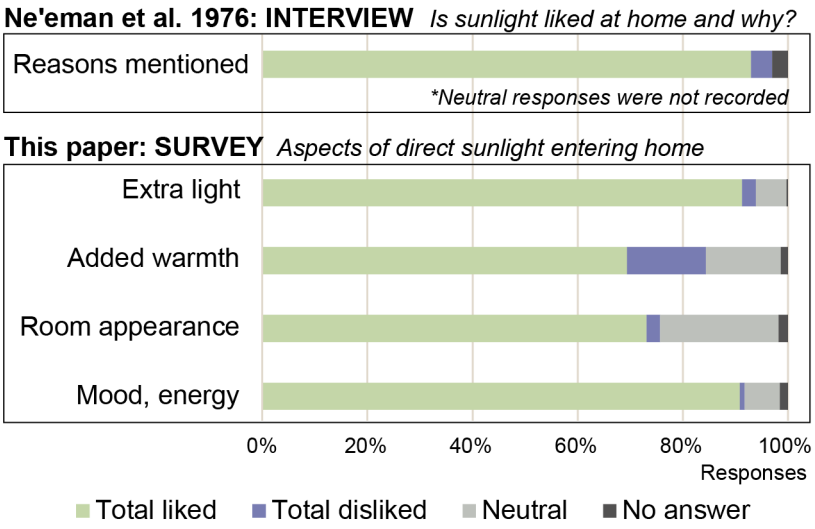


**Figure 8: A comparison between the percentage of respondents liking or disliking various aspects of sunlight in the current study with categorized interview mentions from Ne'eman et al. (1976).**

A more complex picture emerges regarding solar heat gain. While the general disliked responses in the Ne'eman et al. (1976) study were low at 4%, the authors separately noted that when specifically questioned about thermal discomfort, 43% of respondents confirmed experiencing some overheating. This suggests that while overheating was a known issue, it may not have been considered a primary nuisance. In contrast, in the current survey, the proportion of respondents who actively dislike the 'added warmth' is notably higher at 15%, and the qualitative comments consistently identify overheating as the main drawback of direct sun. This indicates that while thermal discomfort from the sun is not a new problem, its prominence in the overall perception of sunlight in homes has increased.

Furthermore, the qualitative analysis reinforces the distinction between natural light and direct sunlight. Numerous respondents explicitly stated their preference for general daylight, valuing brightness and ambiance over the intensity of direct solar rays. This indicates that design strategies should focus not just on sun penetration but on maximizing diffuse light and creating a sense of openness. As one participant noted, the goal is "light from the outside but not direct."

While 90% of respondents expressed a conditional or year-round desire for sunlight, an analysis of the 5% who answered with a definitive 'No' provides further insight. Their reasoning was not a preference for dark interiors, but a rejection of the negative consequences of direct solar radiation. Overheating and visual discomfort from glare were primary concerns, with one respondent noting, "the main reason for not wanting sunlight inside is that one cannot see screens". Several comments explicitly differentiated their preference, stating a desire for "daylight not direct sunlight". Furthermore, for some, this rejection is a matter of physical wellbeing, with respondents citing photosensitivity or medical vision conditions that are exacerbated by bright, direct light. For this group, the term 'sunlight' was interpreted as intense solar rays, the negative effects of which outweighed any potential benefits, leading to an overall rejection.

A dominant theme emerging from the free-text comments, and a crucial consideration for design, was the seasonal variability of sunlight preference. This factor was not explicitly captured in the quantitative questions but was raised spontaneously by a large number of respondents. Many expressed a strong desire for sunlight

in the winter for its warmth and psychological benefits, but considered it a nuisance in the summer due to overheating. This points to a critical design challenge: balancing solar access for winter benefits against the increasing risk of summer overheating, a concern amplified by climate change and modern, highly-insulated buildings. The frequent mention of a need for user control via effective shading systems underscores that flexibility is key. Design solutions must therefore be dynamic, allowing residents to welcome the sun or shield from it according to the season, time of day, and their personal comfort.

The study's room-specific findings on time-of-day preferences, presented in the results (see Figure 4), can be translated into tangible, human-centred guidelines for residential building design. To demonstrate these implications, a new interpretive diagram is proposed (Figure 9), which maps the survey's time-based preferences onto architectural compass orientations. This translation assumes that a preference for morning (AM) sun corresponds to a desirable orientation arc from northeast to south, and an afternoon (PM) preference corresponds to an arc from south to northwest. The flexible 'whenever' preference is aggregated with both AM and PM responses to represent the full range of acceptance for sunlight. Consequently, the kitchen's strong preference for morning sun translates to a recommended east-to-south orientation that would satisfy the majority of residents. The living room, which is the primary space for afternoon activity (see Figure 2), shows a dominant preference for afternoon and 'whenever' sun, suggesting an optimal south-to-west orientation. Conversely, the significant aversion to direct sunlight in bedrooms and offices, explained in the comments by practical concerns of sleep quality and screen glare, translates into a recommendation for a northern orientation, or the integration of effective and easily operable shading systems as an alternative for other orientations.

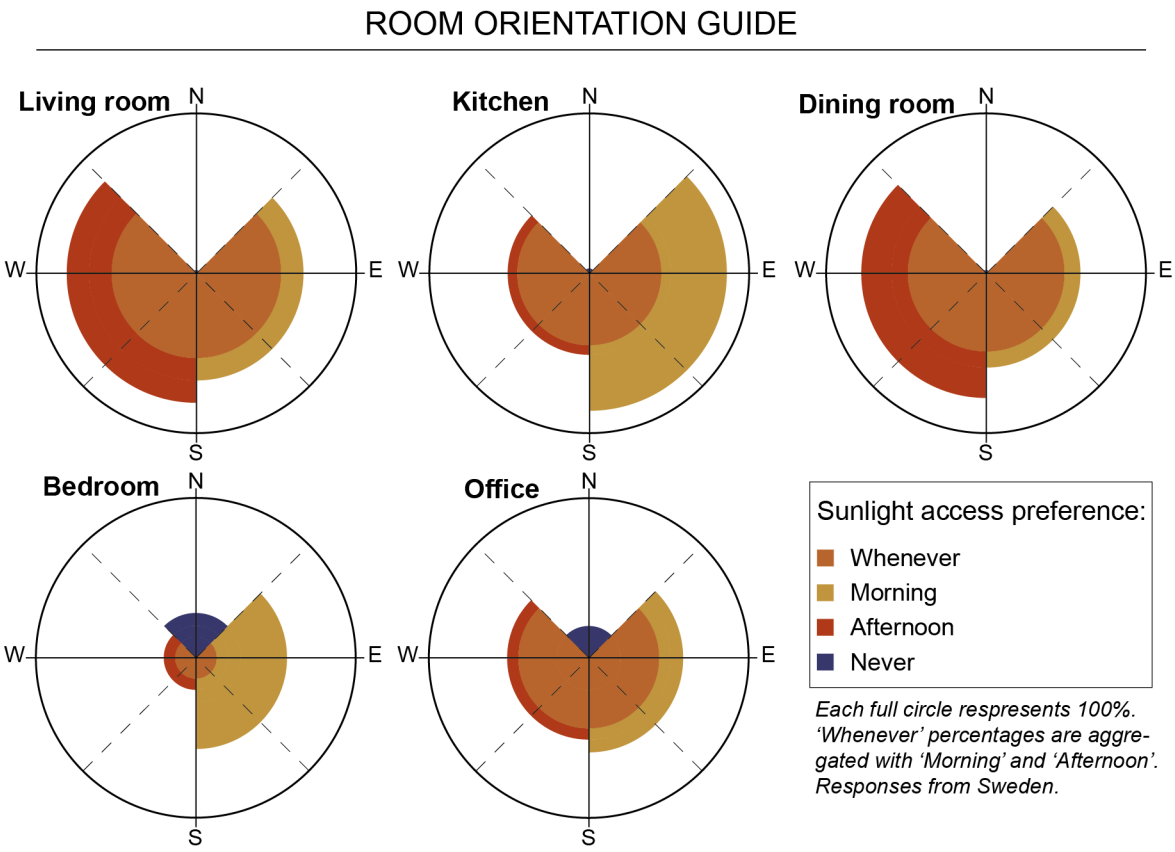


**Figure 9: An interpretive model for sunlight-driven room placement. The recommended orientations are derived from survey responses on time-of-day sunlight preferences (as shown in Figure 4). Preferences for 'Morning' (AM) are mapped to a NE-S arc and 'Afternoon' (PM) to a S-NW arc. 'Whenever' responses are aggregated with both AM and PM preferences to represent broad satisfaction across the entire sun-path. Conversely, the 'Never' preference corresponds to the north-facing arc (from NW through N to NE)**

Finally, the survey design and its timing present certain limitations and avenues for future research. The survey was conducted in spring, a period when attitudes towards sunlight may differ from those in the depths of winter or the peak of summer. Replicating the study across different seasons could provide a more comprehensive understanding of these dynamic preferences. Nevertheless, the chosen period around the spring equinox

intentionally aligns with the dates commonly used for solar access analysis in established building standards, such as EN 17037 (SSI and CEN, 2021) and the BRE guidelines (Littlefair et al., 2022). Furthermore, future iterations of the survey could investigate a 'noon' option for sunlight preference to refine our understanding of midday solar access. The high rate of 'No preference' for the children's room also highlights a methodological challenge, as many respondents without children were understandably hesitant to rate its importance.

A notable limitation of this study is the sampling methodology employed. The survey was distributed primarily through university channels, resulting in a convenience sample that is likely not representative of the general population. This approach probably skewed the respondent pool towards individuals with higher levels of academic education, whose daily routines and professional lives are often centred indoors. Notably, the sample composition shows an overrepresentation of residents with non-Swedish origin (49%) when compared to national statistics (20%) (Statistiska centralbyrån (Statistics Sweden), 2024), potentially introducing a diversity of cultural perspectives on sunlight. Consequently, the attitudes and preferences regarding sunlight captured in our findings should not be generalized to the broader public without caution. Future research would benefit from a stratified sampling approach to capture a more diverse range of educational backgrounds, occupations, and daily light exposure patterns.

## 5. Conclusions

This study set out to investigate attitudes towards direct sunlight in homes and the resulting implications for building design. The findings confirm that while sunlight is a highly valued residential amenity, its desirability is not absolute but is highly conditional, depending on room function, season, and the availability of other qualities like a pleasant view.

The primary conclusion is that residents prioritize a balanced and controllable indoor environment over the simple maximization of direct solar exposure. This is demonstrated by three key findings: 1) a clear preference for abundant natural daylight over intense, direct sunlight, 2) a tendency to value a pleasant outdoor view more highly than ample sun penetration, and 3) a strong seasonal variation in preference, where the desire for winter sun is countered by a significant concern for summer overheating. This concern with thermal discomfort has become a more prominent factor than in foundational studies from previous decades, reflecting changes in building practices, climate, and lifestyle.

The central implication for urban and building design is the need to move beyond static solar access metrics and towards a more dynamic, human-centric approach. The research provides function-based guidelines for building orientation, such as favouring morning sun in kitchens and afternoon sun in living rooms while avoiding it in offices and bedrooms. However, the most critical design mandate emerging from this study is the provision of flexibility through user control. Effective, operable shading is no longer an accessory but an essential component for mediating the conflicting desires for light, warmth, and coolness, allowing residents to adapt their homes to daily needs and seasonal changes. By embracing this principle of controlled solar access, planners and architects can create residential environments that are not only energy-efficient but also resilient, comfortable, and responsive to the people who inhabit them.

## 6. Acknowledgements

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# Appendix: Survey Questionnaire

This appendix presents the questions from the online survey as shown to participants.

## Part 1: Demographics

1. Age (Single choice: 18-24, 25-34, 35-44, 45-54, 55-64, 65+, Prefer not to say)

2. Gender (Single choice: Woman, Man, Non-binary/Other, Prefer not to say)

3. Country of origin (Free text)

4. Country of residence (Free text)

## Part 2: Attitude Towards Sunlight

5. Do you agree with the following statements? (Matrix, 5-point Likert scale per row: Strongly Agree, Somewhat Agree, Neutral, Somewhat Disagree, Strongly Disagree, No Answer)

Rows: I generally enjoy being in the sun, I usually avoid direct sun and seek shade

## Part 3: About Your Current Residence

6. Please select the option that best describes your living situation.

- Detached house (free-standing house, not connected to any other building)
- Semi-detached house (a house that shares a wall with another house)
- Terraced house / Row house (a house in a row of similar houses that are connected to each other)
- Apartment / Flat in a building (residential unit in a multi-story building)
- Duplex (two-family house, often two separate apartments on different levels)
- Student dormitory / Student housing
- Shared accommodation / Co-living (living with others in a shared space, such as a house or apartment)
- Mobile home / Caravan / Tiny house
- Prefer not to say
- Other (free text)

7. On a typical day spent at home, which room (or home space) do you spend most of your awake time in? (Matrix, Single choice per row: Kitchen, Living room, Dining room, Bedroom, Children's room, Office, No Answer)

Rows: Morning (AM), Afternoon (PM)

## Part 4: Housing Qualities

8. When looking for a new home, how important are the following housing qualities to you? (Matrix, 5-point Likert scale per row: Very Important, Important, Moderately Important, Slightly Important, Not Important, No Answer)

Rows: View out from windows, Abundance of natural light, Direct sunlight through windows, Orientation of windows (e.g., south), Own outdoor space (e.g., balcony), Size of windows

## Part 5: Sunlight Preferences in an Ideal Home

9. In an ideal home, would you like to have direct sunlight entering home interiors? (Single choice: Yes, Yes but only in summer months, Yes but only in winter months, No, No preference)

10. When sunlight enters the home interiors, which of these aspects of direct sunlight do you generally like or dislike? (Matrix, 5-point Likert scale per row: Like Very Much, Like a Bit, Neither Like nor Dislike, Dislike a Bit, Dislike Very Much, No Answer)

Rows: Extra light; Added warmth; Effect on room appearance; Effect on mood, energy, and wellbeing

11. For each room of the ideal home, please indicate whether you want sunlight inside the room. (Matrix,

Single choice per row: Want Sun, Don't Want Sun, No Preference)

Rows: Kitchen, Living room, Dining room, Bedroom, Children's room, Office

12. Please rank the rooms in order of importance in receiving direct sunlight (place no. 1 means highest priority for sunlight). (Ranking task)

Kitchen, Living room, Dining room, Bedroom, Children's room, Office

13. For each room of the ideal home, please indicate when you wish to have sunlight inside the room. (Matrix, Single choice per row: Morning (AM), Afternoon (PM), Whenever (AM/PM), Never, No Preference)

Rows: Kitchen, Living room, Dining room, Bedroom, Children's room, Office

14. Which one of these two scenarios would you rather choose? (Single choice: A pleasant view out with little sunlight inside, A less favourable view out with ample sunlight inside, No preference)

## Part 6: Additional Comments

15. Is there anything you would like to add or comment on? (Free text / Open-ended)