

What Our Possessions And Settings Say About Us: A Review Of The Room Effect

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Abstract

The physical environment in which people live can influence the perceptions, evaluations, and behavior of others, which is known as the Room Effect. The method originated in environmental psychology. As the method developed, it was gradually extended to other fields, particularly product design and branding. The Room Effect is a new method of investigating the impact of possessions and environments on the people associated with them. It can help one inquire into how the characteristics of an item, such as physical features or branding, affect its owner. It also allows marketing departments to recognize the psychological needs of their owners. However, current research and summaries of room effects are limited. This study provides a systematic literature review of the field with a focus on the Room Effect. It also concludes with a summary of the methodology of the Room Effect, which will help people understand the impact of possessions and environments on the people with whom they are associated, as well as help researchers understand the psychological needs of their owners. Five databases (Scopus, Web of Science, ScienceDirect, JStor, Google Scholar) were used to search and locate relevant studies (searches were conducted from the beginning of the databases to 24 August 2024) for this study. A total of 2843 articles were retrieved. Eighteen articles met the inclusion criteria. This review describes the Room Effect's development and practical applications in different fields. Finally, it describes ongoing research that seeks to extend this approach to additional fields and scenarios.

Keywords: Room Effect, Experimental aesthetics, Environmental psychology, People perception, Branding

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INTRODUCTION

Research on person perception suggests that people's seemingly independent judgments are, in fact, interrelated and that various peripheral attributes of people influence people's judgments about them, as shown in early studies such as lipstick (McKeachie, 1952) and attire (Lennon & Miller, 1984). Thornton (1944) stated that wearing glasses

tended to lead to people being rated as more intelligent, harder working, and more reliable, but probably not more honest. Gibbins (1969) identified clothing as a way of conveying a message about the wearer and that favoritism towards particular clothes was related to the similarity between the message and the subject's ideal self-image. The shoes people wear are recognized as a source of first impressions (Gillath, 2012); a Ford car "communicates" a specific message about the quality of its product, whereas a Porsche car "communicates" an entirely different message (Effendi & Whitfield, 2012).

Interactionist theories suggest that individuals create social environments, such as friendships and social activities, to match and reinforce their dispositions, preferences, attitudes, and self-views (Miyamoto, 2023). People also choose and create physical environments that reflect and reinforce who they are (Meltzer, Petras, and Reynold, 2020). For example, a camping enthusiast's space may contain a sleeping bag and a hiking pole. The hiking pole may indeed reflect external behavior. However, the occupant's decision to display the pole, placing it in a prominent position in the room rather than hiding it in a cupboard, reflects a desire to be known as either a hiker or a camper. Individuals influence their environment through these mechanisms in ways that can lead observers to form impressions of their lifestyle (Gosling et al., 2002; Götz et al., 2022).

Higher-value possessions, such as cars, express the owner's identity or status more prominently. For example, driving a Bentley denotes success and may be accompanied by associations of good business acumen and high intelligence. Choosing specific luxury goods brands can demonstrate an individual's unique taste, aesthetic preferences, and attitude toward life. Veblen argued that "the leisure class" develops conspicuous consumption behavior because they have a different understanding of 'the expensive consumption of money.' They focus more on the showy nature of goods, which means buying expensive goods to prove their wealth and status (Veblen, 2017). At the same time, this social identity can enhance an individual's self-identity and sense of belonging.

These studies suggest that the complex relationship between possessions and self-expression reflects how individuals construct and communicate their identities within a social framework. Possessions are more than just utilities; they are extensions of the self, carrying symbols of personal values, cultural belonging, and social status. By choosing, acquiring, and displaying particular objects, individuals can shape narratives about their own identities and, in so doing, influence how others perceive them.

The same goes for the environment, which contributes a crucial role to personal perception. For example, a person sitting at the head of a meeting room indicates success, which may be associated with having a high IQ and social understanding. The same person sitting in the cleaner's cupboard may create the opposite association (Goffman, 2023). As the field developed, researchers identified this phenomenon as the Room Effect (Canter, West, and Wools, 1974). That is, the qualities of the environment are transferred to the person with whom it is associated and influence others' perceptions of the person in the room. Subsequently, some scholars extended the Room Effect to other fields, such as product design and branding (Effendi & Whitfield, 2012; Idris & Whitfield, 2014). The Room Effect is a new method to investigate whether a product or brand affects people's perceptions of the people with whom it is associated.

Over the past decades, a few studies have used the Room Effect to investigate practical applications in target domains. Still, only some studies have systematically articulated and framed summaries around this method. This study will use the Room Effect as the center of discussion and synthesize its development over the decades. The concept of the Room Effect is first introduced, followed by the methodology used in this literature review. Subsequently, the application of the Room Effect in the environment is described before extending it to different areas of research. This is followed by a description of the research that is now being carried out using the Room Effect method, and finally, a framed summary of the Room Effect is presented in the concluding section.

This review of the Room Effect aims to help researchers further their understanding of the relationship between the characteristics of possessions and environments and their owners. It also seeks to draw the attention of

researchers in social psychology to this area. In terms of practical applications, this review aims to make some theoretical contributions to the fields of environmental psychology, product design, and branding.

Conceptual definition of the Room Effect

The Room Effect originated in environmental psychology, which indicates that People's perceptions are affected by the environment they are in. Tracing back to 1956, Maslow and Mintz investigated people's impressions of portraits in different room settings. This is the first empirical study to use a method similar to the Room Effect method. The study found that the room's characteristics influenced people's impressions of portraits of people in that room. Subsequently, Canter West and Wools (1974) continued Maslow and Mintz's methodology in that they further optimized the stimulus combination with the evaluation dimensions. They used highly controlled stimuli, including photographs of human models with environmental backgrounds. More personality trait-related evaluation dimensions need to be used for evaluation. They formalized and named the phenomenon the Room Effect.

Method

A systematic review of literature was conducted by retrieving papers from the five databases of Scopus, Web of Science, ScienceDirect, JStor, and Google Scholar 'Room Effect' was a significant term in the search strategy, along with several similar keywords. In particular, we combined the key terms such as ('people' AND 'perception' AND 'room effect'), ('environment' AND 'effect'), ('product' AND 'effect'), and ('brand' AND 'perception') using Boolean operators. This methodical approach made sure that all pertinent literature was covered in detail. The search period covered all available records until August 2024. A total of 2843 results were found from these databases. When many articles appeared for these keywords, the system limited the search to psychology, environmental science, social science, and humanities disciplines.

These search results were then initially screened by reading the titles and abstracts. As a first step, we excluded articles that could not be identified in the title or abstract as being related to human perception of the physical environment or objects. Articles were included if their titles or abstracts contained words such as 'perception,' 'judgments,' 'impression,' or 'effect.' The presence of these terms suggests relevance to the study and qualifies them for full-text review. Second, articles need to explore the room or product's impact, or associated effects, on human perception to be included in this review. Studies unrelated to the effects of rooms or products on human perception were excluded. Representative studies and case studies were included in this systematic review to provide a comprehensive perspective. Following the full-text review, 18 out of 23 articles met the inclusion criteria and were included in the final analysis.

Literature review

The Emergence of the Room Effect

An observer can make inferences about a person from their residence. People spend their waking hours in their living and working environments and choose to decorate these places with colors, patterns, and themes that match their tastes and aesthetics. "The Presentation of Self in Everyday Life," popularized by sociologist Erving Goffman, explores how individuals perform and manage their identities in daily interactions. Goffman likens social interaction to a theatrical performance, where individuals are both actors and audience members. In this metaphor, people present themselves in a manner that conforms to societal expectations and norms, carefully managing how others perceive them. This performance involves choosing and displaying certain behaviors, gestures, and language to convey a desired image to the audience. The host uses the living room as a stage, with the furniture as props, where they perform for the guests (Goffman, 2023). The environment also significantly impacts purchasing decisions; in Eklunde et al.'s (2024) study, it was found that differently decorated rooms impacted online purchasing decisions. Creating environmental consistency and product design cues for consumers triggers a more favorable aesthetic and emotional response (Naderi et al., 2020).

Surroundings form an enduring and central part of the impression given to others. In an early study, Maslow and Mintz (1956) investigated the impressions of people in rooms with different environments. Three distinct rooms were defined as “beautiful,” “average,” and “ugly.” The “beautiful” room was the one that gave the impression of being the most comfortable, the “average” room was clean, and the “ugly” gave the impression of a cluttered storeroom. The experiments were conducted at night when the building was quiet to limit room differences to visual patterns. It was also controlled for noise, odor, time of day, seating type, and examiner. Participants were asked to rate ten facial photographs in each room. Notably, the dimensions rated were several adjectives about the state, including energy (fatigue/energy) and well-being (displeasure/well-being). It was found that people in the “beautiful” room rated the photos the highest (more energy and well-being), followed by the “average” room, and participants in the “ugly” room rated the photos the lowest. This suggests that people's impressions of the same faces change depending on the environmental characteristics of the room.

Table1

Effects of esthetic surroundings: I. Initial effects of three esthetic conditions upon perceiving “energy” and “well-being” in faces.

Researcher	Maslow and Mintz
Research time	1956
Research method	Quantitative research
Experimental objective	Investigating the impact of impressions of faces in room environments
Stimuli	Three different rooms, ‘beautiful,’ “average,” and ‘ugly room
Subject of evaluation	Ten negative-print photographs
Questionnaire dimension	Energy (Fatigue/Energy) Well-Being (Displeasure/Well-being)
Questionnaire format	six-point, two-dimension rating scale
Evaluation score range	Between 10 and 60
Participant identification	Brandeis University students
Number of participants	Twenty-six male and 16 female
Result	Participants in the ‘beautiful’ room rated the photographs the highest.

Canter, West and Wools (1974) extended their research. They conducted three cascade studies using tightly controlled stimuli, and in the third experiment, facial photographs were used as figure models combined with a background. This manipulation of the stimuli under strict visual control allowed for a more precise interpretation of any emerging experimental effects. They also used more personality trait-related evaluation dimensions than in Maslow and Mintz’s.

Table2*Judgements of people and their rooms. Canter West and Wools’s study*

	Experiment 1	Experiment 2	Experiment 3
hypothesis	a similarity relation between ratings of rooms and people associated with them	The general hypothesis does not support all dimensions	The background of the room affects participants' judgment of the person in the photo
Image background	15 monochromatic	24 color slides of actual rooms : offices in	(a)Victorian window overlooking an industrial

	line drawings of rooms	Edinburgh University	scene;
			(b)the library of the Q.E.2
			(c) a large IBM office with filing cabinets and a luminous ceiling
Human model	seated figures	None	Three people were all smiling, well-dressed men wearing glasses
			two in their 40s, the other looking relatively older
Subject of evaluation	rooms (b) person in the room	Users of the room	Human model
Questionnaire dimension (Room)	friendliness, harmony, activity, and formality	friendliness, adequacy	
Questionnaire dimension (User)	good-bad, pleasant-unpleasant, Potency, Activity	kind-cruel, Potency, and Activity	Potency and activity scales used in Experiment 2
Questionnaire format	Osgood's dimensions	five bipolar adjectival scales	three five-item evaluation
Participant identification	Students from many disciplines	psychology students	architecture students
Number of participants	(a)67 rate room (b)24 rate person	32	30
Result	The hypothesis is supported.	The potency of the user shows no significant correlation with the room ratings.	There is a relationship between people's judgment and their rooms.



Figure 1: Stimuli group used in Experiment 1, Experiment 2, and Experiment 3 (Canter et al., 1977)

Figure 1 Alt text: Figure 1 presents the stimuli groups used in Canter et al.'s experiments. In these experiments, tightly controlled stimuli were employed, and in the third one, facial photographs combined with a background were used as figure models, enabling a more precise interpretation of experimental effects with more personality trait-related evaluation dimensions than in previous studies.

Environment as a clue

The studies of Canter et al. (1974), who coined the term Room Effect. After that, researchers began to use similar

methods to investigate various spaces, but all were room-oriented, such as offices, classrooms, and building hallways. All of these studies used the room as a cue to investigate the influence of the environment on the formation of perceptual impressions, using different room characteristics as stimuli. These studies laid the groundwork for future extension of the Room Effect in other fields.

In a study of offices, the results indicated that features of the office, such as neatness, influenced students' perception of professors (Campbell, 1979). Ninety-five male and 156 female undergraduates rated photo slides of faculty offices. These slides showed a variety of room arrangements, such as (a) the presence of plants and fish, (b) the presence of artifacts, (c) neatness, and (d) furniture arrangement. The results showed that with posters and greenery in the rooms, students rated professors sitting in their offices highly; clutter led to strong negative ratings; and furniture arrangement had relatively little effect. This result emphasizes the critical role of environmental factors, and the study also found that the environment had a more significant impact on females than on males. In addition to influencing people's impressions of the people in their environment, the physical environment also impacts judgments of their social identity. In a study by Cherulnik and Bayless (1986), college student judges evaluated six adults based on photographs taken of them in two different residential environments. When these stimulus subjects appeared in upper-middle-class residential settings, they were perceived as having more desirable characteristics and respectable occupations. Weinstein and Woolfolk's (1981) experiment was more rigorous and typical in showing subjects color slides of primary school classrooms and asking them to rate their impressions of the teachers and students using each room. They conducted three progressive experiments, two with teachers and one with students. The results of all three experiments were consistent. Regardless of the spatial arrangement or furniture, tidy classrooms always give a better impression of student behavior, teacher friendliness, creativity, and organization.

Table3 *The classroom setting is a source of expectations about teachers and pupils. Cherulnik and Bayless's study*

	Experiment 1	Experiment 2	Experiment 3
Experimental objective	Whether people's impressions of teachers and students are affected by the classroom environment.	Further testing of Experiment 1	Determine primary school students' perceptions of their impressions of the teacher in the classroom.
Stimuli	Classroom (open, messy, traditional, tidy)	Classrooms (open, traditional, messy, neat)	Classrooms (open, traditional, messy, neat)
Subject of evaluation	Teachers and students	Teachers and students	Teacher and student self-evaluation
Questionnaire dimension (Teacher)	Kindliness-understanding Stimulating- InventiveSystematic- Organized	Kindliness Inventiveness Organization	COR used in Experiment 2
Questionnaire dimension (Pupil)	happiness, alertness, responsibility, confidence, initiative, time-on-task, cognitive level, control	happiness, responsibility, time-on-task, control	'I would like to have this Teacher/I would not like to have this teacher. 'I have been a student in a room like this/I have never been a student in a room like This.
Questionnaire	Seven-point bipolar	seven-point bipolar	seven-point bipolar scales and

format	adjective scales	scales	open-ended questions
Participant	undergraduate	teacher	undergraduate students
identification	education students		The fifth-grade students' mean age is 10.2 years
Number of participants	28 (15 female, 13 male)	43 (24 males, 19 females)	42 (19 males and 23 females)
Result	People in the open-neat classrooms received the highest ratings.	Positive attributes were attributed to occupants of orderly classrooms.	The degree of organization had a significant impact on the impression of personality.

In our review of the above studies, it was found that whilst all of the above studies emphasized that the environment as a cue would help people to form an impression of the person in the room, the studies appeared to be unreplicable. Moreover, it may be accompanied by aesthetic bias, as the stimuli and environmental characteristics, as well as the group of subjects, vary from one experiment to the next.

Both Cambel's and Maslow's studies suggested that chaos leads to negative emotions and evaluations, but Rosenthal argued that chaos manifests warmer and more humane feelings. The examiners in Maslow and Mintz's study were required to collect data in three experimental rooms. As a result, they were exposed to different levels of independent variables, environments, and aesthetic influences. What may have happened is that the demand characteristics of the experiment influenced the examiners, who in turn influenced the participants who worked with them. It has been found that a person's level of adaptation, the perceived average level of 'habituation,' can be biased by being pulled towards anchors or extremes in a range of stimuli (Feldman et al., 2020). The review results may, therefore, be due solely to the room itself and the ongoing contrast in aesthetic impacts between rooms rather than to the effects of the environment. Moreover, the features and stimuli of the environment of the above experiment were not strictly controlled. People were rated on the overall environment of the room, not on a single visual element. Therefore, it is difficult to know which part of a pretty room has a positive effect and which part of an ugly room has a negative impact.

Extension of the Room Effect

The following research further expanded on the Room Effect and summarised it as a method. The study used the Room Effect method in three different areas, automobiles, motorbikes, and university brands, and investigated the effects on the people associated with them. They all used highly controlled environmental or product stimuli in combination with highly controlled human models to test the effect. Effendi and Whitfield (2012) investigated whether participants' perceptions of car owners changed when people related to cars by placing character models with different national faces next to car models of various brands (Mercedes-Benz C-Class, Proton Persona). The dimensions evaluated were diverse, involving physical characteristics such as age, height, weight, income, employment, education, and personality-related dimensions. One thousand fifty-three participants of all ages and countries responded to the online questionnaire, 818 males and 235 females. The countries with the highest number of participants were Australia, India, and the USA. The results suggest that car characteristics are transferred to owners when associated with a specific car brand and influence observers' perceptions of the car brand. Physical attributes, such as the car's appearance, influence the owner's height, weight, education, and income perceptions. Additionally, the study found a gender effect, with perceptions of the owner being more pronounced among male Caucasian car owners, followed by female Caucasian car owners. Hashim and Whitfield (2018) applied the Room Effect method to motorbikes. The stimulus motorbikes were made of the Vespa and Modena brands. The character models were chosen to be faces from countries of comparable age who appeared to have a relatively benign appearance with little facial expression. Participants were asked to judge the motorbike owners' personalities and physical and social attributes. The results showed that Caucasians were the most

influenced in their perceptions of the owners, while Asian women were the least influenced. Idris and Whitfield (2014) extended the study of the room effect to include university brands. Idris and Whitfield (2014) extended the study of the room effect to include university brands. Using a similar method to that originally used in environmental psychology, they tested the effect of a university's name and logo on the people associated with it. The background stimuli were university logos (traditional and modern) and names (meaningful and non-meaningful), and the models used were male and female lecturers. The questionnaire comprised four dimensions: research quality, teaching quality, graduate employment, and international reputation. The findings support the effectiveness of names and logos in improving perceived academic status. The perceptions of the male lecturer were strongly influenced. He was perceived as more reputable, intellectual, and credible when associated with the traditional logo. The research above shows that the Room Effect can be extended to other fields besides the physical environment. Collecting people's comments on character models can help researchers explore the effects of products and brands on them more accurately. The results of the study not only show the Room Effect but also emphasize the impact of gender on the situation. In other words, the effect of a product or brand on the people associated with it is selective and is not transferred equally to everyone associated with it. Unlike the previous studies, the evaluation dimensions in these studies are highly centered on the target domain, such as those for car owners, such as Physical Attributes, Age, Education, and Annual Income, and for university lecturers, such as research quality, teaching quality, graduate employment, and international outlook. The following table summarises the research conducted by Effendi and Whitfield and Idris and Whitfield.

Table4 Using Room Effect in the car and branding field

Researcher	Effendi & Whitfield	Idris & Whitfield
Research time	2012	2014
Research field	Product Design-Automobile	Brand Design - University brand
Research objectives	To investigate whether the physical attributes of a car affect the people associated with it	Probing whether a university's visual branding influences those who relate to it
Image background	Different car brands: The Mercedes-Benz C-Class, the Proton Persona	Logo: the traditional logo, The modern logo Name: the actual name, the fictional name
Human model	Asian, Caucasian	Asian
Gender of the human model	male, female	male, female
Characteristics of the human model	Portrait, mid-30s, no frills, regular facial expression	Top half, university lecturer in uniform, smiling
Subject of evaluation	car owner	university lecturer
Questionnaire dimension	Personality: The Five-Factor Model Physical Attributes, Age, Education, Annual Income	Personality: The Five-Factor Model Research Quality, Teaching Quality, Graduate Employment, International Outlook
Questionnaire format	a nine-point Likert scale	a nine-point Likert scale
Participant identification	Users of the School of Design website	Users of the School of Design website
Number of participants	1,053 (818men, 235 men)	888 responses (608 men, 276 women, four gender unreported)
Result	Product effect and gender effect were	Brand effect and gender effect were found.

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CONCLUSION

The Room Effect, as a method of investigating people's perceptions, can be extended to be used in different fields. When designing experiments, some principles need to be followed. From the initial room environment to different design products to brands, all studies using the Room Effect method have used highly controlled backgrounds and human models. The choice of stimuli was particularly important when designing the experiments, and the human models were people who were closely related to the field of study. For instance, when examining the effect of a car's brand or quality on perceptions of its owner, human models of different genders and nationalities may be selected. Investigating the effect of university logos and names on people's perceptions, university lectures could be chosen as human models.

In addition to the choice of stimuli, the setting of questionnaire dimensions in Room Effect experiments is essential. Defining questionnaire dimensions relevant to the study domain can enhance researchers' understanding of how people perceive the human model. If the core stimuli can influence people's perceptions of the human model, the Room Effect has occurred (below).

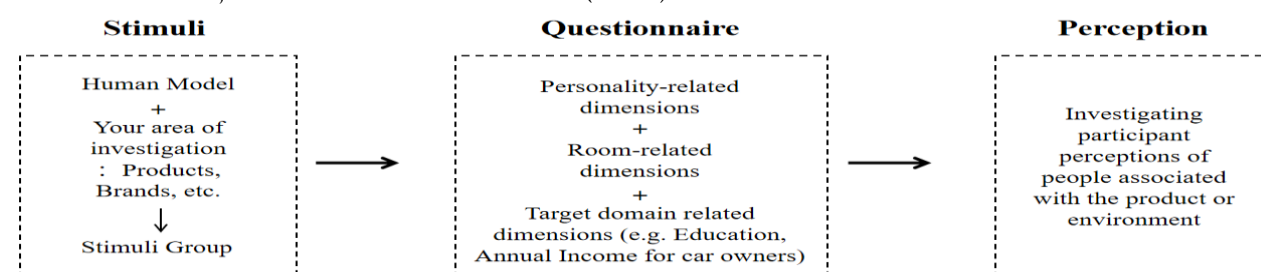


Figure 2. Summary of the Room Effects Method

Figure 2 Alt text: Figure 2 shows the Room Effects Method with important stimuli choice and questionnaire dimensions.

While the review of an area is normally confined to research completed and published, it is informative to report on studies underway. These seek to extend the Room Effect to a new range of products and environments. These include the effect of clothing on the perception of female university lecturers, the effect of jewelry on the perception of both men and women, and the effect of cosmetic packaging. One environmental study seeks to ascertain the effect of backgrounds on online education. Does the type of background influence the perceptions of the teacher? In branding, a study examines the effect of the logo and the name of a non-government organization on people associated with it. A key distinction between these upcoming studies and those included in the review is their setting. Most of these studies will be conducted in China, utilizing the Chinese language and participants, whereas previous studies predominantly used English and Western participants. The question posed is whether the Room Effect extends to non-Western participants. Finally, some studies reflect economic or social prerogatives within a country. For example, the study of female university lecturers' clothing reflects a wish by the Chinese Government to encourage the wearing of Chinese-style clothes. The clothing used in the study is derived from that worn by the wife of Chinese President Xi Jinping and that of the wife of French President Macron. The results should prove interesting.

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