

RESEARCH ARTICLE

# Differences between young architects' and non-architects' aesthetic evaluation of buildings



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**Abstract** Previous studies showed significant differences between expert architects and laypeople in aesthetic evaluations of buildings. However, studies exploring the aesthetic preferences of architecture students are lacking. The present study focused on a population of students and young architects to explore the aesthetic opinion shift within architectural careers. This study was intended to be a conceptual replication of the study of Brown and Gifford (2001) in a Central European context. A total of 109 participants (21–28 years old) evaluated 40 randomized pictures of houses to detect whether non-architecture undergraduates and fresh graduates of architecture would express different aesthetic preferences compared with their peers from the general population. The study also examined whether laypersons can predict the preferences of architects, and vice versa. Results show a trend that is contrary to the original research, that is, young architects and laypeople did not significantly differ in their aesthetic evaluations of the given stimuli. Analyses revealed high prediction ability in young architects and their non-architect peers. Moreover, the existing professional experience of young architects had no influence on the accuracy of their estimations. Findings suggest that the professional shift in architects' expertise is obscured at an early career stage, as revealed in their aesthetic preferences.

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## 1. Introduction

Architecture represents a unique field where art meets its application. Architects worldwide offer ideas to their clients, but these two groups may not always agree with each other. Studies have shown that differences exist between expert architects and laypeople in their aesthetic preferences (e.g., Ghomeshi and Jusan, 2013; Montañana et al., 2013). However, most studies compare experienced architects with laypeople. Studies exploring young architects and their aesthetic judgments remain lacking (except Fawcett et al., 2008; Cubukcu and Diktas, 2013). The current research may play a significant role in suggesting interventions or specific client-focused training during architectural education because the market in general increasingly reflects client needs.

With respect to the abovementioned data, we explored two related issues: (1) differences in aesthetic preferences between young architects and their peers and (2) professional opinion shift in young architects. We conducted a conceptual replication (Bonett, 2012; Appelbaum et al., 2018) of the study of Brown and Gifford (2001). We also extended the scope of the study and compared the outcomes of the original study with those of the replication study. The original study offered a simple and elegant design because it used exactly one variable to explore building aesthetics (terrible/excellent architecture 10-point scale). Silvia (2012) convincingly argued that different aesthetic properties are simply one variable even though it seems unsophisticated.

By applying the previous concept of aesthetics to architectural research, we found evidence that architects and non-architects differ in their building preference. The existence of studies on various aspects of liking and disliking architectural objects (Ghomeshi et al., 2012a, 2012b; Ghomeshi and Jusan, 2013; Montañana et al., 2013) may seem unsurprising. However, such studies yield important questions: How are buildings understood by their designers and users, and how should they be designed? Should the buildings be customized further to suit laypeople's feelings, or should they always mirror the state-of-the-art perspective of contemporary architects? A potential conflict exists between an architect and her/his client, who may have relatively different expectations of a designed house. Meanwhile, architects represent authorities in the design and evaluation of architectural aesthetics. In this work, we investigate existing studies on the issue of the evaluation of buildings by architects compared with laypeople. Furthermore, we provide original empirical evidence about the aesthetic preferences of young architects compared with their non-architect peers to determine the preference of each group regarding building design and if they can predict the preferences of the counterpart group. We also investigate which period of an architect's career development corresponds with the shift in architects' preferences.

A brief review would bring us three decades back to Nasar (1992) who highlighted the importance of environmental aesthetics by questioning population preferences in housing. This concept represents a focus on what people aesthetically appreciate in the environment and what they often find pleasurable. Aesthetics has a huge effect on the

preference of people when evaluating their surroundings, although the quality of what is considered to be aesthetic is highly subjective. Several authors have investigated the qualities that different groups of people find desirable in buildings (Devlin and Nasar, 1989; Gifford, 1980; Groat, 1982; for more see Ghomeshi et al., 2012b) or that lead people to different evaluations of buildings (Gifford et al., 2002) and the manner that buildings should be evaluated and designed (Cho, 2011; Hubbard, 1996; Stamps, 1989). Differences between “elite code” (aesthetics of professional architects) and “popular code” (laypeople aesthetics) were emphasized in the study of Jeffrey and Reynolds (1999). The authors argued that buildings constructed in accordance with the “elite code” are unlikely to receive popular acclaim. This issue had also been explored in other studies (e.g., Akalin et al., 2010; Hubbard, 1996).

Consequently, recent studies have strived to explain the great difference between the perception and evaluation of buildings. Gifford et al. (2000) and Llinares et al. (2011) offered a psychological perspective on this issue. Brown and Gifford (2001) suggested that architects in general cannot predict the public's aesthetic evaluations of architecture. Montañana's (2013) research was widely developed on Gifford's approach and presented the significance of emotional choices in laypersons' preferences. This study focused on the decision making in purchasing a property for residential purposes and found that non-experts ranked a property perceived as a “family home” higher than that as “light and outward facing.” This finding suggests that the feeling or emotional state about a piece of property was a highly relevant factor for laypersons' preferences. Such state was even more relevant than the “objective” design of the building. However, no unified language between architects and non-architects was defined, and the existing narrative might seem to imply that architects are incapable of fully understanding laypersons, and vice versa.

We raise another important question, that is, the source of the difference between architects' and non-architects' perceptions and evaluations and the time that it occurs to understand and possibly resolve the abovementioned question regarding such variation. Purcell and Nasar (1992) suggested that architecture freshmen have preferences more similar to the general population than advanced students. Cho (2011) conducted an empirical study after having spent a year in architectural design studios and closely watching the process by which laypersons acculturate to the architecture and design community. She identified a design studio as a place for students where they can learn and embody the aesthetics acquired in other courses, open their eyes and be exposed to new aesthetics, and learn to negotiate their aesthetic judgment with instructors and reviewers. Cho's (2011) study can shed light on the process of gaining experience (new/architectural aesthetics) and forgetting old views (old/laypeople aesthetics). The implications of this process were visibly demonstrated by Wilson and Canter (1990). They claimed that architects move from physical concepts to highly complex and abstract ones. Some researchers find this process of widening the gap between professional architects and laypeople as beneficial (e.g., Erdogan et al., 2010). By contrast, other professionals perceive this process as harmful (Masden and Salingaros, 2014). In either case, the knowledge about

this professional shift is scarce because only a few studies focus on architecture students and the development of their aesthetics and professional attitudes (e.g., [Cho, 2011](#)).

The liking and disliking of buildings by students should be extensively explored to answer the question about architects' opinion shift. Moreover, the professional approach of young architects, who already have an architectural education, albeit with minimal or no practice, should be defined, described, and analyzed. For this purpose, we sampled from a population of advanced students and fresh graduates of architecture. This population is expected to be less steeped in professional experience, business, market, or expert community demands. Contrasting these groups may help indicate the period of expertise development that opinion shift (if any) occurs.

The present study is a conceptual replication because we adopted [Brown and Gifford's \(2001\)](#) approach to reveal hypothesized differences in the evaluation of buildings between architecture students and young laypeople. Specifically, we focused on the issue of common family houses because most architects have to negotiate the design of houses with their clients. Within the framework of this study, we consider family houses as suitable stimuli because they represent the building type that interests architects and laypeople. The aspects of personal preferences and experience were controlled for both groups because many young people in the Czech Republic live in flats in the city. The possible disparities (age and sex) were further balanced within the research design. We allow architects and laypersons to estimate the other group's preferences to obtain an enhanced understanding of their common language. Then, we interviewed architects about their existing expertise. Our analysis of variance (ANOVA) in housing preferences was supplemented by a correlation analysis of house preferences regarding participants' individual architectonic experience. The following hypotheses were determined on the basis of the study results of [Brown and Gifford \(2001\)](#): (1a) A significant difference in global aesthetic preferences of buildings would exist between young architects and young laypeople and (1b) a significant difference in global aesthetic evaluation of buildings would exist between young architects' and laypeople's estimation of the opposite group, (2) a significant positive correlation would exist between architects' own evaluation of buildings and their estimation of the preference of laypeople, (3) a positive correlation would exist between laypeople's own evaluation and architects' estimation of laypeople preferences, (4) a positive correlation would exist between the preferences of architects and laypersons, and (5) the correlation between architects' experience and their accuracy will be negative. We add one hypothesis: (6) a positive correlation would exist between architects' evaluation and laypersons' prediction of architects' evaluation.

## 2. Material and methods

In the present study, we conducted a conceptual replication ([Bonett, 2012](#); [Appelbaum et al., 2018](#)) of the study by [Brown and Gifford \(2001\)](#). The same procedures were used, that is, we asked participants to evaluate buildings on the

scale of 1–10. However, we used stimuli different from those in [Brown and Gifford's study \(2001\)](#) and sampled a relatively different population. We used family houses, which were mostly built from the 1990s in the Central European area and represented the natural ambience of populated areas in the region, instead of the large urban structures constructed between the 1980s and 1990s used by [Brown and Gifford \(2001\)](#). Houses from the Czech Republic were selected because their style was familiar to all participants. The total number of evaluated stimuli in the original study was 42 buildings, whereas we only used 40 buildings in the present work, although a considerable number of respondents were engaged for each group.

### 2.1. Participants

The following two different groups of participants were addressed via social networks and e-mail:

- (1) Laypeople without any experience in architecture (mostly students of psychology and humanities)
- (2) Architecture students from the Faculty of Civil Engineering in Brno University of Technology.

A total of 156 people agreed to participate. Twenty-eight participants were excluded because they were unable to finish the questionnaire. Eleven participants were excluded because they were more than 28 years old. Eight participants were excluded because of their education level (they only finished secondary school). Thus, the two comparison groups in the study were paired by age, gender, and education level. We also classified participants by the type of education completed and length of architectural practice in months. Finally, 109 participants were included in the data analysis. [Table 1](#) shows the sample distribution.

The average age of laypeople was  $M = 25.09$  years (ages 21–28,  $SD = 1.89$ ), whereas that of architects was  $M = 23.59$  (ages 20–28,  $SD = 1.83$ ). Majority of laypeople were graduates (48 graduates vs. six undergraduates), whereas most architects were undergraduate students of architecture ( $N = 29$  vs. graduates,  $N = 26$ ). The average work experience of architecture students was 2 years and 6 months, ranging from 0 to 5 years ( $SD = 1.76$ ). Participation was voluntary and anonymous, and participants were briefly informed about the research aims.

### 2.2. Housing stimuli and instructions

Participants were asked to evaluate houses, which represented four different categories of housing styles in the Czech Republic. The four categories of houses, which were defined for this article, emerged from the narrow-focused

**Table 1** Sample characteristics: age vs. field of study.

	Architects	Laypeople	Total
Men	24	23	47
Women	30	32	62
Total	54	55	109

discussion with experienced architects living and working in the Czech Republic. Specific building categories were distinguished by symmetry, ground plan, roof type, window type, materials used, and colors used. Therefore, no existing architectural classification of houses was utilized. We used a selection of natural types of houses, which are widespread in the Czech Republic and represent typical family houses in the Central European area. House pictures (experimental stimuli) were collected by the architecture students and evaluated by the research team (psychologist and architects). House pictures in each category were selected in such way to ensure that houses are efficiently recognized by participants from the Czech Republic. Each house picture should possess several specific features. Specifically, the picture should (1) be a detached house, (2) exhibit no “noise” (i.e., cars and people), (3) be a daylight photo, and (4) be of approximately the same picture quality.

Colored photos were obtained from the Internet and Institute of Architecture archives. We created a set of 53 houses in four categories: (1) modern ( $N = 13$ ), (2) wooden ( $N = 12$ ), (3) catalogue ( $N = 12$ ), and (4) McMansion ( $N = 16$ ) houses. Then, we excluded 13 pictures on the basis of the required criteria. Finally, 10 houses were assigned into each category. The houses were built between years 1990 and 2018. A brief description of each category is provided below with pictorial examples in Fig. 1:

A) Modern houses were selected on the basis of their resemblance to the architectural style of functionalism. The houses exhibited simple and symmetrical building lines, often with a square/rectangular horizontal ground plan with a flat roof and few materials used for construction – mostly concrete or iron. A considerable part of the facade is occupied by large embedded windows. These houses could be also perceived as pure design because of

the predominance of the white color on the facade. This style originated in the same time period as McMansions (1990s) and could be perceived as the direct opposite to McMansions.

B) Wooden houses could be regarded as halfway between modern and catalogue houses. These houses are similar in simplicity to the previous category, but the main difference is in the building material, which is wood. Most pictures used in this study were simple houses with a gable roof and square/rectangle horizontal ground plan.

C) Catalogue (or prefabricated) houses, as their label suggests, are standardized houses from catalogues. These houses look like classic ones but are cheaper and built faster (ca. in 3–6 months). Walls are prefabricated and are delivered together as a building kit. Materials used for walls are polystyrene, drywood, glass wool, or wadding or/and wood. These houses often exhibit a squarish floor plan, hip or gable roof, and plastic windows, and the facade would be in pastel colors (e.g., [Cooke and Friedman, 2001](#)).

D) McMansions are oversized houses that combine different building styles and elements (i.e., pinnacles, balustrades, skylights, or mansard roof). These houses are designed to astonish the observer with the impression of luxury, but they often use low-cost materials (i.e., plastic windows, block paving, or concrete fence). In the Czech Republic, this style is known as *businessmen baroque* and is frequently criticized by architects ([Mayer, 2000](#); [Mullen, 2017](#)).

### 2.3. Measures

In the first slide of the online questionnaire, we asked participants about sociodemographic variables (sex, age, level, and type of education). If participants labelled themselves as architects, then they answered one additional question about their work experience. The

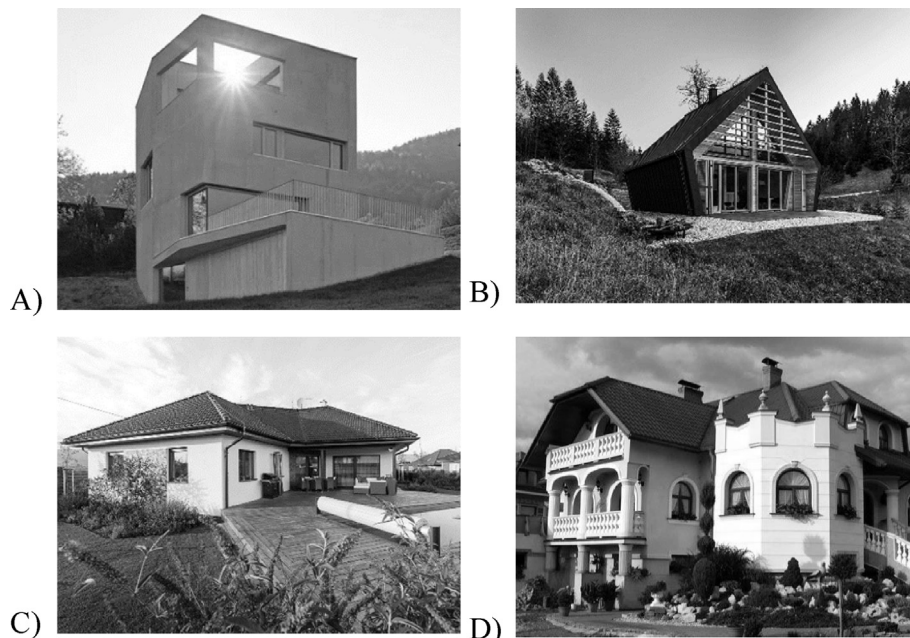


Fig. 1 Examples of the four housing stimuli: (A) modern, (B) wooden, (C) catalogue, and (D) McMansion houses.

participants had the same instruction, which was based on a previous study (Brown and Gifford, 2001). We asked them (1) to evaluate the overall aesthetic quality of houses on a scale ranging from 1 to 10 (1 = terrible architecture; 10 = excellent architecture). The evaluation was performed by architects as architects and laypeople as laypeople. Then, the participants were asked (2) to mimic a typical global impression of the other group about buildings. Architects were asked to evaluate buildings on a scale (1 = terrible architecture; 10 = excellent architecture) from the layperson's point of view (architects as laypeople). Laypeople were asked to evaluate buildings as architects would (laypeople as architects). Pictures of houses were randomized for each participant. Participants were unaware of the house categories.

### 3. Results

#### 3.1. Reliabilities of evaluations

We computed a two-way model, mean of k rater type, and absolute agreement by definition (Koo and Li, 2016) for each intra-class correlation (ICC) measure. A high degree of reliability was found among evaluations of architects as architects. The average ICC measure was 0.994 with 95% confidence interval (CI) [0.990, 0.996],  $F(39, 2067) = 187.649$ , and  $p < 0.001$ . The average ICC measure of agreement among architects who predicted laypeople's evaluations was 0.958 with 95% CI [0.937, 0.975],  $F(39, 2067) = 27.433$ , and  $p < 0.001$ . Moreover, the average ICC measures for laypeople were slightly high. For evaluations of laypeople as laypeople, the ICC measure was 0.956 with 95% CI [0.933, 0.973],  $F(39, 2016) = 26.074$ , and  $p < 0.001$ . For laypeople predicting architects' evaluations, the ICC measure was 0.982 with 95% CI [0.974, 0.989],  $F(39, 2016) = 69.758$ , and  $p < 0.001$ .

#### 3.2. Architects' prediction

##### 3.2.1. Mean predictions

Similar to a previous study, we conducted a one-way ANOVA between the groups of young architects and laypeople. In contrast with Brown and Gifford's (2001) study where differences between the evaluations of architects and laypeople were found, the one-way ANOVA in our study suggested no differences between groups of architects

( $M = 5.08$ ,  $SD = 2.69$ ), architects as laypeople ( $M = 5.41$ ,  $SD = 1.22$ ), laypeople ( $M = 5.09$ ,  $SD = 1.39$ ), and laypeople as architects ( $M = 5.61$ ,  $SD = 1.92$ ), with Welch's  $F(3, 84.146) = 0.83$ ,  $p = 0.48$ , and  $\eta^2 = 0.014$ . Thus, our study cannot support the preceding results, and the overall means of ratings (across the 40 houses) were approximately the same.

We conducted a  $t$ -test for independent samples to compare the differences between mean evaluations of the original (Brown and Gifford, 2001) and present works. No significant differences were observed between evaluations of architects as architects ( $t(80) = 0.99$ ,  $p = 0.32$ , 95% CI [-2.9218, 0.9818],  $d = 0.45$ ), architects as laypeople ( $t(77) = 0.15$ ,  $p = 0.88$ , 95% CI [-0.5666, 0.4866],  $d = 0.04$ ), and laypeople as laypeople ( $t(80) = 1.55$ ,  $p = 0.12$ , 95% CI [-0.1288, 1.0488],  $d = 0.69$ ). These results indicate that the type of stimuli used in this study was equivalent to that in Brown and Gifford's (2001) study. Thus, our assumption about the same measured concept was confirmed because this part of the study was designed as a conceptual replication.

##### 3.2.2. Correlated predictions

The architects' predictions of laypeople's evaluations were correlated with laypeople's evaluations. Moreover, we added one hypothesis where we stated that laypeople could predict evaluations of architects. Table 2 displays the results with the outcomes of the previous study.

#### 3.3. Experience

Similar to Brown and Gifford (2001), we hypothesized that professional experience would be related to the accuracy of estimations. Accuracy in the previous study was defined as a correlation between the individual predictions of architects and the mean aesthetic ratings of laypeople. The original study reported a negative and nonsignificant relationship ( $r = -0.18$ ) between accuracy and experience. This finding indicates that the architects' level of experience exhibits no influence on the accuracy of their estimates regarding the aesthetic evaluations of laypeople. Our results also indicated a nonsignificant negative correlation ( $r = -0.25$ ,  $p = 0.09$ ,  $N = 48$ ). This weak trend indicates that less experienced architects predicted good lay responses. However, the nonsignificant correlation suggests that experience probably exerts no influence on predictive ability.

**Table 2** Comparison of correlation coefficients and levels of significance from the original and present studies.

	Laypeople's own evaluation		Architects' own evaluation	
	Brown and Gifford (2001)	Present study	Brown and Gifford (2001)	Present study
Architects predicting laypeople	$r$ 0.16	0.61	0.74	0.17
	$p$ >0.30	<0.001	<0.001	0.26
Laypeople's own evaluation	$r$		0.14	0.78
	$p$		—	<0.001
Laypeople predicting architects	$r$		—	0.96
	$p$		—	<0.001

### 3.4. Stimuli exploration

We conducted follow-up analyses to explore the differences in the evaluations of housing stimuli per se. A two-way ANOVA was conducted to compare the influence of two independent variables (level of expertise and type of house stimuli) on the overall aesthetic evaluation of houses. The level of expertise included two levels (architects and laypeople), and type of house stimuli included four levels (wood, catalogue, modern, and McMansion houses). The effects were statistically significant at the 0.001 significance level except the expertise factor. The main effect of house stimulus factor was  $F(3, 428) = 264.407, p < 0.001, \eta^2 = 0.65$ . This finding indicates a significant difference among wooden ( $M = 6.85, SD = 1.59$ ), catalogue ( $M = 4.51, SD = 1.55$ ), modern ( $M = 6.63, SD = 1.65$ ), and McMansion ( $M = 2.35, SD = 1.49$ ) houses. The interaction effect was significant  $F(3, 428) = 49.758, p < 0.001, \eta^2 = 0.26$ . Fig. 2 shows the interaction effect between the level of expertise and the type of house. Specifically, the type of house differently affected laypeople compared with architects. As shown in the chart, architects preferred wooden and modern houses. By contrast, laypeople preferred catalogue and McMansion houses.

We conducted separate one-way ANOVAs by level of expertise to compare the differences among house stimuli. A difference was observed in both groups (architects and laypeople) between the overall aesthetic evaluation on the four types of houses for architects ( $F(3, 212) = 462.352, p < 0.001$ ) and laypeople ( $F(3, 216) = 38.763, p < 0.001$ ). Table 3 displays the means and standard deviations.

Tukey's HSD post-hoc tests were computed for both levels of expertise. For architects, the post-hoc comparisons were statistically significant except for wooden and modern houses ( $p = 0.99$ ). The other types of houses differed from each other on  $p < 0.001$ . For laypeople, the modern houses did not differ from wooden ( $p = 0.60$ ) and catalogue ( $p = 0.49$ ) houses. The other types of houses differed from each other on the significance level of

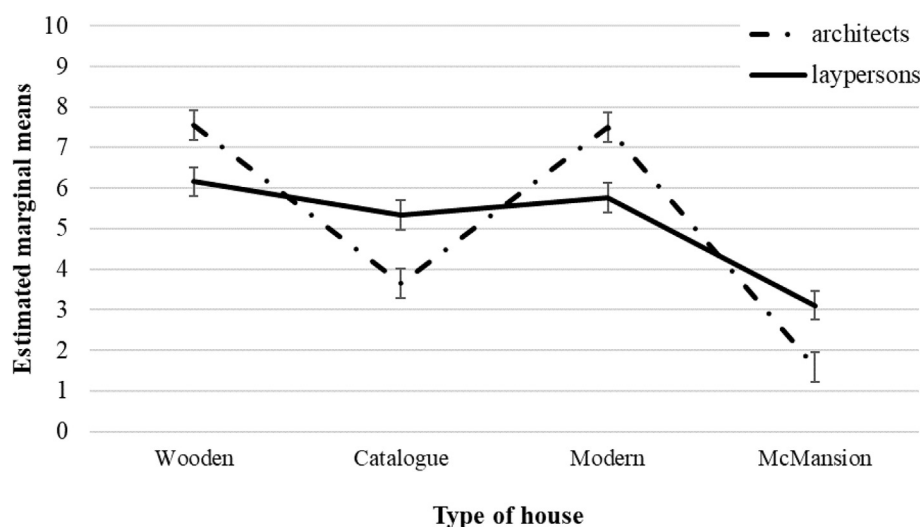
**Table 3** Descriptive statistics of house types for group of architects and laypeople.

Level of expertise	Type of house	<i>M</i>	<i>SD</i>	<i>N</i>
Architects	Wood	7.56	1.14	54
	Catalogue	3.66	1.20	54
	Modern	7.51	0.96	54
	McMansion	1.59	0.65	54
	Total	5.08	2.76	216
Laypeople	Wood	6.16	1.67	55
	Catalogue	5.33	1.39	55
	Modern	5.77	1.73	55
	McMansion	3.11	1.70	55
	Total	5.09	2.00	220

$p < 0.001$  (except for wooden and catalogue houses because they differed at  $p < 0.05$ ).

We computed independent *t*-tests for each type of house to compare the evaluations of architects and laypeople. Significant differences were observed between the two groups in each house category on a significance level of  $p < 0.001$ . Wooden and modern houses were more significantly preferred by architects than laypeople. By contrast, catalogue and McMansion houses were more significantly preferred by laypeople than architects. Table 3 presents the means and standard deviations.

In previous results, no overall differences were observed between the average evaluations of houses between architects and laypersons, and their evaluations were similar. However, differences were found between the two groups in each house category. Moreover, the level of experience had no influence on architects' accuracy when estimating laypersons' aesthetic evaluations. A correlation analysis between architects' experience and their average evaluation of each housing stimuli category was conducted. No significant relation was found for wooden ( $r = 0.03, p = 0.87$ ), catalogue ( $r = -0.11, p = 0.44$ ), modern ( $r = 0.13, p = 0.39$ ), and McMansion ( $r = 0.02, p = 0.88$ ) houses.



**Fig. 2** Differences in mean evaluations of four house types by laypersons and architects. Note: Displayed error bars are the 95% CI.

## 4. Discussion

The first hypothesis assumed that differences existed between aesthetic evaluations of houses between young architects and young laypeople and between their estimations of the contrasting groups' evaluations. These hypotheses were unverified because no significant differences were observed among the overall means of evaluations of architects and laypeople (either of their own aesthetic preference or preference of the other group). Although [Brown and Gifford \(2001\)](#) found differences between the overall evaluations of both groups, our analysis suggested that the outcomes from both studies are comparable. Therefore, no evidence was obtained to support previous findings.

Similar to the study by [Brown and Gifford \(2001\)](#), we found that architects and laypeople (who were rating the same buildings) strongly agreed among themselves. Architects' ratings agreed with each other in their predictions on the manner by which laypeople will evaluate the buildings. Further analysis showed that the laypeople agreed among themselves in their predictions of how the architects would evaluate the buildings. Our ICC measures were considerably higher than those of the original study ([Brown and Gifford, 2001](#)).

We hypothesized that positive relationships would exist among young architects' evaluation of buildings, young laypeople's evaluation of buildings, and architects' estimation of laypeople preferences. Moreover, we expected a positive correlation between own preferences of young architects and laypeople. Our last hypothesis predicted a positive relationship between young architects' own evaluation and laypeople's estimation of architects' evaluations. Correlation analysis showed that the architects can predict the buildings that laypeople would desire and laypeople can predict architects' preferences. This fact is in contrast with the original study's conclusions ([Brown and Gifford, 2001](#)), where the correlation between laypeople's evaluations and architects' prediction of laypeople's evaluations was weak. This evidence suggests that young architects not yet fully conform to their professional path and can evaluate things from the perspective of laypeople. In contrast with [Brown and Gifford's](#) study, a considerably strong correlation between the preferences of architects and laypeople as themselves was observed in this study. This relationship was slightly stronger than that between laypeople's evaluations and architects' predictions of these evaluations. This counterintuitive fact can be explained in terms of the architects' ignorance of the nature of the layperson sample (architects were unaware of the type of population, so they inappropriately calibrated their guesses).

The differences between the findings of [Brown and Gifford \(2001\)](#) and our study were probably caused by the low level of experience of the architects in our study. However, such differences could also be attributed to the large and further homogenous sample in our study (age and education level). Nevertheless, the observed strong relationship between architects' and laypeople's evaluations

may seem surprising, vis-a-vis [Gifford et al.'s \(2002\)](#) study. They argued that architects and laypeople differently interpreted the physical features of buildings, thereby causing them to experience distinct cognitive properties resulting from various aesthetic conclusions. However, this referenced study was conducted with a sample of experienced architects. Therefore, architecture students and fresh graduates are relatively similar to the students and graduates of other disciplines in their interpretation of physical features of buildings.

Our finding that non-architects can predict architects' evaluations supported the assumption that a population of young, educated laypeople may exhibit a valid approximation of professional architectural aesthetics. However, this insight indirectly affects architects' own aesthetics. Our current findings suggest that the sampled cohort of young architects is close to the architectural perspectives of the general public. This phenomenon raises the question of whether students at this particular time, as well as from various disciplines, are more interested in modern architecture than those sampled in previous studies.

For the fifth hypothesis, no interrelationship was assumed between architects' experience and the accuracy of architects' predictions of laypersons' evaluations. The correlation was negative and nonsignificant. However, the accuracy of young architects in the presented study was considerably higher than that of experienced architects in [Brown and Gifford's](#) study (2001). As previously mentioned, we assume that less experienced architects can efficiently predict laypeople's evaluations, which is based on their similar aesthetic preferences. The professional shift causing the lack of insight about laypeople's preferences was undetected in young architects. A similar pattern was observed by [Purcell and Nasar \(1992\)](#), where preferences of architecture students in the first year of study were considerably closer to those of non-architect students than later in the third year. This result also reflects [Wilson and Canter's \(1990\)](#) findings implying that the architects' maturation and expertise develop over a long time. On the basis of the given evidence, we assume that the professional shaping of architects might occur at a later phase of their career development, probably when one becomes deeply engaged in the community of expertise and practice. Thus, aesthetic preferences are potentially dependent on architects' professional experience. We suspect that the shift in potential architects' professional blindness occurs later in their career development. This finding agrees with previous research on professional acculturation ([Cho, 2011](#)) and should be further explored in follow-up experiments.

In summary, no significant differences were observed in the evaluation of wooden and modern houses. In the layperson group, no significant difference was observed in the evaluation of modern and catalogue houses. Thus, modern and wooden houses are comparably attractive for both groups. Moreover, architects distinguish the aesthetic quality of catalogue and modern houses. The emphasis of this study should be the detected significant differences between laypeople and architects when judging houses in each specified category on  $p < 0.001$ , which is in contrast

with previous studies. The existing effect seems systematically persistent across various types of houses. Evidently, the architects tended to be harsh when evaluating McMansion and catalogue houses and highly favorable when evaluating modern and wooden houses. For further research, we can suggest that architects have the tendency to be further extreme in evaluating houses. By contrast, laypeople tend to the mean evaluation.

The study has possible limitations, which complicate its generalizability. Subjects were recruited from only two universities sources, which might render its results specific to this population. Moreover, the lay sample exhibited a high percentage of psychology students/graduates, who are often trained to anticipate people's preferences. Thus, their actual guesses could have been affected by this ability. We suggest that further studies should be conducted to explore differences between young architects and laypeople with regard to aesthetic preferences. We argue that the acquired knowledge can be further transferred into the training of architect–client communications and architects' professional acculturation process because the market for architectural designs increasingly reflects the specific needs of clients.

## 5. Conclusion

The study explored the differences between young architects and laypeople in their evaluations of various types of houses and their ability to anticipate the average preference of the other group with regard to house design. In previous studies, differences were observed between the mentioned groups in terms of their architectonic and aesthetic preferences (Akalin et al., 2010; Brown and Gifford, 2001; Hubbard, 1996; Jeffrey and Reynolds, 1999). As most previous studies addressed the population of experienced architects, we focused on a sample of young architects (fresh graduates or advanced students) to detect if the professional shift away from popular aesthetic preferences can be observed in the early phase of their professional development. The evidence at hand does not support the presence of a shift at this stage. Although young architects have different aesthetic preferences, they can precisely predict the preferences of laypersons, which challenges the previous results with senior architects (Brown and Gifford, 2001). In addition, the laypeople can effectively predict architects' evaluations of buildings. Architects and laypeople generally evaluated structures from the same categories in the same direction (modern and wooden houses as favorable and McMansion and catalogue houses as less favorable), although architects' evaluations were further extreme. We also suggested the specific topics for further research, especially with a focus on the professional shaping of architects' aesthetic preferences during their career development. Finally, the surprising ability of laypeople to estimate architects' preferences is an issue worthy of further investigation. The presented study can contribute to the ongoing debate about the influence of architects' professional experience on their insights (or lack thereof) into laypeople's architectural preferences, and it adds a Central European context to the literature on architectonic evaluations.

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