Architects, the Public and Buildings: An Exploration of Responses to Various Building Types

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Cambridge Architectural Research Limited   February 2021

Abstract

With respect to the built environment, the opinion of architects and other people in the building industry are of considerable importance, as they largely determine the nature of buildings and cities. This paper explores the question about the extent to which architects, and others involved in creating and managing the built environment, esteem buildings relative to the wider population and the extent to which the difference varies by building type. It shows that the differences vary by building type.

This is an interim analysis, as data collection was interrupted in early 2020 by the world-wide virus. Data collection will resume when it is possible to do so...

Background

The literature confirming that architects and the wider population evaluate the built environment differently goes back into the early 1970s. Hershberger (1970) explored this area, and subsequent experiments such as Gifford et al (2000) and Fawcett et al (2008) offered results that were consistent with the earlier findings and refined them. Nasar (1999) considered differences between architects and users of a student centre at the Ohio State University, attempting to understand why architects would create a building thoroughly despised by its users. However, there are also indications that architects generally tend to like buildings less than does the wider population. Aysu Akalin (2009), of Gazi University noted this characteristic among their architecture students. During the survey work described in this paper, one architect responded that "…architects are simply trained to be negative."

The results being discussed are part of an ongoing larger investigation into preferences with respect to buildings undertaken in the period 2017-2020, but the process continues to explore other areas. Some of the work on the other areas has been included in Ellingham (2020).

Methodology

Experiments demonstrating the validity of photographic testing, were undertaken in the early 1970s, and reviewed in detail by Hershberger and Cass (1988) and Stamps (1993 and 1999). Hershberger & Cass conducted experiments with various moving and still photographic media, and verified the results of previous experiments, demonstrating high correlations between judgements based on visits to buildings and photographic representations. Stamps (1993) conducted experiments demonstrating again that photographs serve well as stimuli, that pre-construction line drawings were reasonable simulations, and that there were almost no preference differences "attributed to the difference

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between photographs taken normal to the building surface and photographs taken at an angle to the building surface" (Stamps, 1993, p.128). The robustness of media representations has been assumed in many experiments.

The research was trialled a set of building images, including some of building used by Robert Gifford, of the University of Victoria, in a similar experiment (Gifford et al, 2002), although no high-rise buildings were included. In response to the trials, the photographic set was modified with some buildings being eliminated and others substituted. The total number of buildings offered through the survey process was 23, representing a diversity of forms.

The survey asked for an overall evaluation of the building images, using a seven point scale, with the ends labelled negative and positive. This avoided the use of terms such as beautiful, ugly, charming, attractive... some of which were included the second part of the exercise, and were used to assess other aspects of the various buildings.
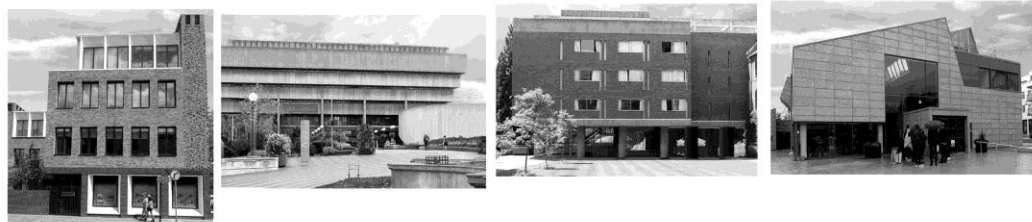
Exhibit 1:

Sample of Photographs Used in Experiment

(a) Historic or Reproductions

(b) Modern (General)

(c) Individualistic, High-Style

The survey was undertaken in Canada and the United Kingdom, largely conducted at various building industry conferences to obtain results from architects and others in the building industry. Members of the wider public included people who were encountered in various group sessions, and those met individually, including sitting next to them on airplanes. This approach should be regarded as superior to the numerous studies conducted using classes of first year university students, as it generates a less biased selection of individuals. In particular, some sessions were undertaken in Toronto, where approximately half of the population was born outside of Canada (worldpopulationreview.com, 2021). The responses from one Toronto session of sixteen architects and building industry paricipants included only four individuals born in Toronto, the others were from the United States (2), Argentina, Poland, Bosnia, and the UK, as well as six from elsewhere in Canada. In a context of increasing globalisation, this diversity is reflective of the population mix likely to be encountered in many major urban centres.

The respondents were divided into three groups:, 'Architects'; others in the building industry, termed 'Other Building', including developers, contractors, estate agents, planners, draughtspeople and building managers; and the 'Wider Population', being people not directly involved in the building industry.

One caution is that the sampling was biased towards people who tended to be more educated and affluent. This does however mean that most of the 'Wider Population' group will have a similar socio-economic-educational background as the 'Architects' and 'Other Building', reducing the potential bias of differing socio-economic states between the groups.

Findings

The findings and discussion are only about one limited part of the results, based on a total of the responses received to date, with the survey process being ongoing to explore other issues.

Exhibit 2

Total respondents received to date			
Architects	57	Male	57.5%
Other Building	50	Female	39.4%
Wider population	56	Unknown	3.1%
Total	163		

Exhibit 3

Age of Respondents				
	All	Architects	Other Bldg	Wider Pop.
<25	4.3%	0	4.0%	8.9%
25-34	10.4%	1.8%	22.0%	8.9%
35-49	16.0%	17.5%	20.0%	10.7%
50-69	51.5%	63.2%	34.0%	55.4%
70+	11.7%	10.5%	8.0%	16.1%
Unknown	6.1%	7.0%	12.0%	0.0%

The age distribution results from three factors: (a) The protracted duration of formal education and internship means that few architects will be found in the younger age groups (under 35). Architecture students have been included in 'Other building'. (b) The 'Other Building' group includes a wide range of disciplines, many of which are entered at a younger age than architecture. (c) The older age of the subjects from the 'Wider Population' results from an attempt to roughly match the age distribution of the architects, to minimise the possible effects of different ages and age cohorts.

Among the research findings was that the mean evaluation score for the architects, and others in the building industry, for all buildings, was substantially, and significantly lower, than for the wider population. The differences between architects and the wider population are of particular importance, as the architects do much to create the environments others will inhabit.

Exhibit 4

Overall Mean Evaluation Score (out of 7)	
Architects	4.02
Other Building	3.91
Wider population	4.49

Exhibit 5

Level of Agreement (Standard Deviation)	
Architects	1.42
Other Building	1.54
Wider population	1.52

The standard deviation of the scores was lowest for the architects - that they agree with each other more than for the other two groups, not a surprising finding given that they share a common educational background, which is not the case for the other two groups.

Different Buildings and Building Types

While the overall esteem assigned to the entire set of buildings is lower for the architects than for the wider population, more is revealed by considering different building forms, and specific buildings in cases where the differences are both statistically significant and extreme.

The buildings were classified into three groups:

(a) Historical or quality reproductions.
Of the buildings, five were either traditional buildings, or quality reproductions.

(b) Modern (General)

These are buildings that have been built after 1950 in a non-historical form, but are not distinctive recent 'high-style' buildings. They are more typical of what a competent architect would create for a client who is not intent on having the building be published or win an award. Five buildings were included in this group.

(c) Individualistic 'High style' modern buildings

These are distinctive buildings that might be published in an architectural journal or win an architectural award. Nine buildings were included in this group. One of the issues is that these buildings are individually unique, and their specific characteristics, such as materials, roof shape, symmetry are likely to dominate the overall esteem given (Ellingham, 2020) (Fawcett et al, 2008).

(d) Other buildings

These buildings did not obviously fall clearly into any of the three categories, so were not used in this part of the analysis.

Paired T-tests were performed for each building, between the respondent groups, to identify significant differences in the responses. The results of this exercise follow, where a higher percentage of significant differences shows that the two groups are evaluating the buildings differently. Yet again, this confirms the considerable differences in esteem given between architects and the other groups.

Exhibit 6

T-Test Results between Groups: Significant differences in scores			
	No. of Buildings	Number Sig.Diff.	Percent Sig.Diff.
Architects / Wider population:	23	10	43%
Architects / Other building	23	3	13%
Other building / Wider population	23	6	26%

The results of a separation of results were as follows:

Exhibit 7

Overall Esteem Ratings for Different Building Forms			
Mean Scores (out of 7)	Architects	Other Building	Wider Population
(a) Historical	4.80	4.75	5.33
(b) Modern (General)	3.75	3.61	3.88
(c) Individualistic, High-Style	3.94	3.79	4.27

The historical buildings (authentic or a good reproduction) were all ranked higher by the Wider Population than by the Architects, but only two buildings showed a significant difference between

the two groups. None of the Modern (General) buildings received a statistically significant difference in response between the Architects and the Wider Population, and the overall mean scores were not greatly dissimilar. This suggests that for relatively ordinary, recent buildings, architects and the wider public have similar opinions - albeit lower than for the other two building types.

The overall difference in esteem assigned by the two groups ('Architects' and 'Wider Population') to the Individualistic, High-Style buildings does not reflect the differences of opinion between the groups for the different individual buildings. Due to the variety of forms, the Individualistic, High-Style buildings are perhaps best considered individually (Exhibit 8). Among the non-historical buildings the highest scoring building among the wider population was the 'high-tech' Mercedes-Benz Museum in Stuttgart, Germany, being ranked as third overall, only behind two of the historical buildings, but only twelfth among the architects. In contrast, the architects ranked a pristine white Bauhaus-esque building in Oslo third overall, while the wider population ranked it as eighteenth - near the bottom. The recently-constructed 'techno' New Library of Birmingham (UK), was reasonably well esteemed by the wider population, but not by the architects or other building. The Domus museum in A Coruna, Spain, was ranked considerably higher by the architects than by the wider population. Another building, the Ray and Maria Stata Center at the Massachusetts Institute of Technology was ranked somewhere in the middle by all groups. In all these cases it would be interesting to know more about the specific reasons for the differing levels of esteem between the groups.

Mercedes-Benz Museum
Stuttgart, German

Bauhaus-esque Building
Oslo, Norway

Library of Birmingham
Birmingham, UK

Domus Museum
A Coruna, Spain

Ray and Maria Stata Center
Cambridge, Mass. USA

Exhibit 8

Scores and Relative Rankings for Selected Individualistic 'High Style' Buildings			
Building	Architects	Other Building	Wider Population
Mercedes-Benz Museum, Stuttgart	4.42	5.07	5.43
Rank within all 23 buildings	12	4	3
White Bauhaus-esque, Oslo	5.05	3 58	3.98
Rank within all 23 buildings	3	17	18
New Central Library, Birmingham, UK	3.25	3.72	4.72
Rank within all 23 buildings	21	14	9
Domus, A Coruna, Spain	4.47	3.74	3.94
Rank within all 23 buildings	11	13	19
Academic building at MIT	4.00	4.13	4.49
Rank within all 23 buildings	15	10	10

Discussion

The primary observations are:

(a) there are differences between the levels of esteem given to many buildings by architects and the wider population;

(b) this difference appears in the evaluation of historical and reproduction buildings, and in the individualistic, high-style buildings, not in the more pedestrian buildings built since 1950.

(c) There are major differences in how the various individualistic, high-style buildings are evaluated by the architects and the wider population. Some are esteemed by one group but not the others.

(d) Historical and reproduction buildings are esteemed by all groups.

During the survey process, numbers of comments were noted from the different participants. One comment heard on a number of occasions after a session with architects was that no attractive/appealing/beautiful buildings had been included. When the person was asked for some suggestions, the result tended to be silence and no real response. On one occasion a building was suggested, but its state of disrepair and the impossibility of obtaining a suitable photograph due to the way it was positioned on the street meant it could not be included.

One important factor is that both the Historic/Reproduction buildings and, to an extent, the Modern (General) are likely to be familiar, at least in a general sense, to the respondents, while the 'Individualistic High Style' are not likely to be. This, in part, will explain the lower scores for the 'Individualistic High-Style' buildings, as familiarity is one of the key factors in how we evaluate buildings (Birkhoff, 1933) (Kaplan and Kaplan, 1983) (Bohrn et al, 2013) (Ellingham, 2020)

Interestingly, the differences between the mean assessments for the three building groups are different: while for groups (a) and (c) the pattern for the architect evaluating all buildings of that category lower holds true, this is not the case for group (b) - the 'Modern-General' buildings.

One building that was not included in any of the three categories is the Jerwood Library at Trinity Hall, Cambridge, built in 1998, designed by Freeland Rees Roberts. The building might be considered to have historical references - a reasonable design strategy as it sits amidst quite historical buildings, but few people would likely see it as historically authentic or a reproduction. In the survey process it was identified as the most esteemed of the non-historical/reproduction buildings.

Jerwood Library, Trinity Hall, Cambridge		
Overall Esteem		
Architects	4.88	(highest ranked of non-historical buildings)
Other Building	5.04	(highest ranked of non-historical buildings)
Wider Population	5.42	(effectively tied with the Mercedes-Benz Museum, Stuttgart)

The assessment of this building by the architects was fascinating. On the survey questionnaire they ranked this building highly. However, in subsequent discussion with participating groups, this building was usually verbally attacked. In one session one architect gave numerous reasons why it was one of the most foul buildings he had ever encountered - and the rest of the group seemed to agree. Yet, even within this group, the survey results showed it as high ranking. In another session, an architect-respondent denied his own response. It appears that while in private, on an anonymous survey form, architects will say they esteem the building, architectural culture would not allow them to admit it before their peers.

Conclusions and Implications

This research confirms the numerous previous observations that architects perceive the built environment differently than does the wider public, but also indicates that this is true for other people involved in building development, construction and management.

It offers the refinement that the differences between the groups are not uniform across different building types, with there being greater for individualistic, high-style buildings than for more routinely-encountered 'normal' modern buildings. This means that for more commonplace buildings, architects' design opinions are likely to be closer to those of the people who encounter and use them, than in the case of individualistic, high-style buildings. In the case of individualistic buildings, careful consideration needs to be given to the factors that create esteem in the eyes of the wider population, not just to other architects and those who give architectural awards. This implies additional work is needed to understand the complexities of how people regard such buildings.

Architects are often called upon to undertake studies to determine whether buildings should be refurbished or replaced. That they esteem historic buildings to a lesser extent than does the wider population suggests that they may, when considering development alternatives, be more biased toward the replace alternative, something that may not be in keeping with widespread public preferences about how the built environment should evolve.

One policy concern is that of design review, such as undertaken by the building appearance committees that are sometimes the part of local planning processes. This was discussed with an architect who sat on such a committee, and his experiences confirmed the findings - that on the review committee the architects tended not to like any submitted designs. His feeling was that architects, when considering any building, in particular a new project, will always feel that they would have done something different - something they personally perceived as better.

Further Research

In spite of decades of work, this remains a very fertile area for more research. There are many things we do not know about human response to the built environment.

More immediate initiatives might include:

- Investigation into the 'Other building' category of respondents, to identify the characteristics of specific groups within that category, such as planners, developers, builders, financiers and estate agents.

- Investigation into the effects of respondent age, given that architects tend to be older than most building users, and other people in the building industry. In other research (Ellingham, 2002), age cohort effects were seen to be important in the assessment and pricing of the housing stock in the East of England.

- Ongoing investigation of the factors that make the Wider Population group esteem Individualistic High-Style buildings.

All of these require additional subjects - this survey process will be refined and continue when it becomes possible.

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