

# The Experience of Art in Museums: An Attempt to Dissociate the Role of Physical Context and Genuineness

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## Abstract

Research has shown that genuine artworks in the museum are appreciated more than reproductions in the laboratory. However, in previous studies, the effects of genuineness (authenticity or originality) and physical context varied together. Therefore, here we attempted to dissociate the impact of genuineness and physical context on the experience of art by using a  $2 \times 2$  between-subjects design. Participants ( $N = 110$ ) were randomly assigned to one of four conditions: gallery/genuine, gallery/reproduction, laboratory/genuine, and laboratory/reproduction. They viewed contemporary conceptual artworks and reported their experience on Liking, Interest, Arousal, Valence, and Understanding rating scales. In contrast to our expectations, we found that neither physical context nor genuineness had an effect on participants' evaluations of the artworks. We discuss several possible reasons for these unexpected results. These relate to the nature of the materials and the fundamental role that meaningfulness and personal relevance play in the experience of art.

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In his *Art as Experience*, Dewey (1934) highlighted the fundamental role of context in the experience of art: “Experience is a matter of the interaction of organism with its environment, an environment that is human as well as physical, that includes the materials of tradition and institutions as well as local surroundings” (p. 256). Since the early days of Empirical Aesthetics (e.g., Fechner, 1876; Martin, 1906; Valentine, 1913), however, most research has been performed in psychological laboratories, thus overlooking the contribution of context. Although there are clear methodological advantages to this choice, the extent and manner in which physical context contributes to the experience of art has not been empirically examined as thoroughly as it merits (Leder & Nadal, 2014). This examination is especially warranted when the physical context in which art appreciation is commonly studied—the psychological laboratory—differs in many fundamental aspects from the sort of physical contexts in which art appreciation usually occurs—such as museums, galleries, concert halls, or private homes.

Nevertheless, there is a growing realization among researchers that the role of physical context in art appreciation needs to be taken into account and understood better. This realization has found expression in at least four ways. First, theoretical frameworks, such as Locher, Overbeeke, and Wensveen’s (2010) model of aesthetic interaction or Leder, Belke, Oeberst, and Augustin’s (2004) model of art appreciation, place the whole process within a specific physical context, such as a laboratory, a gallery, and so on. Second, a number of laboratory studies have recently found that even verbal and semantic contextual framing influence psychological and neural processes involved in the appreciation of art (Gartus & Leder, 2014; Kirk, Skov, Hulme, Christensen, & Zeki, 2009; Noguchi & Murota, 2013; Swami, 2013; Westphal-Fitch, Oh, & Fitch, 2013). Third, even when the physical context and format in which artworks are presented does not greatly affect the way people value their pictorial features (such as complexity, symmetry, or balance) genuine artworks viewed in the museum are experienced as more interesting and pleasant than their reproductions (Locher, Smith, & Smith, 1999, 2001). Fourth, our own research has extended these findings in three main directions. We have shown that the museum context (compared to the laboratory) enhances the cognitive and affective components of the experience of art. Specifically, it increases people’s evaluation of art on Interest, Understanding, Liking, Arousal, and Valence scales. In addition, the museum context enriches people’s memory for art by providing local spatial cues that aid subsequent recall of the artworks (Brieber, Nadal, & Leder, 2015). Finally, genuine artworks in a museum receive longer looks than their

reproductions in a laboratory (Brieber, Nadal, Leder, & Rosenberg, 2014), allowing for a prolonged experience of art.

However, one limitation common to studies comparing the appreciation of art in museums and laboratories was that in museums participants always viewed the genuine works, whereas in laboratories they viewed their reproductions. Although this allows for a comparison of these contexts in their usual conditions, it does not allow disentangling the impact of physical context (museum vs. laboratory) and genuineness<sup>1</sup> (genuine vs. reproduction) on participants' appreciation. In other words, previous work has shown that art is experienced as more interesting, more understandable, more positive, and more arousing and is liked more in museums than in psychological laboratories (e.g., Brieber et al., 2015), but is this due to the physical context itself or due to the fact that participants were viewing the genuine works and not their reproductions?

There is evidence that genuineness contributes to enhance the experience of art. Several laboratory studies have shown that participants value artworks labeled as originals as more aesthetically pleasing than the very same artworks labeled as reproductions. Moreover, this increment in aesthetic appreciation is accompanied by increased neural activity in reward-related brain regions (Huang, Bridge, Kemp, & Parker, 2011; Noguchi & Murota, 2013). Various aspects of genuine artworks might contribute to this effect. In contrast to reproductions, people usually assume that genuine artworks have a unique existence in space and time. The "here and now of the original" (Benjamin, 2008, p. 21) constitutes its *aura*. While reproductions can be ubiquitous and ahistorical, genuine artworks are one of a kind and have a unique and unrepeatable history (Eidelman, Pattershall, & Crandall, 2010). In addition, the physical contact of the artist with the artwork, the creative performance associated with each artwork, and the intention of the artist are essential features that increase the value of genuine artworks (Newman & Bloom, 2012). These features explain why wanting to see genuine artworks is a major motive for people visiting art museums (Mastandrea, Bartoli, & Bove, 2009).

The objective of this study was to gain an in-depth look into the mechanisms underlying the museum enhancement effect (Brieber et al., 2014, 2015) by dissociating the effects of physical context and genuineness on the experience of art. We therefore designed a 2 × 2 experiment in which participants viewed the genuine artworks and computer-presented reproductions both in the gallery and in the laboratory. In line with previous research, we hypothesized that the experience of art would be enhanced in the gallery and genuine conditions, in comparison to the laboratory and reproduction conditions. Furthermore, we expected an interactive effect of genuineness and physical context, such that genuine artworks in the gallery would be appreciated most, compared with the other conditions.

## Method

### Participants

One-hundred and ten psychology students from the University of Vienna, aged between 20 and 59 years ( $M = 24.21$ ,  $SD = 4.45$ ; 77 women), took part in this study. Their participation was rewarded with partial course credit. They were randomly assigned to one of four groups: 28 participants evaluated reproductions of artworks in the laboratory [lab-reproduction (LR) group], 24 participants evaluated genuine artworks in the laboratory [lab-genuine (LG) group], 29 participants evaluated reproductions of artworks in the gallery [gallery-reproduction (GR) group], and 29 participants evaluated genuine artworks in the gallery [gallery-genuine (GG) group]. None of the participants had an educational background in art. All participants had normal or corrected vision and gave written informed consent prior to the study. In the consent form, the LR and GR groups were explicitly invited to view the genuine artworks in the gallery after their participation.

A power analysis using G\*Power (Faul, Erdfelder, Lang, & Buchner, 2007) showed that the present study, with a  $2 \times 2$  between-subjects design, and a total sample size of  $N = 110$ ,  $\alpha = .05$ , and a power of .80, would be able to detect main effects larger than  $f = 0.26$  and an interaction effect larger than  $f = 0.31$ . Given that the effect size ( $f = 0.47$ ) of the main effect of context in our previous study using a between-subjects design (Brieber et al., 2014) is well above the required threshold, the design of the current study provided enough power to replicate this finding.

### Materials

Eighteen artworks were selected from an actual exhibition at the gallery *Raum mit Licht* in Vienna. The exhibition was called *Seven years Raum mit Licht* and contained a collection of contemporary artworks from artists that had been represented by the gallery over the past 7 years. All artworks used or were related to the medium of photography and could be broadly considered as conceptual art. Participants were unfamiliar with the seven artists who created the artworks, as well as the pieces themselves. As in our previous studies (Brieber et al., 2014, 2015), information about artists and artworks was given by using the original text information provided by the gallery, with no modifications to length, style, or content. The gallery had three exhibition rooms, though we only chose artworks from Rooms 2 and 3. This allowed us to use Room 1 to present the computer reproductions to participants in the GR group without them being able to view the corresponding originals exhibited in Rooms 2 and 3.

### Procedure

Following the procedure of our previous studies (Brieber et al., 2014, 2015), after arrival at the gallery or the laboratory, depending on the group, participants

were told that the study would be conducted in two phases. In the first phase, participants were given a sheet with the text information for each artist and their work, and asked to freely view all the artworks for as long as they wished. The two groups viewing the genuine works (GG and LG groups) did this by walking either through the gallery (Rooms 2 and 3) or our laboratory. In the case of the LG group, genuine artworks laid or stood on the tables of the laboratory. Computers, monitors, keyboards, and other typical laboratory equipment and furniture were kept inside the laboratory rooms but were moved out of the way to avoid obstructing participants' view and movement. The other two groups (GR and LR groups) viewed high-quality digital reproductions on a laptop (15 in. screen) by browsing through a presentation ([www.prezi.com](http://www.prezi.com)) simulating the exhibition. In this presentation, participants could go backwards and forwards in the artwork order and zoom into the screen if they wanted to explore an artwork in more detail (as in Brieber et al., 2014). The LR group did this in one of the laboratory rooms, and the GR group did this in Room 1 of the gallery. This ensured that people in the GR group were surrounded by a typical gallery context with genuine artworks. They were, however, not able to see the selected genuine artworks (in Rooms 2 and 3) while viewing the reproductions on the laptop. To prevent biasing and confounding the effects of the actual genuineness with those of semantic framing (Kirk et al., 2009), participants in the four groups received no explicit information about the genuineness of the artworks.

In the second phase, participants were asked to look at the selected artworks again in the same manner as in Phase 1 and report their experience on rating sheets with the following scales for each artwork: Arousal ("How aroused do you feel when looking at this artwork?"), Valence ("How does this artwork make you feel?"), Liking ("How much do you like this artwork?"), Interest ("How interesting do you find this artwork?"), and Understanding ("How much do you have a sense of understanding this artwork?"). All were 7-point Likert scales, where 1 stood for *very little* and 7 for *a lot*, except for Valence (1=*very negative* to 7=*very positive*) and Arousal (1=*very calm* to 7=*very excited*). We chose these scales to capture affective as well as cognitive aspects of experiences of art. This also allowed us to compare them with our previous studies (Brieber et al., 2014, 2015). For each artwork, participants also indicated whether they had read the corresponding text information or not.

Participants in all groups could view and rate the artworks without being observed by the experimenter, who was in a separate room during both study phases. At the end of the study, participants filled out a questionnaire assessing their general interest and education in art. They also reported whether they are especially interested in prehistorical, ancient, medieval, renaissance, baroque, 19th century, modern, contemporary, or non-Western art (multiple response option).

## Results

Participants generally showed a moderate interest in art ( $M=46.15$  on a scale with a maximum score of 100), which did not differ significantly between groups ( $F(3, 106)=1.92, p=.130$ , and  $\eta_p^2=.05$ ;  $M_{LG}=52.75, M_{LR}=44.14, M_{GG}=44.90$ , and  $M_{GR}=43.90$ ). However, due to the slightly higher art interest of participants in the LG group, we decided to control for art interest in the main analysis by including it as a covariate. About 29% of the participants ( $n=32$ ) stated that they did not have any preferred art historical epoch. About half of the remaining participants were interested in modern ( $n=43$ ) and contemporary art ( $n=37$ ). On the list of preferred art historical epochs, about a quarter of the participants chose 19th century ( $n=20$ ) and renaissance art ( $n=17$ ). Only a minority was interested in prehistorical, medieval, ancient, or non-Western art ( $n$ s ranging from 6 to 13). The text information about each of the seven artists that was given to the participants in Phase 1 was read by the majority of participants. About 74% of participants ( $n=81$ ) reported to have read all the available text information (seven texts), 14% ( $n=15$ ) read six texts, and only about 12% ( $n=14$ ) read five texts or less.

For each participant, we computed the mean values for each rating scale by averaging over all 18 artworks. To examine the impact of physical context and genuineness on the experience of art, we computed a multivariate analysis of covariance (MANCOVA) with physical context (gallery, laboratory) and genuineness (genuine, reproduction) as between-subjects factors, art interest as covariate, and the five rating scales (Arousal, Valence, Liking, Interest, and Understanding) as dependent variables. Table 1 shows the means and  $SD$ s for each group and rating scale. The statistical analysis yielded neither significant main effects of physical context (Wilks'  $\Lambda=0.93, F(5, 101)=1.40, p=.229$ , and  $\eta_p^2=.06$ ) or genuineness (Wilks'  $\Lambda=0.98, F(5, 101)=0.28, p=.921$ , and  $\eta_p^2=.01$ ) nor did it show a significant effect of the physical context and genuineness interaction (Wilks'  $\Lambda=0.97, F(5, 101)=0.54, p=.743$ , and  $\eta_p^2=.03$ ). Only

**Table 1.** Mean Art Experience Ratings (and  $SD$ s) for Each Group.

	Genuine		Reproduction	
	Gallery ( $n=29$ )	Laboratory ( $n=24$ )	Gallery ( $n=29$ )	Laboratory ( $n=28$ )
Arousal	4.22 (0.62)	4.29 (0.40)	4.09 (0.70)	4.30 (0.57)
Liking	4.34 (0.75)	4.51 (0.64)	4.32 (0.74)	4.37 (0.56)
Interest	4.57 (0.78)	4.70 (0.57)	4.68 (0.65)	4.57 (0.69)
Understanding	3.84 (0.65)	3.88 (0.96)	3.69 (0.82)	3.68 (0.90)
Valence	4.30 (0.45)	4.24 (0.66)	4.34 (0.56)	4.20 (0.49)

the covariate art interest was significantly related to art experience (Wilks'  $\Lambda = 0.81$ ,  $F(5, 101) = 4.52$ ,  $p = .001$ , and  $\eta_p^2 = .18$ ). Thus, the average experience of Arousal, Valence, Liking, Interest, or Understanding was not affected by whether artworks were seen in the gallery or the laboratory. Moreover, there was no difference between people's experience of genuine artworks and their reproductions. In contrast to previous studies which compared genuine artworks in the museum and reproductions in the laboratory (Brieber et al., 2014, 2015; Locher et al., 1999, 2001), the similar pairwise comparison (GG vs. LR groups) also revealed no differences in art experience (Wilks'  $\Lambda = 0.95$ ,  $F(5, 50) = 0.45$ ,  $p = .809$ , and  $\eta_p^2 = .04$ ).

Furthermore, we examined the possibility that only participants who stated they were interested in contemporary art (the kind of art that was used here) might have been sensitive to manipulations of genuineness and physical context. Again, this analysis with this subsample of participants ( $n = 37$ ) showed no significant main effects or interactions (all  $ps > .113$ ). However, it has to be taken into account that this additional analysis was based on small group sizes ( $n_{LG} = 8$ ,  $n_{LR} = 10$ ,  $n_{GG} = 6$ , and  $n_{GR} = 13$ ).

## Discussion

The main aim of this experiment was to follow up on previous studies that had shown an enhancement of art appreciation in a museum context in comparison to a laboratory context, and to attempt to disentangle the specific contribution of physical context from that of artwork genuineness. We had hypothesized that both the gallery context and the genuine works would lead to an enhanced experience, as measured by five different rating scales, compared with the laboratory context or the digital reproductions. However, contrary to our hypothesis, neither physical context nor genuineness influenced participants' ratings. Thus, not only did the experiment fail to dissociate the contribution of both factors, it also failed to replicate a substantial body of literature documenting the positive effects of museum or gallery contexts (Brieber et al., 2014, 2015; Locher et al., 1999, 2001).

Why did this experiment not reproduce the context effect shown in similar prior studies? One possibility is that, in contrast to Brieber's et al., (2015) work, this was a between-subjects design. Could it be that the context effect arises only when the same individual encounters the artworks in each of the contexts? There is reason to believe that this is not the case. In fact, most of the previous studies involved between-subjects comparisons and still found that participants who had been assigned to a museum condition expressed a greater appreciation for art than those who had been assigned to a laboratory condition (Brieber et al., 2014; Locher et al., 1999, 2001). Moreover, such studies included even smaller sample sizes and, therefore, had less statistical power than the one presented here (see also the Participants section for the power calculations).

What about the absence of an effect of genuineness? It could be argued that it owed to our use of contemporary art, especially works of art using or relating to the medium of photography. In contrast to one-of-a-kind paintings or sculptures, the use of photographic materials, which are per se reproducible, may have attenuated the “auratic potential” of genuine contemporary art. Although this might have modulated the effect of genuineness, it does not explain why we failed to replicate previous findings that demonstrated an enhanced art experience for contemporary art, including art photography, in museums (Brieber et al., 2014, 2015).

We believe that the reasons why physical context and genuineness had no appreciable effect on the experience of art in the present study are related to three main differences between this and previous ones. The careful consideration of the implications of these differences, moreover, has the potential to improve our understanding of the context effects identified in the literature.

The first difference refers to the kind of materials used and the text information provided to participants. The exhibition consisted of conceptual artworks. By elevating “the concept or the idea behind the artwork over traditional aesthetic and material concerns” (Tate, 2014), conceptual art dispenses with the sort of features that laypeople find meaningful and can relate to in other sorts of art (Cupchik & Gebotys, 1988). Thus, our naive participants were probably unable to relate meaningfully to the kind of concepts dealt with in the exhibition’s artworks. Although most of our participants did read all the text information, this referred mostly to abstract, formal, and technical aspects, rather than to the direct meaning of the artworks themselves. Conversely, the text information pertaining to the museum exhibitions in our previous studies (Brieber et al., 2014, 2015) was more content-related and focused more on the way the artists had used the image and medium to convey their message or motivation. This seems to have facilitated a more meaningful engagement with the works (Leder, Carbon, & Ripsas, 2006).

The second difference between the experiment presented here and the previous ones has to do with the nature of the exhibition. In this case, we took advantage of a 7-year retrospective at an art gallery. The exhibition highlighted some of the most influential artists whose work had been exhibited there. However, it lacked a clear curatorial thesis or an overarching theme. In previous studies, the themes of the exhibitions were plain, and referred to social issues that are of general interest, such as the value of beauty in society (Brieber et al., 2015) or the human relation to transformations of nature and urban environments (Brieber et al., 2014). People generally relate to, have an opinion about, or an attitude toward these topics. Given that laypeople tend to interpret artworks more in relation to such personal experiences or views (Augustin & Leder, 2006), our previous studies seem to have provided participants with something this one did not: a general framework of personal or societal relevance within which to make sense of each individual work.

Together, these first two points suggest that participants in our study did not find, in the artworks themselves or in the exhibition as a whole, sufficient meaning to relate to. The implication of this is that—at least for laypeople—meaningfulness

and personal relevance might be crucial prerequisites for physical context and genuineness to make a difference. That is to say, only when encountering art that is meaningful and personally or societally relevant, do the physical context and genuineness contribute to enhance the experience of art. In the absence of meaningfulness or relevance, physical context and genuineness seem to matter very little.

The third difference between this study and the previous ones is that we created a condition in which the genuine artworks were viewed in the laboratory. In hindsight, we believe that the way in which the artworks were displayed in this condition might have actually contributed to shifting participants' perception of this context from a laboratory to a small gallery space, reducing the intrinsic differences between both physical contexts. This leads to the intriguing possibility of an *inverse white cube effect*. Not only can a gallery context—a white cube (O'Doherty, 1999)—enhance the artistic status of the exhibited works, the artistic nature of works might also enhance the artistic status of the physical context in which they are placed.

In sum, contrary to our original hypothesis, we found no effect of physical context and genuineness on art appreciation. These null effects, nevertheless, suggest unforeseen and intriguing explanations for why earlier research actually found such effects. First, they suggest that physical context and genuineness have the potential to enhance only art experiences that are meaningful or provide some sort of personal or social relevance. Second, they suggest a mutually reinforcing effect between physical context and genuineness that has previously not been examined. The first seems to constitute a prerequisite for the museum context effect, while the second seems to constitute a means through which the museum context achieves its effect. Further empirical studies are needed to support these interpretations, to clarify the contradiction between the findings in this and previous studies, and to reveal (additional) prerequisites and mechanisms underlying the museum context effect.

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## Note

1. Here we use the term *genuineness*, and not originality or authenticity, because we wished to avoid originality's connotation related to novelty and creativity, and authenticity's opposition to forgery and fakes, which carry moral connotations related to deception.

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