

PRICING AESTHETICS: HOW COGNITIVE PERCEPTION AFFECTS BIDDING FOR ARTWORKS

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There are few studies in which the focus is on cognitive determinants of artwork bidding. Using a micro approach, we explored factors that may influence bidders' offering from a psychological perspective. The 157 participants rated 25 paintings on the price they were willing to offer for works by famous Chinese artists executed in the traditional Chinese style and variants of the same works by a modern Chinese artist working in adaptations of the style of famous Western artists. Results showed that for both the Chinese and Western-style paintings in 3 price anchoring and 3 price nonanchoring conditions, 3 factors affected the bidding for the artworks: positive attraction, artistic quality, and cognitive stimulation. Of these factors positive attraction and artistic quality were the primary influences. In each condition, positive attraction was always the positive predictor of the bidders' offering, emphasizing the importance of the artwork's aesthetic value. In contrast, artistic quality deterred participants from bidding. In addition, whether or not there was a reference-point price made a difference in the traditional Chinese group of artworks. Bidders wished to offer a higher price only if the price had been high for the previous example of this artist's work that had sold.

Keywords: psychology of aesthetics, aesthetic perception, artwork bidding, aesthetic value, artistic quality, positive attraction, cognitive stimulation.

According to Maslow's (1943) hierarchy of needs, when people's lower needs have been satisfied, they turn to higher needs such as the true, the good, and the beautiful. There is now a greater focus on higher aesthetic needs, and satisfying these needs has popularized investment in the art market (Niklasson, 2014; Renneboog & Spaenjers, 2013). Artwork is different from other commercial

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goods (see Landes & Levine, 2006; Townley & Gullledge, 2015) in that it can be considered both an economic asset and as embodied cultural capital (Hanquinet, Roose, & Savage, 2014). Large amounts of money invested in the art market circulate throughout the world (Goetzmann, Renneboog, & Spaenjers, 2011). In the news media, people read that works of art are fetching extremely high prices. For example, in 2012, it took a little over 8 minutes for Pablo Picasso's *Nude, Green Leaves and Bust* to set the record price of \$US106.5 million for a work of art sold at auction. The boom has attracted the interest of researchers in the economic and financial fields (e.g., Erdős & Ormos, 2010; McAndrew & Thompson, 2007; Taylor & Coleman, 2011). Nevertheless, there is still little empirical evidence in the research field of psychology illustrating which factors people consider when they show willingness to pay for an artwork. Therefore, using cultural cues, we explored psychological factors that affect the bidding of investors.

Prices in Art Markets

The issues of what makes individuals decide to buy, and how much they are willing to pay for art works, are both important (Ursprung & Wiermann, 2011). Mandeville (1714/1988) concluded that the four determinants of the price of artworks are the relative fame of the artist, the reputation of the artworks' owners, and the artworks' scarcity and faithfulness to nature (Ginsburgh, Mei, & Moses, 2006). Mandeville wrote:

The value that is set on paintings depends not only on the name of the master and the time of his age he drew them in, but likewise in a great measure on the scarcity of his works and, what is still more unreasonable, the quality of the persons in whose possession they are as well as the length of time they have been in great families ... Notwithstanding all this, I will readily own, that the judgment to be made of painting might become of universal certainty, or at least less alterable and precarious than almost anything else: the reason is plain; there is a standard to go by that always remains the same. Painting is an imitation of nature. (Mandeville, 1714/1988, p. 374)

From the 1970s, researchers began to examine prices in art markets using scientific methods. Using econometrics, they studied the financial performance of artworks at auctions (Anderson, 1974; Stein, 1977). In 1985 Baumol used the data recorded by Gerald Reitlinger (1961) for 640 sales to study the returns on paintings sold two or more times during the period from 1652 to 1961 and found the average real return rate was equal to 0.55% per year, some 2% lower than the return on bonds. He attributed the lower rate of return to the buyers' consideration when they are bidding of being able to get aesthetic pleasure from the artworks. When researchers compared indexes of art prices in recent markets with subsequent profits and risk taken (De Silva, Pownall, & Wolk, 2012; Mei

& Moses, 2001, 2002, 2005) they found that, in the short run, returns on art investments were positively correlated with risk taken, such as paying a high price for a work by a little-known artist, but this might reverse in the longer run (David, Oosterlinck, & Szafarz, 2013; Pénasse, Renneboog, & Spaenjers, 2014; Renneboog & Spaenjers, 2013). Several researchers also attempted to identify the determinants of prices paid for artworks using hedonic analysis. Collins, Scorcu, and Zanola (2009) developed a refined hedonic art price index. They mainly concentrated on the relationship between the price of the artworks and their artists, previous sales, and the artwork's features (Mandel, 2009). Art markets are different from other markets. For example, stock market information is public, whereas insider trading is not regulated in art markets. Therefore, the bidders' personal emotion and cognition are elicited during decision making. For example, David et al. (2013) used the annual hedonic index built by Renneboog and Spaenjers (2013) from a database consisting of 1,088,709 sales of paintings and works on paper between 1957 and 2007. They found that the art market was inefficient because of the opacity of information between sellers and buyers. In particular, they pointed out buyers would take past prices into account as part of the information. Hence, in our study we took another point of view by discussing art prices from a micro individual-oriented perspective.

Aesthetic Value of Artworks

Art markets are distinguished from other markets because original artworks are unique. The assumption could be made that the price of an artwork would be positively correlated with its aesthetic value. However, people do not equate aesthetic value with the economic value of the artwork (De Silva et al., 2012). An explanation for this could be found in the statement by philosopher Edward Moore (1959, p. 82) that "beautiful artworks have objective, indeed, intrinsic value, but such value can never be captured by a definition or criteria based on natural properties." Therefore, on this basis, in a discussion about the aesthetic value of an artwork, the investment yield would be irrelevant. Aesthetic value is intrinsic (Beardsley, 2013), including value of artworks. As observed by Mandeville in 1714, the price of artworks was then determined almost entirely by market demand, often by fashion, and by the search for distinction (Goodwin, 2006). Aesthetic value is based on the presentation of the artwork—that is, the form of composition, choice of colors, and so on—and the emotion the work can arouse, whereas the value of artwork involves not only its aesthetic value but also the environment—as in where the artwork is, be it museum, library, or in a street—and its background—as in the viewer's personal background of novice or expert, educated or not educated, as well as the background story of the artwork itself—and even the cognitive processes of those viewing the work at that time (Hughes, 1993).

When people speak of “artistic value”, they are often confusing this with aesthetic value, taking into account external factors like inside knowledge, rate of return, and turnover. Research on the concept of value has been popular in many disciplines such as philosophy, sociology, anthropology, and psychology. The topic of the objectivity of aesthetic value has recently gained attention. Leaving aside the viewers’ pure appreciation of the work, in theories of aesthetic value there should be the capacity to explain how objective traits and subjective cognition work together to give value to an object. In the case of artworks, this means that the objective traits of color, composition, and layout, and the subjective cognition of the process that occurs when the individual actually views the work, will interact to produce value (Goldman, 1995).

According to the model of aesthetic appreciation and judgment proposed by Leder, Belke, Oeberst, and Augustin (2004), *aesthetic experience* involves a sequence of five processing stages: (a) *perceptual analysis*, during which viewers analyze the complexity, contrasts, symmetry, orderliness, and category of the artwork; (b) *implicit memory integration*, which involves familiarity and prototypicality; (c) *explicit classification*, which is concerned with content and style; (d) *cognitive mastering*, in which viewers gain understanding of the artwork through their own knowledge and experience; and (e) *evaluation*, the stage in which viewers evaluate whether or not they have understood the artwork and feel emotionally satisfied having gained pleasure from the experience. There are two relatively independent outputs of the model: aesthetic emotion and aesthetic judgments.

Kant (1790/1987) approached beauty in terms of being an integrated whole or purposiveness without purpose, emphasizing that when people were experiencing beauty during an aesthetic experience, it was not the matter or the function but only the pure form that mattered (Guyer, 1987). Hence, when a viewer appreciates an artwork, approves of its aesthetic value, and acquires pleasure from it, this positive aesthetic experience is the source of intrinsic motivation. Therefore, when people are bidding for artworks at auction, personal cognitive factors will be involved in their decision-making process. That is, the final bid is not only a reflection of the beauty of the artwork, but also of the taste and state of mind of the bidder, whose cognitive and emotional utilities form a relatively large part of the total value of an artwork. Thus, the bidder’s intuition and rationality work together to form his or her final decision on the bid. In this study, we engaged in a psychological exploration through an experiment, specifically focusing on the cognitive factors to which people refer when they offer a price for an artwork.

We also used cultural cues to examine whether or not these would make a difference when people offer a price. Previous researchers have suggested that there are cultural differences in cognitive activities involving aesthetics (Masuda, Ellsworth et al., 2008; Masuda, Gonzalez, Kwan, & Nisbett, 2008; Miyamoto,

Nisbett, & Masuda, 2006; Nisbett & Masuda, 2003). For example, Nisbett and Masuda (2003) stated that culture plays an important role for both the perceived and the perceiver in the aesthetic experience. Zhang, Feick, and Price (2006) found that cultural cues affected people's aesthetic preference for different shapes. They concluded that the accessibility of cultural knowledge may be the key to aesthetic predilection. Masuda, Gonzalez et al. (2008) found that people from Asian cultures tended to engage in context-dependent processes in representational works, that is people from Asian cultures would tend to pay greater attention than would their Western counterparts to contextual information. They concluded that this might result from differences in terms of culture-specific patterns of attention: so that people from Asian cultures would be more likely to exhibit a predilection for context inclusiveness and would tend to engage in holistic perceptual processes and Westerners would tend to engage in context-independent and analytic perceptual processes. In this study, we used Chinese masterpieces painted in the traditional Chinese style and variants of the same paintings executed in the style of famous Western artists and hypothesized that people would consider different factors when bidding for these artworks.

Method

Participants

We recruited 157 Chinese undergraduate students at Tsinghua University to participate in this study, for which they received course credit. Participants comprised 81 men and 76 women with an average age of 19.69 ± 1.63 years, who signed a form giving their informed consent. The study was approved by the Institutional Review Board of the university. Each participant took a presurvey to ensure that no one had received professional fine arts training.

Materials

As experimental materials we used 11 traditional Chinese landscape paintings, and 14 variants of these from the ongoing Shan Shui series executed by the famous painter Zhang Hongtu. Zhang repainted the compositions of masterpieces of Chinese landscape paintings in the style of Western masters, such as Cézanne (for example, see Figure 1). With the same composition but distinctive color one-to-one correspondence, these paintings can be easily recognized as either Chinese or Western in style, which is perfect for experimental control on cultural differences. The 25 paintings were divided into two groups: The traditional landscape paintings were the Chinese group, and Zhang's variants were the Western group, with pairs of corresponding paintings from the two groups. Resolution, contrast, lightness, and saturation of the pictures were reconciled using Photoshop CS2.



Figure 1. *Fan Kuan's "Traveling Amid Mountains and Streams" of the Song Dynasty (left, Chinese group) and Zhang Hongtu's "Fan Kuan-Cézanne" (right, Western group).*

We adapted the experimental material from the Art Reception Survey (ARS) developed by Hager, Hagemann, Danner, and Schankin (2012). The ARS contains 29 items, possesses a good internal consistency coefficient ($\alpha = .83$) and high construct validity, and comprises six dimensions: (a) cognitive stimulation (CS; e.g., “This painting makes me curious.”), that is, the viewers’ intellectual engagement with the artwork; (b) negative emotion (NE; e.g., “This painting makes me sad.”), that is, negative emotional arousal brought about by the artwork; (c) expertise (EX; e.g., “I can relate this painting to its art historical context.”), that is, the assessment of the viewers’ knowledge of the artist and artwork, and their understanding of the intention or idea conveyed therein; (d) self-reference (SR; e.g., “This painting makes me think about my own life history.”), that is, whether or not the viewers recall their personal memories and experience when viewing the artwork; (e) artistic quality (AQ; e.g., “This painting is unique.”), that is, an emphasis on the creativity and artistic skill of the artwork and artist; and (f) positive attraction (PA; e.g., “This painting is pleasant.”), that is, the most intuitive and validated aspect of an aesthetic experience and an assessment

of positive attitude toward the artwork on the levels of beauty, pleasantness, and value. The experiment compilation and formal test were carried out in the psychology laboratory at Tsinghua University.

Procedure

The paintings were presented randomly one at a time and each one was followed by presentation of the ARS. After scoring the 29 items, participants were asked to indicate how much they were willing to bid for each painting with the options ranging from 1 up to a maximum of 7. Previous researchers have shown that during financial decision making, people use cognitive heuristics (e.g. Furnham & Boo, 2011; Ku, Galinsky, & Murnighan, 2006; Simonson & Drolet, 2004), basically paying attention to one certain aspect of a complicated issue while ignoring others. Using cognitive heuristics in decision making makes the whole process faster and more effortless, but may result in cognitive bias. Anchoring is a heuristic by which people would use a previous available piece of information as a reference point for making their decision. In the bidding situation of the participants, during their decision making, their offer could shift down or up, based on the previous price we provided. To maintain a balance while avoiding the anchoring effect, participants were presented with three situations: (a) the high price anchoring context, that is, "If a similar painting had sold at a price of 6 in the marketplace, how much are you willing to bid for this painting?"; (b) the low price anchoring context, that is, "If a similar painting had sold at a price of 2 in the marketplace, how much are you willing to bid for this painting?"; and (c) the free bidding context, that is, "If all the money you have is 7, how much are you willing to bid for this painting?" Participants entered a score for each of these options.

Data Analysis

We used a multilevel linear regression to test the effect of cognitive perception on artwork prices across cultural context. Data were processed with IBM SPSS Statistics 19 software.

Results

Results of the traditional Chinese and Western-style groups of artworks in the three price anchoring and nonanchoring contexts were calculated separately. The ARS scores for each of the dimensions are the independent variables, and the dependent variables are the prices that participants offered in each of the three scenarios (see Table 1). Results showed that in the low price anchoring traditional Chinese group ($R^2 = .420, p < .001$), only PA significantly predicted effect ($\beta = 1.049, p < .001$). In other words, when participants were bidding for a

traditional Chinese painting on the premise of a low price anchor or reference point, only the aesthetic value of the artwork affected how much they were willing to pay. On the other hand, in the Western-style group ($R^2 = .373$, $p < .001$), results for both the PA and AQ dimensions reached a level of significance when the anchoring price was low. The participants' bidding for the Western-style paintings was also positively influenced by positive aesthetic experience (PA), but we found it interesting that the creativity and uniqueness of the artwork (AQ) had the opposite effect.

In the high price anchoring context, the results were the same for both the traditional Chinese group of artworks ($R^2 = .408$, $p < .001$) and the Western-style group ($R^2 = .407$, $p < .001$). When there was a high price reference point, participants' bidding on paintings of both genres was closely related to PA and AQ. Participants tended to offer a higher price when they felt satisfied with the aesthetic value of the original traditional Chinese landscape paintings and the adapted Western-style paintings. However, they hesitated about how much they would offer until they were certain that the artistic qualities of the traditional Chinese paintings stood out. The same happened in the bidding for the Western-style group of paintings.

The results in the free bidding context were more complicated. The result for each of the three scenarios was the same for the Western-style group of artworks: The more aesthetically valuable the adapted Western-style painting was perceived to be (PA), the more money participants tended to be willing to spend, and the more artistic the painting was perceived to be (AQ), the less money the participants wished to spend. The price offered for the traditional Chinese group of artworks was related to the PA, CS, and AQ dimensions. Results showed that the participants had a positive attitude toward the paintings (PA) that was still a positive predictor for the price offered, and that the highly artistic traditional Chinese paintings (AQ) held the bidders back. When there was no anchored price, which required the participants to engage in substantial intellectual activity, they were not willing to buy the traditional Chinese paintings. This result suggested that making a rational decision that requires many cognitive resources may hinder offering a high price.

For the traditional Chinese group of artworks, with price anchoring group (high–low) as independent variables, and the price offered by participants as dependent variable, the main effect between the two was significant, $F(2,154) = 6.169$, $p < .001$, $\eta^2 p = .040$. For participants who indicated willingness to buy a traditional Chinese painting, a low price reference point depressed the price they offered, and a high price reference point triggered a much better offer. Also, in this context the interaction between gender and bidding was significant, $F(2, 154) = 4.125$, $p < .05$. An analysis of simple effect showed that, with a high price reference point, both men and women tended to offer higher bids,

Table 1. Regression Results for Each Variable and Condition

Variables	Low price anchoring (Chinese)	High price anchoring (Chinese)	Free bidding (Chinese)	Low price anchoring (Western)	High price anchoring (Western)	Free bidding (Western)
Positive attraction	1.049 (.020)**	.956 (.028)**	1.273 (.026)**	.985 (.019)**	.895 (.025)**	1.070 (.023)**
Negative emotion	.032 (.010)	-1.109 (.013)	-0.11 (.012)	-0.58 (.010)	-0.172 (.013)	-1.108 (.012)
Self-reference	-.015 (.012)	-1.140 (.017)	-.079 (.016)	.116 (.013)	.004 (.016)	.253 (.015)
Expertise	.074 (.015)	-.008 (.020)	-.061 (.019)	.062 (.013)	-.030 (.017)	-.057 (.016)
Cognitive stimulation	-.288 (.017)	.134 (.023)	-.390 (.021)*	-.241 (.014)	.146 (.018)	-.301 (.016)
Artistic quality	-.247 (.015)	-.361 (.020)*	-.349 (.019)**	-.329 (.012)*	-.361 (.016)*	-.329 (.015)*

Note. Standard errors are in parentheses. **Bold** type indicates a result is statistically significant; * $p < .05$, ** $p < .01$.

$F(2,154) = 5.268, p < .05$, and men tended to be prepared to pay more than women ($M_{\text{men}} = 4.018, M_{\text{women}} = 3.673$). In contrast, with a low price reference point, both men and women were more conservative and offered less, and there was little difference by gender, $F(2, 154) = .237, p > .05$. However, for the Western-style group of paintings, there was no significant difference between the price anchor and willingness to bid in either context or gender, $F(2, 154) = 2.97, p = .087$.

Discussion

In this study, our aim was to ascertain what factors people buying artworks consider during their decision making, that is, how individuals' cognitive process affects how much they decide to spend. Our findings demonstrate that for artwork, especially paintings, the prices that people's offer as bids are mainly related to three factors, PA, AQ, and CS. Of these, PA is the most important consideration for bidders when they offer a price, emphasizing the importance of the aesthetic value of artworks. The more beauty and harmony bidders experience, the more money they are willing to invest. This result is consistent Klamer's (1996) suggestion that aesthetic value and economic value should match; that is, the amount of a person's bid for an artwork ought to correspond perfectly with his or her aesthetic judgment of that artwork. As a result, no matter what hype there is in the art market, people are always willing to buy artworks they perceive as having authentic aesthetic value. In turn, this shows that the artworks that continue to break through the glass ceiling of auction prices, such as the paintings of Van Gogh and Monet, have aesthetic value.

It is important to note that the presence or absence of a reference point price affected our participants' willingness to bid. If people are aware that a similar artwork has sold at a relatively low price, we found that the bidding was conservative. But if they have heard that the price was high for a previous sale of the artist's work, they are inclined to offer a higher price to buy the artwork. This price-chase effect explains the bubble in the current art market. When more people are willing to compete in the bidding process, an artwork is sold for a very high price at auction. In our view, the possession of expensive artwork is not only a symbol of economic capital, but also embodies cultural capital that can add to the owner's social value. Paying a low price implies low cultural capital. When a bidder has the perception of low cultural capital this may decrease the desire for possession and may lead to a relatively low price being offered.

The poor cannot afford to spend money on art, but the rich are able to pursue their interest in it. However, the high-higher, low-lower effect that we found in our study applied only for the traditional Chinese group of paintings. This may be because of the unfamiliarity of the Chinese students who were the participants

with the Western-style group of paintings. As there was a great psychological distance between them and the paintings, the bidding price could not have been influenced by the anchoring price in the way that it was influenced by the high–higher and low–lower effect we observed in the traditional Chinese group of paintings.

We found it interesting that AQ depressed the price that the participants were willing to pay. Jeffri (1997) expressed the view that if an artwork is highly artistic, then its price should be high. However, our results did not support this. One reason may be that the participants were novices to art. Highly artistic artworks are the product of superb skill and extraordinary creativity. However, works of art are not always connected with positive emotion and the appearance of beauty (Akinola & Mendes, 2008; Meskin, Phelan, Moore, & Kieran, 2013). Usually, novices cannot comprehend the hidden meanings of artworks. Therefore, their judgment about how much to pay for an artwork will be based simply on how beautiful they perceive the work to be. In this situation, as high AQ may be beyond the novice's cognitive capacity he/she may pause and reflect when bidding. Also, in the free bidding situation, if the traditional Chinese paintings required greater cognitive and intellectual effort, it may have been these factors that reduced the price that participants were prepared to offer. With price anchoring, people have a reference point from which to make decisions more rationally. Without this anchor, people tend to exercise cognitive convenience and use their intuition. In the free bidding context, especially for the traditional Chinese paintings, with which the participants were more familiar, greater intellectual engagement led to the price they were prepared to offer being less.

Our finding of interaction between gender and price offered for the traditional Chinese group of artwork is consistent with results of previous studies. Researchers have found that women like competitive situations less than men do (Datta Gupta, Poulsen, & Villeval, 2013; Gneezy, Niederle, & Rustichini, 2003; Gneezy & Rustichini, 2004; Griskevicius et al., 2012; Niederle & Vesterlund, 2010). Results of analysis of survey data on gender differences in financial decision making (Jianakoplos & Bernasek, 1998) also support our results. Evidence shows that bidding for artworks is an activity in which men relish the competition more than women do.

Our introduction of a psychological method in this study of art markets was exploratory. We recommend that more studies on this topic are conducted in the future. Limitations in our study were that we used only Chinese participants and the cultural differences reflected only the artwork that we used for our experiment. In addition, as the participants were novices and untrained in art education, their understanding of the artworks would be different from that of art lovers. For example, the results may have been different if students from art schools had formed the participant group. Thirdly, we used paintings as

the materials to represent aesthetics and art in this study. To achieve greater ecological validity, future researchers should use different aesthetic forms.

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