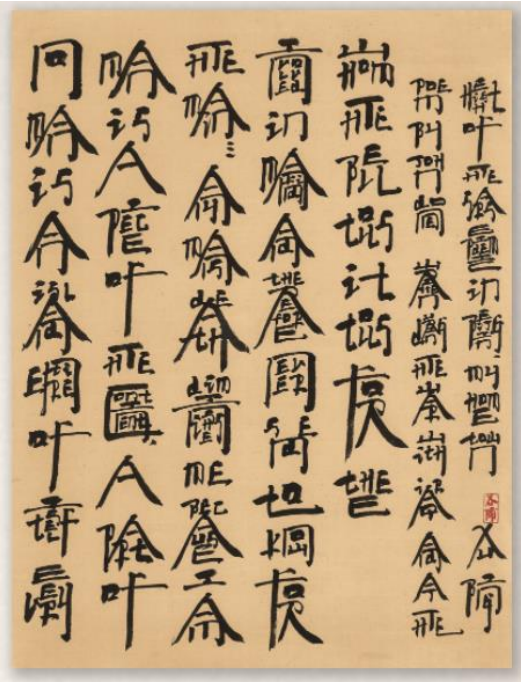
Bringing back Meanings to Words: Exploring the Effects of Transcriptions on the Perceived Value of Chinese Calligraphy



Student Name: Yuqing Song

Student Number: 543973

Supervisor: Dr. Anne-Sophie Radermecker

Second Reader: Prof. Isidoro Mazza

Cultural Economics and Entrepreneurship

Erasmus School of History, Culture and Communication

Erasmus University Rotterdam

MA thesis

20th June 2021

Front page artwork information

Xu Bing (1955)

New English Calligraphy -No Man Is an Island (2003)

Scroll, mounted and framed

Ink on paper

91.5 x 69 cm

Price realised HKD 562,500

Chinese Contemporary Ink

26 Nov 2018

Christie's

"No man is an island entire of itself; every
man is a piece of the continent, a part of
the main⋯any man's death diminishes me, because I am
involved in mankind. And therefore never send to know for
whom the bell tolls; it tolls for thee.
Poem by John Donne. Written during the war with Iraq and at the
height of the SARS epidemic in Beijing, my home town. Xu Bing."

Table of Contents

Abstract

What would words be without meanings? This is the central question we are concerned with in this paper. Previous study has shown that physical attributes of Chinese calligraphy artworks, such as the size, material and writing style, all have an effect on the economic value of the artwork. But these all are the things on the outside, how about the meanings to the characters on a more implicit level? Focusing on the cultural heritage Chinese calligraphy, we examined the effect of the literal content of calligraphy artworks on the perceived value using a factorial survey experiment. The online survey generated over 400 responses, including both Chinese and international participants. We found that the literal content of Chinese calligraphy among other things, after all, has a significant effect on the perceived value of Chinese calligraphy, and therefore, should not be neglected despite the fact that transcriptions for the Chinese calligraphy artworks are rarely given by the auction houses.

Keywords: perceived value, Chinese calligraphy, aesthetic appreciation, information asymmetry, intangible cultural heritage, factorial survey experiment, Dong Qichang

Thank you ♡

I may not be able to name all of you, but I would like to thank everyone that has somehow been part of my life during the past six months; the thesis would not have existed without any of you.

My deepest gratitude goes to my supervisor, Dr. Anne-Sophie Radermecker, who has given me your invaluable guidance, encouragement and support throughout. Thank you for believing in me and insisting on pushing me further, and for being there for me through all the ups and downs. Without you so much less would have been achieved, my gratitude to you knows no bounds.

I would also like to give my heartfelt thanks to all the teachers who have taught me with your insightful lectures which are of great value to my research. At the same time, I am extremely thankful to my classmates who have kindly offered me your advice, assistance, and support. I appreciate your companionship especially under the unusual circumstances with distance education. And congratulations to your graduations!

I am immensely grateful for all my friends and family. Thank you for being my safe haven, your unconditional love, care and support are what I am forever indebted to.

Last but not least, I would like to thank all the respondents for participating in this project. Your contributions have made the thesis possible.

And thank you, for reading this.

1. Introduction

"After all, the arts are one and the same.

You can write a painting in words,

just as you can paint feelings in a poem." ~ Pablo Picasso[1]

Chinese calligraphy is unique from the perspective of world art, since its distinct feature cannot be found in European or Islamic writing (Iezzi, 2013). All calligraphic creations are based on written Chinese characters, which in turn, serves as the medium for the literal content as well as the visual expressions. And in the process of appreciation, reading and viewing inevitably happen at the same time, provided that one is able to read. As a result, in the traditional point of view, Chinese calligraphy has always been a verbal art and an abstract art simultaneously. It is this dual property of Chinese calligraphy that makes the distinction already a given (Harrist, 1999).

Over the past few decades, however, thanks to forces of globalisation, Chinese calligraphy has seen a radical revolution which to a large extent challenges the classical strict rules of Chinese classical aesthetics. Contemporary artists break away with traditions and experiment new approaches to the creation of calligraphic art. In the creative process, artists try to forget the connection between calligraphy and language, and focus on the stylistic exploration instead, implemented with new media such as photography, performance art and computer technology (Iezzi, 2013). In this respect, the literal content of Chinese calligraphy no longer matters since the emphasis is more about the visual aspects and expressions. Moreover, even for the sales of traditional works of Chinese calligraphy on Chinese art market, the literal content seems to have been neglected as well. We found that transcriptions (literal content information) are rarely, if ever, provided in the item descriptions of Chinese calligraphy artworks. If the conventional approach of the

[1] Quoted in Roland Penrose's Picasso, Paris, Flammarion, 1982, p. 488.

appreciation of Chinese calligraphy holds true, where the comprehension of Chinese calligraphy artworks would not be complete without the understanding of meanings and the reading of texts intensifies the phenomenology of the appreciation experience, then this lack of the literal content information from the auction houses will produce lesser appreciation from the potential buyers, and therefore, is not in the benefit of maximising the value of the artwork. This phenomenon is curious in itself, since the lack of literal content information is self-evident if no supplementary information is given. This makes us wonder about a series of questions. Does it mean that the literal content of Chinese calligraphy have no value at all? Has Chinese calligraphy become a form of pure visual art? How is the value of Chinese calligraphy perceived by people nowadays? And how is the perceived value influenced by the literal meaning of the artwork?

As a result, in this paper, we are exploring if the literal content information of Chinese calligraphy artworks has an influence the perceived value. We are trying to see:

1) To what extent do transcriptions affect the perceived value of Chinese calligraphy?
2) What are the relationships between dimensions of value?
3) What are the effects of other influences on perceived value?

Our research is in the interest of a wide range of stakeholders. Firstly, will contribute to a better understanding of the effect of information supply on the perceived value. This information effect has been examined in a wide range of disciplines, including economics, marketing and psychology (e.g., Hernando & Campo, 2017; Millis, 2001; Radermecker, 2019). Secondly, we add to the burgeoning literature on the evaluation of cultural goods, which is a topic of great interest but also debate among cultural economists (e.g., Klamer, 2017; Throsby, 2001; Velthuis, 2003). The findings of our research will shed light on the understanding of the evaluation of cultural goods, the relationships between cultural value and economic value, and other influential factors on the value perception. Thirdly, we contribute to the understanding of the Chinese art market, which has existed for only a couple of decades, but it has developed so rapidly that it has already become one of the

world's largest (e.g., McAndrew, 2014). Studies of the Chinese art market indicate that the valuation practices and judgment devices of Chinese art differ from established markets in the rest of the world (e.g., Kharchenkova, & Velthuis, 2018), we will empirically examine the distinction within our case of Chinese calligraphy. In addition, we add to the small but growing literature in English language on Chinese calligraphy, not only will we give a better understanding of this particular form of oriental art, but that with our findings we could benefit auction houses in their strategic presentation of Chinese calligraphy artworks if we find that the literal content of Chinese calligraphy have a significant effect on the perceived value.

The body of the paper is structured as follows. Firstly, the theoretical framework is presented by illustrating relevant theoretical concepts that inform the research, this entails an examination of the different schools of thoughts on the value of culture, a brief introduction of Chinese calligraphy and a reflection on the theories on information asymmetry. Secondly, in the Methodology section, the method for the study is elaborated on, which is a factorial survey experiment, after which the data sample for the study is described and justified, and the research further operationalised, including the selection of study case as well as questionnaire design. Next in the Result section the results of the analyses, including the descriptive and statistical analyses are presented. Lastly, in the conclusion section, the research question is answered, implications of the results are discussed, limitations of the research are reflected on and directions for future research are speculated on.

2. Theoretical Framework

Our study seeks to examine the effects of the information asymmetry problem (2.3) on the perception of value (2.1), with a focus on the case of Chinese calligraphy (2.2). This section elaborates on the each of the concepts respectively, with the purpose of guiding us through the reasoning of the formation of research questions.

2.1 Value of Culture

The notion 'value' is a rich topic that encompasses a broad range of disciplines. In the economic domain, it is associated with utility for individuals. In the cultural domain, it depends on certain properties of cultural phenomena, and is accessible in the appreciation of art, the aesthetic experience of which is then more closely related to the psychological and philosophical fields.

As to why the subject of 'value' is such an interesting topic and keeps many scholars busy, according to Klamer (2017, p.47), it is because 'we value all the time'; in our everyday situation, whatever action we take requires implicit valuing. This constant process of realisation of value(s) is therefore treated by him as the premise of his value-based approach towards life. From the perspective of standard economics, as pointed out by Throsby (2001, p.19), fundamentally, 'value' is 'the origin and motivation of all economic behaviour.' Here, value is more about the exchange value realised in a market and despite being instrumental, price takes centre stage. Quite the contrary, from the culturalists' point of view, value is the synonym for quality, which they are preoccupied with and has nothing to do with price (Klamer, 2003).

When we combine the last two perspectives from the above together, we find ourselves in the market for cultural goods. As elaborated in Mazzanti (2002), cultural goods have multiple dimensions in parallel, exhibiting characteristics of merit, public and mixed goods (Throsby, 2001), and generating both private and public benefits in terms of value. It is this peculiar nature of cultural goods that enables the persistence of two

competing accounts in the single market of cultural goods—the 'hostile worlds' logic and the 'nothing but' logic (Velthuis, 2003, p.184). These logics occupy two opposite poles of a same spectrum. In the 'hostile worlds' are the culturalists, 'the romantic who knows the value of everything and the price of nothing.' On the other hand, the ones who hold the 'nothing but' logic are 'the economists, 'the cynic who knows the price of everything and the value of nothing.' (Wilde, 2014) In the following, we are examining each of the logics in order, looking at how they have been defined by scholars, how they are being measured respectively and also their relationships respectively.

Cultural Value and How to Measure It

Artist, economist, and social scientist Hans Abbing (2002, p.32) pinpoints the exceptional economy of the arts, where there is a certain degree of superiority of art and anyone somehow related to it, that art is 'sacred', 'remote and superfluous.' By definition, art has pleasure rather than utility as the main goal and hence it tends to be against measurement by nature (Hagtvedt, Patrick, & Hagtvedt, 2008; Smith, 2009). From a humanist point of view, Throsby (2001, p.27) argues that the true value of a work of art lies in its intrinsic qualities, the absolute value that is 'universal, transcendental, objective and unconditional.'

Acknowledging the inherent uncertainties that it involves when trying to interpret, disaggregate and evaluate cultural value, Throsby (2001) urges that we push our way forward in the hope for a closer understanding and clearer articulation of the concept of cultural value and proposes his decomposition of cultural value, which has been accepted and applied extensively in the cultural economics literature[2]. The key constituent elements of cultural value that he identifies are: aesthetic value, spiritual value, social value, historical value, symbolic value, and authenticity value. Drawing upon several disciplines, Throsby (2001) also provides a range of possible valuation methods for assessing cultural

[2] See Angelini & Castellani (2019) for a comprehensive review of the literature on the applications of Throsby's (2001) typology and other characterisations of value.

value, including: a) Mapping, which involves an overall assessment of the contextual framework that shape the study object. b) Thick description, which refers to an interpretation of the cultural phenomena by uncovering the underlying mechanisms that give rise to them. c) Attitudinal analysis, referring to a variety of techniques that are employed to measure attitudes or patterns of responses at either an individual or a group level, such as social surveys and psychometric measurements. d) Content analysis includes methods aimed at interpreting meanings of the works or processes. e) Expert appraisal, where the expertise, training and experience of experts will help to navigate the process and reduce uncertainties in the assessment of cultural value[3].

Economic Value and How to Measure It

Entering yet another domain with strong viewpoints that are from the economics, where it is contended that prices are '*nothing but* perfect and neutral representations of cultural value' (Velthuis, 2003). Here, the quality per se is not an issue of central concern, since the uncertainty of which can all be understood in monetary terms under the mechanism of supply and demand. There are no exceptions for the art market either, where goods are considered sacred, heterogeneous and against measurement, as argued by Bourdieu (cited in Velthuis, 2003, p.187), 'things have no price'. The cultural value that is advocated by the culturalists is negated, or put away more specifically, by the economists, to the category of externalities (Klamer, 2017). Call them cold if you will, but by reducing everything to numbers, economists are able to compare between works of art however distinct they might be in the eyes of the culturalists, reducing uncertainties to a large extent. This is because they consider works of art as economic goods, that their value can be measured by the market where agents operate in a manner that optimise utility, and that cultural value is *nothing but* a subset of economic value (Grampp, 1989; Velthuis, 2003). In other words, it

[3] Throsby's typology of cultural value as well as the measurement methods he outlines will serve as the guiding compass of our study which we will elaborate further in the Methodology section.

is maintained that cultural value can be well captured using an economic theory of individual utility, and thus the differential in economic prices or willingness to pay could be interpreted as an indicator of difference in cultural value.

Instruments widely received and adopted by the cultural economists to measure the value of culture[4] include: a) Contingent valuation method (CVM), in which a hypothetical market situation is constructed to assess how much potential consumers will be willing to pay for the value of the cultural phenomenon in concern, particularly non-use value (e.g. Klamer & Mignosa, 2019; Throsby, 2003). b) Economic impact studies, where the additional monetary benefits generated by the cultural phenomenon on the GDP of the local economy, tax revenues, jobs and incomes are aggregated to one monetary figure (e.g. Snowball, 2007; Throsby, 2003). c) Hedonic pricing method, where price indices are constructed which attribute hedonic characteristics of the cultural good to the market price (e.g. Radermecker, 2019; Renneboog & Spaenjers, 2013). d) Choice experiments, which is also called conjoint analysis method, is one of the variations of CVM, where people are asked to make choices between bundles of attributes that make up the cultural good at different levels (e.g. Snowball, 2007). Each of the methods mentioned above are well-established as means to measure the demand for cultural goods, but as maintained by several researchers, including Champ & Bishop (2001), Klamer & Mignosa (2019), and Throsby (2003) among others, all such measurements are indirect and there remain ambiguities in ascertaining the valuations they allow for fully capture the true value of cultural goods, be it economic or not.

Relationships between the Cultural and Economic Value

From the accounts of economic as well as cultural valuation of the above, it may be note that neither of them alone are able to provide us with a complete view of the value of

[4] See Snowball (2007) for a fully-fledged coverage of the methods that measure the value of culture with accompanying examples.

cultural goods. Cultural value is elusive, multi-dimensional and contested, there may always be elements that we know are there but cannot be easily expressed or assessed with empirical methods. On the other hand, although economic value is expressible in monetary terms, which has in our favour simplified the complication to a great extent, due to the mixed-good nature of cultural goods, there will always be 'externalities' overlooked in the calculation unfortunately. Is there an alternative way of looking at the value of cultural goods? Is it possible to reconcile these seemingly opposing points of view? Can we somehow combine the descriptive power of cultural value and the statistical power of economic value and make the best of both? We see great disparities between the two, but also similarities and therefore perhaps opportunities for them to complement each other.

Valuation itself is a dynamic process and essentially socially constructed. Klamer (2017, p.27) warns that it is more practical to consider value as a relational concept, which comes into place in interactions and comparisons among other things—he calls this process of valuation 'phronesis' in his value-based approach. By the same token, Boltanski & Esquerre (2015) suggest that we value things not in and by themselves but in the moment when they change hands, and the price is the result of this interaction. People form their judgements about cultural value not only by introspection but also in the exchange with others (Throsby, 2001).

Coming out of this aforementioned process is the intertwined relationship between the cultural and economic value. Velthuis (2003) argues that, in this controversial relationship, pricing is not just an economic act, more importantly, it is a signifying act that communicates to us a web of cognitive and cultural meanings underlying it. In the words of Throsby (2003), 'there is likely to be a broad correlation between cultural and economic value across a range of cultural goods.' This correlation has been empirically investigated by scholars, for instance, Frey, & Pommerehne (1989) show a relationship between auction prices for artworks and the reputation of the artist judged by art critics in contemporary art, whereas Hutter & Frey (2010) qualitatively substantiate their proposition that not only are

cultural value and economic value correlated, but that cultural value determines economic value, with their close examination of the change in value on exemplary works of painting in history.

Viewing it in a different light, value / valuing is no longer the trigger of a conflict between two distinct varieties of value, but rather it can be seen as a catalyst that actively nourishes both of them and continuously links two fields together in this common ground of the art market. This point of view brings us to one of our research questions: to what extent are the cultural and economic value of our case of Chinese calligraphy correlated? To properly answer this question, we need to deconstruct the concepts of cultural and economic value, measure them separately, and examine the relationship between the two.

2.2 Chinese Calligraphy

A Short Long History

Chinese calligraphy is the art of writing characters, however, it is more than just that. In China, it is considered as fine art, one of the three perfections of Chinese art along with poetry and painting (Sullivan, 1986). It is also the only major art form in the world that allows the viewer to retrace the creation of the finished artwork in all its consecutive phases through its temporal progression (Iezzi, 2013; Shi, 2020). Out of all those ancient civilisations of the world such as the Sumerian cuneiform scripts, the Chinese character system is the only surviving writing system that has continuous and continuing sustainment for thousands of years (Zhang et al., 2008). From oracle inscriptions of the ancient times, Chinese calligraphy has evolved through thousands of years to transcend the primary function of a language to record information, and developed into dynamic contemporary writing styles in addition to the five basic styles. Through the manipulation of ink, calligraphy practitioners embody their spiritual selves in the artistic expression (Hue, 2009), aesthetics is reflected in the brush strokes, Chinese ideology and philosophy especially Taoism are merged in the characters seamlessly (Ledderose, 1984). It is

considered one of the purest art forms and the crème de la crème of Chinese culture (Yashiro, 1936), and has been inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity since 2009, which acknowledges its significance as well as universal cultural value.

Just like any other types of (intangible) cultural heritage, there is a prevailing lack of awareness and understanding of the significance in preserving, safeguarding and promoting it. Despite the significance of traditional Chinese calligraphy, the proliferation of information communications technology and the global trend of digitalization have put Chinese calligraphy under threat. People are getting more and more used to and reliant on digital devices in their everyday lives: they type in Pinyin which translates Chinese characters into Roman alphabets, saving the need to write them down one by one. Increasingly, modern people are neglecting the value of traditional cultural heritage, and the continuation of Chinese calligraphy as a form of art is jeopardised. Moreover, since the mid-1980s, a movement of modernisation has opened the gate of China to the rest of the world, which has resulted in a radical change in the development of Chinese calligraphy. This gave birth to four distinct currents of Chinese calligraphy which still exist today: Classicism, Neoclassicism, Modernism and Avant-garde, among which the last two[5] drastically modified the traditional concepts of Chinese calligraphy exhibited strong influences of Western art and blended new methods and media to the art creation.

Value of Chinese Calligraphy

Although Lu (2012) points out that the appreciation of traditional calligraphy artwork is different from that of other Chinese works of art such as painting and porcelain, which are rather visually intuitive and have a relatively low cognitive threshold, in studies of traditional Chinese art, calligraphy and painting are often talked about side by side, because both of them feature manipulation of the ink brush. Yashiro (1936) comments that

[5] For a coverage of an interesting debate on the traditional and innovative Chinese calligraphy, see Iezzi (2013).

the connoisseurship of Chinese painting and calligraphy appreciates the rhythmic movement of brushwork.

The market for Chinese calligraphy artworks has long existed and there are certain rules for the determination of economic value which are still in use today. It was found that the size of the artwork, reputation of the artist, writing style, form and material all have an influence on the pricing of Chinese calligraphy (e.g., Lu, 2012; Song, 2020; Zong, 2013). When examining past trading practices, Zong (2013) identifies that there are primarily eight factors influencing the price setting including size, content, reputation and economy. She remarks that conventionally, scale pricing is a transaction rule that painters and calligraphers and collectors abide by, and emphasises the importance of the fame of the artist in the price, since it is believed that the higher the reputation, the greater the value and the more people are willing to pay, which applies in the case of Western art as well (e.g., Radermecker, 2019). The stability of society and condition of economy are also mentioned as factors that influence the price of artworks. In addition, Wu (2017) elaborates on how different materials of calligraphy works can influence the price of the artwork, since they deliver different visual effect and aesthetic experiences. Lu (2012) remarks that the price of calligraphy works can also be influenced by the style of the writing. He argues that for works of calligraphers of the same level, the price of cursive script is the highest, the price of running script is the second, and seal, script and regular script are the lowest. Ni (2007) comments that unavoidably, in the art market there is often the phenomenon where people manipulate the market so as to inflate the value as well as price of certain artworks. But he argues that in comparison, it is less complicated and not as easy to do so on ancient paintings and calligraphy dated from established times such as Ming and Qing Dynasties, because the value and quality of the artworks have been tested for quite some time, which makes their artistic value and market price roughly consistent.

It can be noted that the price determinants mentioned above are all about the physical properties, i.e., more about the form of the artwork than content. This makes us wonder if

the literal content information of the artwork influences the perceived value of the artwork, and if this is the case, why is this important information not given by the auction houses to the consumers?

On Form and Content

Chinese calligraphy exhibits a high degree of interdependence between form and content. Despite some dispute, form generally refers to all the technical aspects including writing style, art of composition and decoration, whereas content relates to the literary content as well as the natural overflow of emotion (Wang, 2016). There has been controversy over the relationships between the two important components of Chinese calligraphy, with some argue one is superior than the other, especially with the aforementioned movements of modernisation as well as contamination of the influences of foreign culture.

Yang (2014) points out there is a prevailing phenomenon in contemporary Chinese calligraphy on both creation and appreciation where great emphasis is put on the form while content is largely overlooked. This is quite the contrary to how Chinese calligraphy was treated in the past. Chinese calligraphy, as the art of writing, started as a tool for the exchange of information in written form, in this sense, the practicality makes its raison d'etre. This is why so many of the greatest Chinese calligraphy artworks passed down today are letters from calligraphers to friends, for instance, the Shiqi Tie from the sage of calligraphy Wang Xizhi is considered the epitome of the time. Furthermore, in the past, the content of Chinese calligraphy even used to be considered superior to its form by the literati. For instance, Wu Kuan from the Ming Dynasty maintains that if someone who writes cannot create original content, then he is at most an artisan (Cui, 1993).

Whereas in contemporary Chinese calligraphy, content no longer enjoys the same privilege as it used to and has been forced to hand over its status to form. People put all effort into making the artwork appealing to the eye, but regarding content, it is largely homogeneous when poems or classics from the past are among the most common for

people to adopt. In auction sales, it is increasingly rare to see the content of the artwork, be it ancient or contemporary, to be indicated in the description section. Admittedly, calligraphy works are no longer primary means for communication, and some could argued that as it evolves into this art form that we have today, just like any other art, form should takes over and the functionality comes second. But one should not forget in this particular art in question, content is always the medium to artistic expression regardless of form, this content determines the emotion throughout the work of art and in turn influences the form or technical aspects. It should be noted that content of Chinese calligraphy is an essential component and cannot be neglected therefor. The art of Chinese character exists not only in the form, but also in its profound meaning. And this is why as Shi (2020) argues, the aesthetic objects in experiencing Chinese calligraphy works of art should be twofold: both the outer form and the inner quality, i.e., the literal content. On the other hand, a lack of understanding will pose a threat to a wholistic view, and place a barrier to the deeper appreciation of the art. For instance, Wang (2020) from the perspective of psychology finds that legibility affects aesthetic judgment to a large extent and contextual information has a significant effect on the appreciation of calligraphy artworks.

Here it may help if we liken the controversial relationship between the form and content of Chinese calligraphy to that between economic and cultural value we talked about in the previous section. Whereas it might seem that each of the parties are opposed and irreconcilable, in reality, it is more practical and beneficial to both parties if they somehow assimilate and complement each other with their distinct nature. If this is the case, then it will show with an increase in the perceived value of the calligraphy artwork, when we provide literal content information compared to otherwise, giving an answer to our essential research question: to what extent does the provision of additional literal content influence the perceived value of Chinese calligraphy?

2.3 Information Asymmetry

Information Problem Defined

Consumers are constantly seeking information in order to make informed purchasing decisions about products, yet the outcome of which they may not be at the position to be fully aware of, sometimes not even after the purchase. As pointed about by Nelson (1970, p.311), not only do consumers "lack full information about the prices of goods, but their information is probably even poorer about the quality variation of products simply because the latter information is more difficult to obtain."

Nelson (1970) talks about the information problem from the perspective of general consumer goods, and outlines two approaches available to consumers in overcoming this problem: one is search, the other is experience. The search procedure is appropriate when the consumers already knows where to obtain all the options for them to choose from, and what he or she then needs to do before purchasing the good is to evaluate the utility of each option, until the marginal expected cost of search becomes higher than the marginal expected return. At the same time, there are goods for which it would be more appropriate if the consumer obtains the information by way of experiencing it. In this case, it only becomes less ambiguous for the consumer if he or she purchasing the good beforehand and then determine utility of the goods on their own and make preferences based on experience. Of course, what he proposes is a simplification of in real-life situations, in the face of countless options and constraints, consumers often need to mitigate the information problem by combination of the two to overcome the underlying uncertainties. A third categorisation of consumer goods, as argued by Darby & Karni (1973), is the type of goods whose qualities cannot be determined even after purchase. This category of goods is more of interest to us dealing with cultural goods, the nature of which heralds the emergence of third parties for certification or licensing in the course of market functioning in order to determine quality standards and reduce inherent uncertainty (Ekelund et al., 1995).

The information problem is more pronounced in the market trading art than other kinds of consumer goods. This is not only due to the heterogeneity of artworks, which

exhibit distinct features from each other and make it difficult to establish art prices (Rosen, 1974; Velthuis, 2011), but most importantly, it is because the value of cultural goods is a controversial issue by itself[6]. Throsby (2003) defines cultural value is such that it is "multidimensional, unstable, contested, lacks a common unit of account, and may contain elements that cannot be easily expressed according to any quantitative or qualitative scale." When quality itself is contested and there is no consensus on a standard, consumers are left with no optimal way to make informed decisions, be it search or experience. On the other hand, admittedly, cultural goods are more suited to be called experienced goods, especially in the high arts, because first, one cannot be fully informed about the information about the quality of the good before he or she experiences it; and second, the enjoyment that one derives from consumption of the good increases with experience (Towse, 2019). These two explanations highlight how experience is of utmost importance for cultural goods, and how the acquisition of information is crucial and complex at the same time.

On the supply side, to make up for the information failure but also maintain competitive advantage, sellers can make use of information signalling, such as advertising, to help consumers in their decision-making processes. With the marketing device, suppliers of goods provide a quantity of information to consumers that is both utility and profit maximising (Ekelund et al., 1995). This additional information provided is sought after by the consumers because for them it reduces the search costs and time costs in exchange. As maintained by Johnson & Levin (1985), in the real world, it is not unusual for the consumer to encounter situations in which information for an important attribute is not available. When this happens, the consumers tend to impute a value to the missing attribute and integrate the unfounded information into the product evaluation process. The consequences of this is that the supplier loses control over the amount of information processed and it increases the unpredictability of consumer behaviour.

[6] which we discussed in section 2.1.

The Supply of Information from Auction Houses

In overcoming the information asymmetry problem in the trade of artworks, auction houses usually have a board of experts / auctioneers. They evaluate and provide an estimate of the price range for each item to give buyers an idea of the value of the artwork (Milgrom & Weber, 1982). These intermediaries play the fundamental role of certification and legitimisation of artworks and bridge the gap of information between demand and supply (Rose, 2012).

Performing an accurate estimation of the value of art requires rich experience and special expertise, which is formed and tested through a reputation building system, or network system with critics (Bonus & Ronte, 1997; Cameron, 1995), and therefore the experts are recognised and entrusted by the market (Radermecker et al., 2017). These people play a key role in evaluating and determining the cultural value of the artworks, supplementing and spreading information about the goods that is not fully understood or identified by the consumers with inadequate scientific knowledge.

Technically, salesrooms are obliged to strive for supplying sufficient and reliable information for consumers to make informed judgements, which may require dedicated efforts in investing time and money in research (Rose, 2012). But as a matter of fact, as we have found out, it seems to be not always the case. In the sales of Chinese calligraphy artworks, transcriptions of the writings (the literal content information) are barely provided, neither before nor after the sales. Now it may be suspected that these auction sales are primarily oriented towards Chinese art buyers, and supposedly, if they are Chinese, they will be able to read what is on the calligraphy artwork since it was written in their native language. Nevertheless, as a matter of fact, due to the great variation of writing styles and discrepancy between the language use in the past and present, writings of characters in most calligraphic works remain illegible to even Chinese viewers today. This was spoken from both a theoretical (e.g., Shi, 2020) and an empirical point of departure[7].

[7] Based on the researcher's own experiences and informal talks with respondents that are Chinese natives.

Considering the interdependence of the form and content of Chinese calligraphy[8], naturally there would be the demand for the supply of the literal content information to reduce uncertainties in the understanding of the meanings of the writings. However, the demand is not met in the market, at least for now.

As to the reasons why this information is rarely supplied by the auction houses, here we can provide four tentative guesses. Firstly, although auction houses acknowledge the importance of content as we do, they do not exert energy in obtaining that information for consumers simply because the costs exceed the expected returns (Radermecker, 2018). In this situation, on both the supply and demand is there imperfect information, therefore, information asymmetry becomes 'symmetric disinformation' (Candela et al., 2012). The shared uncertainty is sometimes considered as identical to perfect information as neither of the agents are able to use the lack of information to their advantage (Lupton, 2005). But we can also argue that this situation of 'nobody knows' is the root of uncertainty that never ceases to undermine the market equilibrium (Peltoniemi, 2015).

Secondly, it could be the case that auction houses do not consider it necessary to account for the literal content of Chinese calligraphy artworks, holding the point of view that the appreciation is more about the visual or stylistic aspect than the content itself. This line of thinking is similar to that of Kant, who posits that it is the form not the content that is the central concern and emphasises that the experience of the beautiful does not require understanding, but rather, imagination and feeling (Van den Braembussche, 2009). In this scenario, auction houses do not seek for that information simply because they do not believe the literal content of Chinese calligraphy gives added value to the artworks.

The third possible explanation we can give is that, the literal content information is known by the auction houses but intentionally withheld from the consumers. This is based on the assumption that auction houses possess the expertise to identify literal content information that is unrecognisable to the common readers. They are more informed about

[8] which we have examined in section 2.2

the literal content of Chinese calligraphy artworks for sale than the consumers, and therefore are able to take advantage of the asymmetric situation. We suspect that they choose not to share this information transparently because in doing that they put themselves in a passive position, at the mercy of the fickle consumer judgements on what kind of literal content is good or bad, put it differently, is of value or not. As we know from our introduction of Chinese calligraphy (2.2), since long before it was the primary means of written communication as is the case for any language, literally anything can be written in a calligraphic text—so it can be a letter to an intimate friend, can be some canonical poems with high literary merits, but it can also be something that is total nonsense—how the viewer is going to interpret the text, in the end, is unpredictable. Adding to this, is the duality of Chinese calligraphy, further increasing the uncertainty level. As a result, to maintain the dominant position and control over consumer demand, auction houses know better than to give this extra complication which puts themselves at a disadvantage.

Last but not least, there is also the possibility that auction houses, at a superior position, are ignorant of how consumers are in need of that literal content information. In this situation, they do not know what differences it will make when they give transcriptions compared to when they do not. They simply do not have the incentive to provide for that when they can get by without: they are not made to know by the consumers that they desire that extra information and the market works just fine even when the information is lacking[9]. And to provide that extra information, will again break the equilibrium that they have enjoyed for so long, bringing uncertain forces into play.

From the four assumptions outlined above, we can see that the problem that we, or the auction houses and the consumers, are faced with, boils down to issues of uncertainty. Therefore, it is the primary purpose of the present study to inspect the actual effects of transcriptions of the perceived value of Chinese calligraphy. If it proves that, there is indeed the demand for the provision of the additional literal content information, then

[9] This idea came out of an informal interview with one of the participants who was a Chinese calligraphy collector.

when we offer transcriptions to participants, it will make a difference in the perceived value on Chinese calligraphy artworks. Furthermore, if this effect turns out to be positive, that is, it increases the perceived value regardless of different literal content of artworks, then this provides evidence which will boost the confidence of auction houses to provide that information if they can, since it shows that people appreciate it. If the opposite turns out to be true, it could be suggesting that the auction houses have good reasons to not give that information, nevertheless, we will try to see what other factors may be more influential to the perceived value of Chinese calligraphy, since this will also reduce the uncertainty of demand prediction in the art market. With this, we come to our third research question: what are other factors that influence the perceived value of Chinese calligraphy?

3. Methodology

This section gives an account of the research design in order to answer the research questions as defined in the previous section. This concerns a full description of the research method (3.1), study case and research object (3.2), sampling (3.3), questionnaire design (3.4), as well as the data analysis strategy (3.5).

3.1 Research Method

A mixed method, survey experiment, was chosen in our study to examine the effects of transcriptions on the perceived value of Chinese calligraphy. In the following, we explain what it is, why this is considered appropriate for the purposes of our study, how we are going to use it, issues to consider with this research method, and how we are going to cope with them.

3.1.1 Survey Experiment

A survey experiment, simply put, is an experiment is embedded within a survey. It has the promise of combining the causal explanation power of experiments and the generalisability of large samples (Mullinix et al., 2015). This is a method that has been widely used in the social science fields and the motivation behind is more about the experiment aspect in relation to the survey aspect (Druckman et al., 2006; Mutz, 2011). This is because it is not always easy to ascertain causation between variables of study; that the two constructs are related and both of them can have a cause, does not imply that the relationship between them are exclusive, and / or one is the cause of another (Boring, 1954; Hume, 1962; Piper, 1998). In this respect, an isolation of all the confounding factors revolving around variables of concern is called for, which explains the popularity of experimental designs, where the manipulation involved has this magic to eliminate the doubts and allows for more certainty in causal inferences (Holland, 1986).

In an experiment, the researcher controls the random assignment of participants to various experimental conditions, this ensures that nothing else but the independent variable of interest varies across conditions (Petzold, & Wolbring, 2018; Mutz, 2011). The power of randomisation is explained by probability theory, as pointed out in Webster, & Sell (2014), where if extraneous influences are dispersed randomly, they sum to zero. In our study, the independent variable (IV) designed to be manipulated is the transcription, on the other hand, the dependent variable (DV), which is the outcome we are going to observe and measure, is perceived value. Randomisation is achieved with the randomiser function of the online survey platform Qualtrics: respondents will be randomly assigned to one of the experimental conditions.

For purposes of our study, there are two levels to the IV (transcription) that we are particularly interested in. First is whether or not the transcription is provided. Next to it, is when the Chinese calligraphy artworks themselves vary, which entails different literal content of the transcriptions. When we simultaneously manipulate our two levels of IV, the total number of experimental conditions will be a multiplication of the numbers of conditions of both levels, interactions between levels are expected thereby. On the other hand, our DV, which are dimensions of value perceived by respondents, will be measured across all conditions in a similar manner.

In general, there are two ways to approaching experimental designs: one is between-subjects design, the other is within-subjects design. The difference lies in whether one participant experiences only one of the treatment conditions or more than one.
In our study design, we are going to use the former. Although the latter has the advantages of: 1) allowing us to compare one respondent's responses to his or her own across experimental conditions, and 2) greatly reducing the number of participants we need to recruit, between-subjects design is more ideal especially since we have a survey that is particularly lengthy, which is likely to induce respondent fatigue and thus result in lower quality of answers, or even experimental mortality (Piper, 1998; Wallander, 2009).

Furthermore, exposing one participant to one condition only helps us combat the problem of social desirability prevalent in surveys, which we will be briefly talking about in the next sub-section.

3.1.2 Issues to Consider

Social Desirability

Social desirability is the phenomenon where respondents seek to give socially desirable answers to questions, even if this means twisting the truth (Bradburn, 1983, as cited in Pager, & Quillian, 2005; Petzold, & Wolbring, 2018; Tourangeau, & Yan, 2007). This problem is especially common in surveys collecting attitudinal data when the topic of research involves, but not limited to sensitive issues such as race. It has been acknowledged that this bias can be effectively mitigated with survey experiments by circumventing direct group comparisons (e.g. Pager, & Quillian, 2005).

However, as survey experiments often involve examining individuals' attitudes, beliefs, or perceptions, respondents could still have the tendency to give untruthful answers so as to comply with social norms or expectations. In our experiment, we want to examine differences in perceived value of Chinese calligraphy under different experimental conditions. Provided that our respondents are willing to tell us what they truly think, that is, without social desirability biases ideally, there are still two issues to be taken into consideration. One is the fatigue effect as mentioned previously, this is countered by breaking down the experimental part of the survey into sets of separate experimental conditions. The other is the level of similarity across experimental conditions. Although the experimental conditions are differently designed, there is still enough commonality for respondents to pick up clues on the underlying hypotheses of the experiment. Due to social desirability, their answers again will be conditioned. In light of this, to ensure that we get valid answers, we need to further make an attempt to somehow disguise, at least temporarily, the true nature of the study.

We are using one specific sub-type of survey experiment, factorial survey experiment, to cope with the aforementioned problem. The factorial survey design is arguably most immune to the social desirability bias because of its simultaneous evaluation of multiple dimensions in one survey (e.g., Auspurg, Hinz, & Sauer, 2017). It is specially catered for uncovering the underlying principles behind human judgements or evaluations of social objects[10]. This approach is appropriate for our study because: 1) we are interested in the causal influence of transcriptions on the perceived value, 2) we are curious about how the social and structural contexts, in which respondents are embedded, shape how they make judgements. The essential components of factorial surveys are the vignettes for respondents to make judgements upon (fictitious descriptions of social objects), which in our study, are Chinese calligraphy artworks. The vignettes presented to respondents comprise combinations of levels of dimensions which together form the vignette universe, which we will elaborate on later.

Ethics and Deception

The way that factorial survey experiment is designed brings us to our second major issue to consider—ethics in experiments. This issue has been under debate between sociologists, economists, psychologists, and political scientists among others for years (Barrera, & Simpson, 2012). It is endemic in experiments because of the manipulation which denotes and inevitably entails deception if respondents were not made aware in advance. Of course it is much less serious of a problem in our case if you compare it to the notoriously inhumane experiments done in history, as our experiment takes place in the form of a survey, carried out on the Web (Piper, 1998). But as explained in the previous sub-section, it is preferable for the purposes of our study if respondents are not fully aware of what we are truly looking for, which, as argued in Webster & Sell (2014), is deception by definition. To compensate for this, special care must be taken.

[10] For a comprehensive review, see Wallander (2009).

There are two main measures[11] taken in our questionnaire design to eliminate ethical concerns. One is the request of informed consent at the start of the questionnaire, where a cover story is presented that gives just enough information about the true nature of the study, reassures respondents of the security of their personal information, and invites participants to the study. Another important element is a debriefing at the end of the questionnaire which clarifies the experimental design and discloses the true purpose of the study. This way, hopefully, respondents are made fully informed of their role and what they have been involved in.

3.2 Study Case and Research Object

This section gives an introduction of the study case and object of the study[12]. By the end of this section, we will be settled with a selection of Chinese calligraphy artworks, which will be incorporated in our survey experiment.

3.2.1 Artist

This study focuses on Chinese calligraphy artworks from the artist Dong Qichang. Dong (1555-1636) is one of the most influential and renowned figures in Chinese art history from the Ming Dynasty era (1368-1644). Having multiple identities for being a calligrapher, painter, scholar, official, art collector, connoisseur, theorist and critic at the same time, he has drawn not only substantial but sustained attention from scholars of various fields. Also as pointed out in Burnett (2003), Dong is doubtlessly one of the rare cases of artists in Chinese art history to have more than a few extensive studies under his name. He makes an interesting case[13] for us to study not only because of the controversy

[11] Both of the two segments of the questionnaire can be found in Appendix A.

[12] This study also leverages on the research context and findings from a previous research, see Song (2020).

[13] We are fully aware of the generalisability concern of case studies, but the artist name is controlled for intentionally for the purposes of the present study, since it is recognised as one of the most important factors that influence art prices (e.g., Campos, & Barbosa, 2009; Oosterlinck, & Radermecker, 2019). At the same time, studies have shown that artist names are nothing but quality signals (e.g., Miller, & Plott, 1985).

his diverse titles bring to him, but that he has made great achievements in the art field as the first calligrapher and painter in his era, initiated a distinctive and influential style of painting called Songjiang Pai, and contributed considerably to art theory (Belozerova, 2019).

Although he has gained reputation in both Chinese calligraphy and painting, the art critic Qi Gong (1999, as cited in Ma, 2013) once commented that in terms of technique, Dong is more proficient in calligraphy compared to his paintings. As a master of Chinese calligraphy, Dong manages to create his unique artistic style through active integration of works from masters of past dynasties, while putting great emphasis on the originality in the creation of a work of art. In his text of Theories on Using Brushwork, he posits that the true essence of Chinese calligraphy is intangible and what makes a calligraphy work extraordinary is the calligrapher's readiness to reject established norms and implement original inputs (Burnett, 2003). This originality he has been advocating is embodied in his own calligraphy artworks, in that they are idiosyncratic, unfettered and free.

3.2.2 Auction House

Not only does Dong Qichang have immense value for research as a person, he also is very prolific in his creation of artworks, which are constantly sought after in Chinese art markets. For this study, we are going to draw upon samples of his calligraphy artworks from the Chinese auction house, China Guardian.

Although with only 28 years of history, China Guardian is China's oldest art auction house, and first auction house to go international. It is reputed to be the world's fourth largest auction house by sales, and the second in China (Financial Times, 2012). China Guardian primarily offers sales on historical and contemporary Chinese items, among which about 60% percent of its sales are in the Chinese paintings and calligraphy category, which is also what keeps the auction house in the leading position (The Wallstreet Journal, 2012; China Guardian, n.d.). Because of its considerable reputation, history, scale and

specialisation in Chinese art, China Guardian is entrusted by consumers to judge artwork quality and assess worth (Kharchenkova, & Velthuis, 2018), and serves as a reliable source of information for purposes of the present study.

So far in the online catalogue of China Guardian, there are altogether 2,200 Chinese calligraphy and paintings in the name of the artist Dong Qichang, from which we will select artworks for the study.

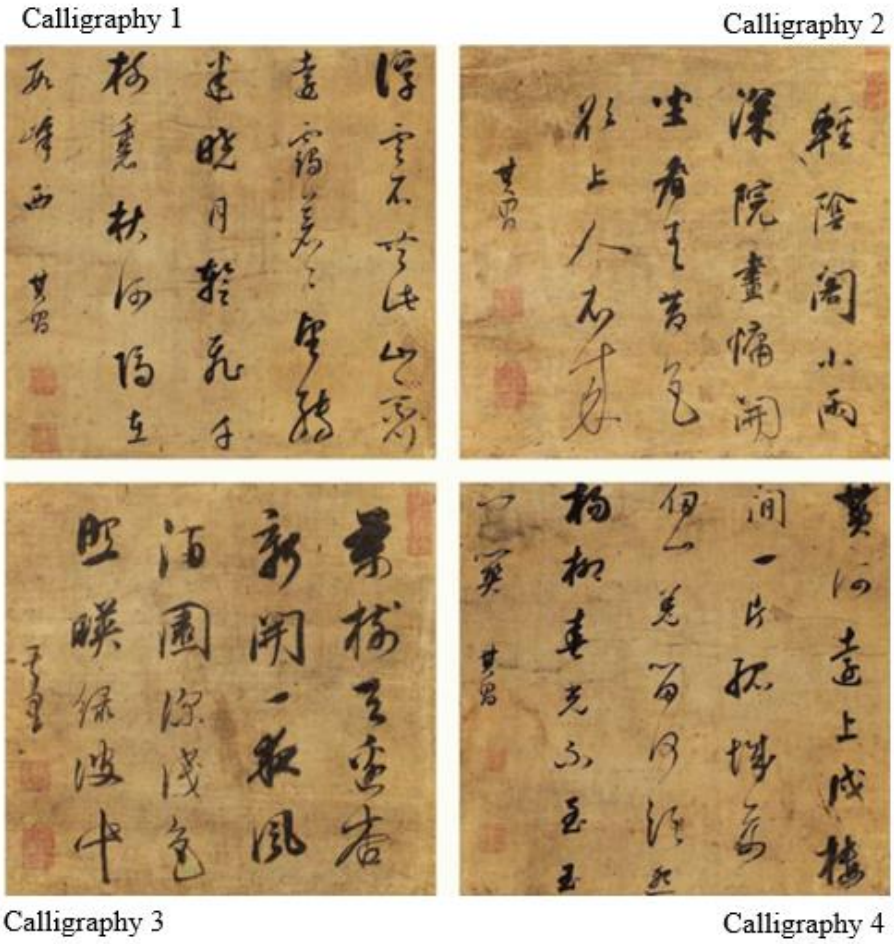
3.2.3 Artworks Selected

For this study, we are going to confine the scope of artwork selection to a five-year period (2015 - 2019) as a previous study[14], this allows us to control for the changing public taste compared to a relatively longer time span (Fedderke, & Li, 2020).

Using the same original dataset where all basic item information has been recorded in advance, this time we first did a screening of all the included calligraphy works in order to see to what extent transcriptions are provided or not. We found that out of 90 artworks in the dataset, only 26 (28.9%) had transcripts accompanied by them—this serves as the living proof for the inconsistency and insufficiency in the provision of transcriptions to calligraphy artworks prevalent among auction houses.

Since in the previous study on these artworks (Song, 2020), we found that the size of the artwork is one of the most significant factors that influences auction prices, that as the size increases by 1%, the price increases 0.75%, in the present study we want to control for the influences of this factor. In doing so, we quickly zoomed in to five different artworks with about the same size. Taking a further look at these artworks, one of them was eliminated since it had different form and material than the other four, which we know from the previous study might also have an influence on price. By the end of the screening, we are left with four artworks as raw materials for the study (Figure 3.1).

[14] See Song (2020).



Artworks Selected

Figure 3.1

With reference to these artworks, if we take a look at the auction house website[15], we will find that no transcription is given for any of them. Although the lack of transcriptions is exactly what we are investigating on, this at the same time, poses us a challenge—how we can provide an accurate transcription of the writing when there is a lack of reliable source of information? Thanks to the low cost of Internet search[16], the reputation of the artist and perhaps the nature of the related literal content, we were fortunate enough to find several

[15] See Appendix B.

[16] Since with our limited expertise and knowledge, we were not able to recognise all the characters written in the artworks, not even after consulting friends who were professionally trained in Chinese calligraphy, as a last resort, we turned to the Internet with the hope of finding relevant information based on the amount of information we had at hand.

articles on the appreciation of these four artworks treated together as one album set, with detailed literal content information of each. As suggested in the articles, each of the four artworks employed one famous poem from the Tang Dynasty. This further enabled us to verify the accuracy of the literal content of each poem as well as their interpretations, which greatly reduced the uncertainty involved in the translation of poems, hence, greatly enhanced the accuracy and reliability of the information we are going to supply in the survey.

As anticipated, these four artworks contain different literal content that convey different meanings and emotions, this serves as a natural pre-condition for us to compare responses to each of them and make inferences based on their differences. Origins, the literal translations[17] as well as the emotions expressed in the poems are demonstrated in Table 3.1. These four different artworks together form one of the dimensions of the IV we are controlling for, their transcriptions act as the other. As a result, we are dealing with a vignette universe comprised of in total eight vignettes (4*2) in our survey experiment.

[17] Note that there will always be words lost in translation from one language to another due to lack of context, the translation provided has taken that into account.

Table 3.1

Artwork Transcriptions and Their Emotions[18]

#	Origin	Literal translation	Emotion
1	"Night in the Shiyi Mountain" by Han Hong	The clouds in the sky cannot be equalled with the mountain, and the mountains are more blurred in the distance. The crescent moon flies into the trees at dawn, and the Milky Way of the autumn night lies far to the west of several peaks.	fatigue from long journey, loneliness
2	"About what I see" by Wang Wei	The drizzle had stopped and the sky was still slightly overcast. Even in the daytime, I was too lazy to open the gate. Sit down and look at the moss, which is so lovely and green that it almost stains your clothes.	leisurely, enjoyment of life, liveliness of the surroundings
3	"Song for a spring outing" by Wang Ya	In the riverside garden planted with tens of thousands of apricot trees, the overnight spring breeze drove the flowers to blossom, and the apricot flowers of different shades of colour in the whole garden glittered in the ripples of the green river.	enjoyment of spring, happiness, nice weather
4	"Out of the Great Wall" by Wang Zhihuan	The yellow sand uprises as high as a white cloud; The lonely town is lost amid the mountains proud. Why should the Mongol flute complain no willows grow? Beyond the Gate of Jade no vernal wind will blow.	nostalgia and homesickness of soldiers, resentment towards rulers, sympathy for soldiers

[18] For those interested in the transcriptions of origin, see Appendix C.

3.3 Sampling

As mentioned briefly previously, the study is going to be carried out entirely online as survey experiments. The Internet offers great convenience for collecting large amounts of data. Compared to traditional offline data collection, it is not confined by time or geographic location, which increases the chance of reaching more demographically diverse audiences. With little to no cost, survey questionnaires can be distributed, collected, recorded and managed simultaneously across all platforms, this also offers opportunities for interactions and creates informal conversations between the researcher and respondents about the research subject, which is mutually beneficial and allows for better understanding of the topic of interest[19].

Technically speaking, the sampling population should involve anyone, especially because the topic of our research, art perception and aesthetic experiences, is of general interest, as it is believed that aesthetic processing happens to humans naturally and frequently (Leder et al., 2004; Xenakis, & Arnellos, 2014). But this is not practical especially when we are collecting data on the Internet within a limited time frame. As a result, to secure sufficient data, we targeted people who had an interest[20] in Chinese calligraphy for the present study, since not only would this increase the chances of them to participate in the study but also they would benefit from it.

The online survey was shared primarily on social media platforms where interest groups on Chinese calligraphy and art collection were found. The plan was to conduct the

[19] Of course this is not to say online surveys are well suited for any kinds of research since it, at the same time, gives rise to problems such as questionable external validity and lack of individual contact (Piper, 1998). Nevertheless, online surveys appeared to us as the most effective, economical and ideal means of collecting data.

[20] The most concern resulting from this purposive sampling method is generalisability issues, which we are totally aware of, but as mentioned, this is a second-best choice for us to secure sufficient data. Having said that, we should appreciate the fact that factorial survey experiments carried out online already have greater advantage in external validity over field experiments, in addition, there is accumulating evidence for the promise of purposive sampling for online factorial survey experiments, where compared to using population-based samples results do not seem to vary much (Weinberg et al., 2014).

survey in a gradual but sustained manner[21], starting by posting the questionnaire on interest groups on Douban, which is a Chinese social networking platform with a focus on art and culture. It did not take long for us to realise that the strategy was not effective enough to reach respondents. In response to the situation, the sampling pool was extended to any Chinese social platforms known to us where communities of Chinese calligraphy lovers could be found, this included an extensive list[22] of social apps and forums catered for Chinese calligraphy. At a later stage, as the number of respondents grew quickly due to a combined effect of purposive, convenience and snowball sampling, the survey was also shared on an international social media, Facebook, to gain access to a more international and broader population[23].

In total, 451 valid responses were collected over the period of ten days starting from May 6th. For each experimental condition we had comparable numbers of responses[24] (all between 50 and 60) since respondents were randomly assigned, this afforded us to make comparisons between conditions and viable inferences at a later stage.

3.4 Questionnaire Design

This section outlines the design of the questionnaire. We are going to operationalise the theoretical concept of value into measurable items measuring different dimensions of it, select relevant questions to include in the questionnaire, but also discuss how we can ensure the reliability and validity of the measurement.

[21] See Appendix D for the drafted templates (both Chinese and English versions) asking for posting permissions as well as the full posts.

[22] See Appendices E for details of groups and platforms.

[23] Note that among the people interested in Chinese calligraphy who participated in the study, it is expected to have both shares of lay persons and people who are trained in Chinese calligraphy, although expertise is believed to have an effect on art perception and evaluation (Hager, et al., 2012; Leder et al., 2004), in our study design, the minor influence should be offset by the randomisation setting and therefore is not considered threatening to the validity of results.

[24] The number of respondents for each version of the questionnaire can be found in Appendix F.

3.4.1 Operationalisation

Apart from the cover story and debriefing mentioned in section 3.1.2, the questionnaire is divided into three major parts: general questions, perceived value and socio-economic questions. Table 3.2 gives an overview of the structure, while the main body of the questionnaire can be found in Appendix G.

Table 3.2

Questionnaire Structure

General questions (7 questions)	
	Chinese calligraphy knowledge, Owning Chinese calligraphy artwork, Artwork purchase, Art auction goer, Chinese art market knowledge, Art knowledge, Read Chinese or not
Perceived value (27 questions)	
	(one out of eight vignettes randomly presented to each respondent)
	5-point Likert-scale rating task (20), Literal content questions (3), Auction price guessing, Factors considered, Opinion on auction price, Certainty check
Socio-demographics (8 questions)	
	Gender, Age, Education level, Occupation, Income, Native language, Nationality, Country of residence

General Questions

The structure of the questionnaire itself follows that of willingness-to-pay studies (Snowball, 2007). The first part serves as an ice-breaker, involving easy-to-answer questions that measure general opinions, use values as well as non-use values. As noted in Snowball (2007), respondents who have use values are more likely to be willing to pay more than those with non-use values, thus, past consumption pattern will influence respondents' perceptions of cultural goods. Furthermore, prior knowledge, art knowledge,

familiarity and connection to art are identified as influential factors when it comes to art appreciation and evaluation (Wahed et al., 2021), thus we are dealing with all these aspects together.

Among the seven general questions, three are about knowledge, two about art consumption pattern, one about familiarity with Chinese calligraphy and one about Chinese readability. Questions about knowledge are asked because, as argued in Leder et al. (2004), there is a close relationship between declarative knowledge and interpretation of art. Whereas lay persons tend to engage in self-related experiences such as emotional states, experts are less likely to be interfered by feelings but are expected to rely more on art concepts such as historical importance when they interpret art (Parsons, 1987). Also the knowledge about art auctions and Chinese art market will allow people to make more informed judgements about artworks, since the subjects of the study are Chinese calligraphy artworks auctioned in Chinese art market. The more people know about the subject of art, the more they are able to find specific aspects important and consequently more appreciation (Dorfman, 1996). Familiarity with Chinese calligraphy is indicated by whether people have Chinese calligraphy artworks at home: the more they are exposed to them, the more likely they became familiar with this form of art. Subsequently, the two questions that follow both are more about art consumption practices where respondents are asked if they have bought art before and if they have been to an art auction: if they have, then it suggests they at least have positive willingness to pay for art, and presumably are more likely to have purchase intention than those who have not, even in hypothetical situations. The last question in this section asks the participants if they can read Chinese: if the answer is positive, then we know that to a certain extent they may be influenced by the characters in Chinese calligraphy artworks.

Perceived Value

For the main body of the questionnaire, the perceived value on vignettes of Chinese calligraphy is examined. Each participant is presented with one vignette (see Table 3.3 for an illustration) out of the vignette universe and then asked to respond to questions that follow. Questions accompanying each vignette are meant to be as similar as possible while adjusting for the corresponding artwork, since only in this way can comparisons between vignettes be relevant.

Different formats are employed when assessing perceived value[25]. Firstly, participants are asked to indicate whether they agree / disagree with the statements on perceived value on a 5-point Likert scale. After which, individual multiple choice questions are asked measuring value of the literal content as well as economic value.

The statement items[26] used in Likert scale questions were identified, extracted and devised on the basis of an extensive body of literature on the value of culture (e.g. Throsby, 2001), evaluation of intangible cultural heritage (e.g. Su et al., 2020), aesthetic appreciation (e.g. Hager et al., 2012) and Chinese calligraphy appraisal (e.g. Zhang& Zhang, 2019). With these items, ten dimensions of value are measured: aesthetic value, spiritual value, social value, historical value, symbolic value, authenticity value, revelation value, spontaneity value, emotion value and investment value. In the following we are going to expand on each in order.

[25] A summary of the measurement items is shown in Table 3.4 for different dimensions of value as well as reference sources.

[26] When they were shown to the respondents, the order was intentionally disrupted and randomised, so as to avoid invalid or too similar answers to statements of the same dimension of value.

Table 3.3

Sample[27] *Vignette*

Item information

[Poem in Seven-character Verse, Running Script by Dong Qichang

Artist: Dong Qichang (1555 - 1636)

Material: Ayamoto, mounted for framing

Size: 25x26 cm (approx. 0.6 sq.ft)

Seals: Dong Qichang, Taishiguan

Auction: 46th China Guardian Quarterly Auctions (2016)

Session: Chinese Painting and Calligraphy (II)

Price estimate: RMB 5,000 - 8,000]

[Transcription:

The clouds in the sky cannot be equaled with the mountain, and the mountains are more blurred in the distance. The crescent moon flies into the trees at dawn, and the Milky Way of the autumn night lies far to the west of several peaks.]

[27] English version displayed, the item information as indicated in square brackets varies across vignettes.

Table 3.4

Measurement Items

Value	Dimension	Measurement item	Reference source
1. cultural value	1. aesthetic value	This artwork is beautiful (pleasant aesthetically). This artwork is harmonious (agreeable as a whole).	(Throsby, 2001), (Hager et al., 2012), (Zhang & Zhang, 2019), (Li, 2011)
	2. spiritual value	I feel inspired (filled with the urge to do something creative) by this work of art. This artwork is thought-provoking (stimulating careful consideration). I think the way it was written reflects the spirit and philosophy of China.	(Throsby, 2001), (Hager et al., 2012), (Su et al., 2020), (Zhang & Zhang, 2019), (Li, 2017), (Shi, 2020)
	3. social value	This artwork gives me a sense of identity and belonging. I would like to talk about this artwork with people.	(Throsby, 2001), (Klamer, 2017)
	4. historical value	This calligraphy work is a supplement to the deficiency of traditional historical records.	(Throsby, 2001), (Su et al., 2020)

5. symbolic value	This calligraphy work is a symbol that distinguishes its nation from others.	(Throsby, 2001), (Su et al., 2020), (Zhang et al, 2008)
6. authenticity value	This artwork features a high level of creativity. I would prefer this original artwork to a printed copy.	(Throsby, 2001), (Hager et al., 2012), (Abbing, 2002)
7. revelation value	I can tell the personality of the calligrapher from the artwork.	(Zhi, 2019), (Iezzi, 2013)
8. spontaneity value	The artist's manner of writing is fascinating. This calligraphy work was done skilfully. There is a special rhythm (movement) to the writing.	(Hager et al., 2012), (Li, 2019), (Zhang & Zhang, 2019), (Li, 2011)
9. emotion value	This artwork makes me feel sad. This artwork makes me feel lonesome. This artwork makes me feel joyous. This artwork makes me curious.	(Hager et al., 2012)
10. literal content value	Please rate your understanding of its literal content on a scale of 0 - 10. To what extent is the literal content of the artwork of interest to you on a scale of 0 - 10?	(Hager et al., 2012)

		With regards to its literal content, I think this artwork is interesting.	
2. economic value	11. investment value	I would consider investing a large sum of money to buy this piece of art.	(Hager et al., 2012), (Grampp, 1989)
	12. price judgement	Which of the following price (RMB) range do you think this artwork was most likely to have been auctioned at? Your decision on price was mostly based on? Multiple answers allowed. This artwork was actually auctioned at X. What do you think about the price?	(Snowball, 2007)

a) Inspirations from Throsby (2001)

As mentioned in section 2.1, Throsby (2001) proposes to disaggregate the broad and contested concept of cultural value into a range of dimensions in his seminal work. Although generic and inexhaustive, his suggestion serves as a stepping stone when we develop our measurement scale for the evaluation of Chinese calligraphy. We have taken into consideration all six dimensions Throsby (2001) outlined (aesthetic value, spiritual value, social value, historical value, symbolic value and authenticity value) and catered them for our evaluation of Chinese calligraphy with the assimilation of other literature.

Aesthetic value is defined as the artwork's properties of beauty, harmony and other aesthetic characteristics that make someone desires it (Grampp, 1989; Throsby, 2001). This aspect of value is one that is considered most relevant in the appreciation of artworks and therefore, is most commonly evaluated in Art Reception Surveys (ARSs). It is generally measured with items such as 'The artwork is pleasant' and 'The artwork is beautiful' (Hager et al., 2012). The art of characters exists in and beyond the richness of lines which reflects Chinese aesthetics and influences the appreciation process and this is why, we include items to assess aesthetic value (Bundgaard et al., 2017; Li, 2011; Mi, 2020; Zhang & Zhang, 2019).

Spiritual value is relevant to our case of Chinese calligraphy because it is believed to be an embodiment of Chinese philosophy and national spirit (Ledderose, 1984; Li, 2017; Su et al., 2020; Zhang & Zhang, 2019). Throsby (2001) highlights that this value can be resonated with all human beings if there be, and it has effects such as enlightenment and insight. Referring to measurement items proposed by Hager et al. (2012), two statements corresponding to this value were found and consequently incorporated into our scale: 'This artwork is thought-provoking' and 'I feel inspired by this artwork'.

Artworks can generate social value because they may contribute to a sense of connection and identity between people and society at large (Throsby, 2001). Klamer (2017) embeds social value in our everyday context where it means having conversations with people and building relationships, hence our measurement item: 'I would like to talk about this artwork with people.'

Historical value is recognised as an essential component of the cultural value of an artwork because as a creation of the past, it witnesses history and provides us with a sense of continuity between past and present (Throsby, 2001). This is indeed true for Chinese

calligraphy, and we borrowed one measurement item on this value from Su et al. (2020), where it is considered as a supplement to the deficiency of traditional records.

Throsby (2001) interprets symbolic value as the extraction of meaning when an observer is reading an artwork. Our interpretation of this value, however, takes a different stand. This is because Chinese calligraphy is conveyer of meanings in and of itself, so this meaning extraction is rather literal, not the interpretation as suggested by Throsby (2001). Su et al. (2020) and Zhang et al. (2008) give us a more plausible interpretation of symbolic value, where Chinese cultural heritage is regarded as a symbol in itself that distinguishes its nation from others.

Authenticity value is identified as an integral element of an artwork by Throsby (2001) because qualities such as originality, uniqueness and genuineness are regarded as important. Based on this idea, one item to assess respondents' opinion of the originality was composed, which compares the artwork to a printed copy. 'This artwork features a high level of creativity' was extracted from ARS (Hager et al., 2012) in the artistic quality category.

b) More Inspirations from Scholars

Further considering the idiosyncrasies of Chinese calligraphy but also the selected artworks specifically, four additional dimensions of value are incorporated in the scale—revelation value, spontaneity value, emotion value and investment value. This is because we believe they are also of great relevance reflecting the value of Chinese calligraphy, and therefore cannot be neglected.

Revelation value is so-called since it is often believed that writings of Chinese calligraphy reveals the individual as a person, in Chinese we have the sayings "字如其人", "书为心画" ('characters are like the person', 'writings as drawings of the heart'). Through the writing, one's inner being, feelings, spirit, personality, and education among others can be reflected, and it is valued as an immediate expression of the individuality of the calligrapher (Iezzi, 2013; Zhi, 2019).

Similarly, spontaneity is considered an important element of Chinese calligraphy because self-expression lies in the rhythmic movement of the brush (Li, 2017), each breath the artist takes is fused in the writing and therefore the sustained flow of Chi ("笔断意连") can be emitted from the writing. Whether the brush work is in harmony with the spirit of

the artist is one of the key criteria to judge a good calligraphy artwork (Gulik, 1958; Li, 2011; Zhang & Zhang, 2019). We are using three statements to assess this spontaneity value, two of which referred to Hager et al. (2012).

The last two dimensions we are evaluating in the scale are emotion value and investment value. While cognitive stimulation is common in assessing artworks, Chinese calligraphy may be more elusive in comparison to paintings since it has a higher appreciation threshold, therefore, when considering measurement items for emotion value, we also referred to the literal content of each artwork, because literal content are conveyers of meanings and emotions as well. After consulting ARS (Hager et al., 2012), we settled on four measurement items for emotion value. Lastly, investment value is included in the scale since the artworks have economic value as well, and there will be people who consider investing on it (Grampp, 1989 ; Hager et al., 2012).

In addition to the 20 statements measuring 10 identified dimensions of value in one matrix table, score rating and multiple choice questions are constructed to assess content value (3 questions) and economic value (3 extra questions). These are not asked directly using simple statement measures because they are less straightforward and more inductive, answers may vary from person to person, and therefore, require some elicitation. Moreover, a more tailored measure is necessary to help us navigate our research questions on literal content value and economic value in the narrow sense.

Socio-demographics

General socio-demographic information (e.g. gender, age, education level, and occupation) on respondents are collected in the final section of the questionnaire. As pointed out in Snowball (2007), this seemingly trivial information can have significant influences on perceived value. This is because: firstly, taste for culture is believed to be highly correlated with one's socio-economic status and background (e.g., Bourdieu, 1984); secondly, this information helps us understand the profile of respondents and see how the sample is representative of the population; thirdly, income can be a useful validity check, since it is believed that willingness to pay is positively related with it. In our questionnaire, we

directly asked respondents to fill in their answers and also indicate their currencies themselves[28]

3.4.2 Pre-testing

Pre-testing is considered as an indispensable stage in questionnaire development in general (Presser, & Blair, 1994). This is to eliminate possible misunderstandings, identify issues in survey design, to make sure the measuring instrument is effective and respondents will be comfortable filling it out. In addition, special care needs to be taken to the quality of translation[29] of the questionnaire; comparisons are only meaningful when respondents understand the questions in the same way (Heine, 2010).

Interviews are the most conventional approach of pre-testing, and it does not take a large number of respondents to uncover numerous problems in the survey (Presser et al., 2004). Our pre-testing of the questionnaire draft version took place between May 3-5, and consisted of a series of one-to-one interviews and discussions between the researcher and close friends with adequate education levels. Comments that were accounted for include: adjusting the order of questions, correcting typos in questions, deleting irrelevant measurement items, making sure each dimension of value is sufficiently measured, clarifying concepts and notions, doing back translations to ensure accuracy of language, and acknowledging limitations in the questionnaire.

3.4.3 Reliability and Validity

As suggested by Gliem & Gliem (2003), it is imperative to test and report Cronbach's alpha when using Likert type scales[30] in order to validate the reliability of the items used. This is usually under the assumption that the Likert scale items of concern measure a same social construct that is not directly measurable by itself but can be broken down into elements, which can be quantified with ratings and thereby combined and summated (Spector, 1992).

---

[28] We decided to do so considering the possibility that participants are geographically diverse, meaning they may not be in one country, in order to avoid confusion caused by offering categories of income levels with one currency only.

[29] Although in an ideal situation, the questionnaire should be kept in the English version only so as to avoid any misinterpretations resulted from translations, this is less than practical when English is not the language of daily use for the Chinese and it will cause more problems if they are not able to understand what is being asked of them.

[30] For strategies on how to treat Likert-type items, see Sullivan & Artino (2013), and Boone & Boone (2012).

The value of alpha increases as items in the test are more correlated to each other, but it is also influenced by dimensionality and the length of the test (Tavakol, & Dennick, 2011). Although subject to controversy and there is no consensus on the legitimate level, as a rule of thumb, an alpha of 0.6 - 0.7 is considered an acceptable level of reliability. The greater an alpha the stronger the reliability, although it is warned that a very high value (above 0.95) is not desirable since it might be an indicator of redundancy (Taber, 2018; Ursachi, Horodnic, & Zait, 2015). Using response data, we calculated the value of Cronbach's alpha for the scale as a whole and each of the dimensions with multiple items (≥ 2). The outcome shown in Table 3.5 indicates that our measurement scale has good reliability.

When it comes to validity, it should be noted that one of the great advantages of experimental design is the high internal validity it ensures, since with randomisation it isolates confounding factors. In terms of the measurement validity of the scale, content validity was ensured when constructing the questionnaire by 1) consulting literature measuring the same constructs related to the dimensions in consideration, 2) pretesting the questionnaire among a small group of people for feedback, and 3) providing further explanations in wording to minimise inter-observer inconsistency on the measurement items (Bryman, 2016). In addition, a certainty question was incorporated at the end of the questions to examine how certain respondents were that their responses reflected their true perception, which is a measure devised by Champ & Bishop (2001) to detect and identify hypothetical biases.

Table 3.5

Cronbach's Alpha Value

Dimension	Cronbach's alpha	N of items
aesthetic value	0.693	2
spiritual value	0.766	3
social value	0.667	2
authenticity value	0.524	2
spontaneity value	0.813	3
emotion value	0.709	4
entirety of the scale	0.934	20

3.5 Data Analysis Strategy

We are adopting data analysis strategies[31] according to the nature of our research questions. Think back on the purposes of our study: firstly, we are going to investigate to what extent transcriptions have an influence on the perceived value of Chinese calligraphy; secondly, we are looking to see what the relationship is between the cultural and economic value of Chinese calligraphy; thirdly, we are exploring what factors on the respondent level have effects on the perceived value of Chinese calligraphy.

For the first research question concerning the factorial experiment itself, we are using analysis of variance (ANOVA), which is basically a general linear model that allows for two or more categorical predictors that represent the IVs of the experiment (Field, 2013). This is the technique that is most commonly associated with factorial experiments (Wallander, 2009), its statistical power explains the fact that it constitutes the sole statistical method employed in a number of factorial studies (e.g., Hernando, & Campo, 2017; Meeker & Elliott, 1987). This type of ANOVA is therefore specifically called factorial ANOVA, which we are going to exploit in respect of the first research question.

For the second research question, Pearson's Correlation Coefficient will do the job which helps us measure the statistical relationship between cultural and economic value. It is considered the suitable method because it is based on the method of covariance, and the test gives us information about the magnitude as well as the direction of the relationship. We are also going to take advantage of it to test the relationship between dimensions of value we have identified.

Last but not least, to model for the individual components on value judgements, we are going to make us of the multiple linear regression analysis, which is recognised as the most common choice of multivariate statistical method used in factorial surveys (Wallander, 2009). What sets regression models apart from correlation analyses is their ability to control for confounding variables all at the same time, and they can be used for explaining, predicting and describing relationships (Shmueli, 2010). Assumptions to be met before conducting multiple linear regressions are: first, the linear relationship between the independent and dependent variables; second, normality of the distributions of variables; third, no or little multicollinearity, which means that independent variables should be

[31] All statistical analyses will be processed using the software IBM Statistical Product and Service Solutions (SPSS).

independent from each other; fourth, no auto-correlation[32], which occurs when residuals are not independent; fifth is homoscedasticity, which means that the error terms along the regression line are equal[33].

[32] It should be noted that for factorial surveys specifically, when there are multiple levels and dimensions of independent variables pooled in the regression model all at the same time, the aggregate judgements of vignettes may be affected by the so-called intrarater correlation problem, where the judgements cannot be assumed to be stochastically independent (Wallander, 2009). One of the most advanced techniques particularly suited to cope with this problem is multilevel analysis, which have been adopted by a small number of researchers (e.g., see Auspurg et al. (2017) for hierarchical regression analysis, and Petzold, & Wolbring, (2018) for random intercept models). Admittedly, it could be a useful technique to account for the hierarchical structure of data, however, considering the nature of our research, we opted for analysing the effects of vignettes and other factors separately instead.

[33] Now it may be said that although it is common practice to adopt the analytical techniques such as regression analysis in dealing with factorial survey data, whether parametric statistics can be used when treating Likert type data remains an issue of concern. From the standpoint of the present study, despite the possibility of adopting non-parametric tests such as Mann-Whitney U test (Mann, & Whitney, 1947) and ordinal regression so as to observe the ordinal and non-normally distributed nature of Likert data, there are two primary reasons for our insisted use of parametric tests. First and foremost, it is generally understood that parametric tests are more statistically powerful than their counterparts which usually require large sample sizes (Sullivan, & Artino, 2013). Furthermore, it has been rigorously attested by scholars (e.g., Norman, 2010) that despite violations of statistical assumptions, parametric tests tend to give the right answer and therefore are suited to use when analysing Likert data.

4. Results

Starting with a general overview of data, this section presents us with the results of the study. We are going to look in close detail at the data collected with our questionnaire, test for and answer the research questions one by one, and discuss findings that come out of the study.

4.1 General Overview of Data

This sub-section gives an overview of the data[34] collected. It consists of two parts: the first part outlines the profile of our respondents which reveals the representativeness of the sample (Table 4.1), and the second part describes the data we obtained from the main body of the questionnaire as the outcome of the experiment.

4.1.1 Description of the Sample

The sample is examined from two aspects: socio-economic information and general information. Table 4.1 summarises the sample.

Socio-economic information

Among the respondents, females took up the majority of the sample (61.6%) compared to the number of male participants (163). Regarding age, despite the fact that we have respondents of any age group, it turned out that young people aged 18-24 was the largest group, with 194 participants making up 43.7% of the sample. In addition, people from age groups 35-44 and 25-34 accounted for the second and third largest proportion of the sample (25.9% and 16.2% respectively), although compared to the former group there was still quite some distance. In stark contrast, participants aged above 55 and below 18 accounted for the minority of the sample, counting for less than 4% of the entirety. There

[34] It should be acknowledged beforehand that there exists some missing data in the collected dataset. More specially, this occurred when some of the respondents (7 out of 451, 1.55%) submitted the questionnaire without answering the socio-economic questions in the last part of the questionnaire, in addition to the very few cases where participants missed individual questions. While in principle any of these missing values would have an influence on the results, it is generally considered inconsequential to have significant statistical inferences when the proportion is less than 5% (Bennett, 2001; Dong, & Peng, 2013; Schafer, 1999). Furthermore, for purposes of this research, a greater emphasis is placed on the experimental part of the survey where the distribution of different versions of the survey was entirely random. Low rate of non-responses in the demographic sections, therefore, is not going to make much of a difference on the results of the data analyses that follow.

can be two explanations to this age distribution. Firstly, it has been highlighted that the survey was distributed online, primarily on popular social media platforms. This naturally filtered out people who were not social media users, most likely older generations. As it has been reported that the present generations of young people are most active on modern media, this explains why we had a great number of young participants (Vogelsang et al., 2018). Secondly, as suggested in Zhang et al. (2008), nowadays there has seen a growing interest in Chinese calligraphy among Chinese citizens of all ages, especially younger generations aged between 16-24. This corresponds with our large proportion of young people. From this perspective, it showcases that to our advantage, the sample that we gathered has a considerable representativeness to the larger population.

Considering the level of education among our respondents, it can be noted that the distribution of the sample was skewed toward higher education, where respondents predominantly had an education level of Bachelor's degree (51.5%) or above (Master's degree: 15.3%, Doctoral degree: 3.6%). This corresponds with the common notion that schooling is positively related to arts consumption (DiMaggio, & Useem, 1978). At the same time, however, our sample consists of a good number of respondents who do not belong to the former group: 131 participants had an education of high school level (23.9%) or below (5.6%) , recording 29.57% of the sample. This indicates that although cultural consumption is correlated with education, anybody can have an interest in it, at least it applies in our case of Chinese calligraphy.

In terms of occupation, we found that students comprised a large proportion (37.9%) of the sample, next to the second biggest group of professionals (25.3%). White collars and the self-employed had comparable numbers of respondents, 67 and 50 respectively, being the third and fourth largest group. It makes sense since these are the people who are considered either have relatively higher social status or possess leisure time to enjoy culture (Bourdieu, 1984). Besides, we also have small proportions of participants who are service people (3.6%), blue collars (2.5%), retired (2.0%) and unemployed (2.3%).

The results turned out to be less clear-cut for income. Gathering from the great proportion of invalid answers, income information was generally considered too personal and sensitive to tell anyone else, since after accounting for invalid answers, the proportion

of valid answers was too small to make meaningful inferences[35]. Therefore, although income information could have had great reference value (Snowball, 2007), unfortunately, it cannot be included in our analysis.

The population of the study was intended to include an international audience so as to make interesting comparisons in the analysis. Although due to constraints of time and space, the vast majority of the participants we managed to collect data from were Chinese (409 people, 94.5%), we were fortunate to have a small number of international people engaged in the study. In our sample, people with 17 different nationalities (including Chinese) took part, they were living in 14 different countries and they spoke 12 different native languages. It would be interesting to see how people from different cultural backgrounds perceive Chinese calligraphy respectively, since it has been argued extensively that there is significant cultural differences between China and the rest of the world, the West in particular (Buttery, & Leung, 1998; Hall, & Ames, 1995; Ng, 2007). At the same time, it is argued that the context of a foreign language may produce an effect that distances the individual away from the pragmatic everyday perception and thereby enhance value perception (Stephan et al., 2018). Nevertheless, due to the incomparable sample sizes of different culture groups, a compromise was made to only make a distinction between participants of the Chinese nationality and those who are not (24, 5.5%), those who currently reside in China (387, 90.2%) and those who do not, and those who have Chinese as their mother tongue (415, 95.0%) and those who do not, and we are going to treat this nature of our data carefully.

[35] After accounting for non-responses, irrelevant answers (such as 'N/A'), and those with evidently unreasonable values (such as 0 and 11111), the number of valid responses shrank to 348 (77.16%). These answers, however, included a great proportion of answers without currency indications, making an informed comparison impossible. In this respect alone, the variable 'income level' will not be of much reference value for the sake of this study. It was a shame but luckily, responses to other demographic questions have already told us enough information about the diverse profile of the participants, which are equally intriguing and will thus produce interesting findings nevertheless.

Table 4.1

Description of the Sample

Demographics		Total		*General information*		Total	
		Frequency / N	Valid percent / %			Frequency / N	Valid percent / %
Gender	male	163	38.4	Calligraphy knowledge	a lot	60	13.3
	female	262	61.6		moderate amount	162	36.0
Age	< 18	3	0.7		a little	199	44.2
	18-24	194	43.7		nothing	29	6.4
	25-34	72	16.2	Owning calligraphy	yes	251	55.8
	35-44	115	25.9		I don't know	66	14.7
	45-54	47	10.6		no	133	29.6
	55-64	7	1.6	Art purchase	yes	189	41.9
	65-74	3	0.7		no	262	58.1
	75-84	2	0.5	Auction goer	yes	95	21.1
	85+	1	0.2		no	355	78.9
Education level	< high school	25	5.6	Chinese art market knowledge	a lot	18	4.0
	High school	106	23.9		moderate amount	134	29.7
	Bachelor's	228	51.5		a little	138	30.6
	Master's	68	15.3		nothing	161	35.7
	Doctoral	16	3.6	Art knowledge	a lot	46	10.2
	Professional	112	25.3		moderate amount	184	40.8
Occupation	White collar	67	15.1		a little	167	37.0
	Service person	16	3.6		nothing	54	12.0
	Blue collar	11	2.5	Read Chinese	yes	422	93.6
	Student	168	37.9		just a little	14	3.1
	Retired	9	2.0		no	15	3.3
	Self-employed	50	11.3				
	Unemployed	10	2.3				
Nationality	Chinese	409	94.5				
	International	24	5.5				
Country of residence	China	387	90.2				
	Other	42	9.8				
Native Chinese	yes	415	95.0				
	no	22	5.0				

General information

Apart from the socio-economic information summarised above, we asked our respondents some general questions including use value and non-use value of Chinese calligraphy and art in general.

First was how much they knew about Chinese calligraphy. Of the respondents, the vast majority reported at least some knowledge about Chinese calligraphy, with 199 (44.2%) knowing a little, 162 (36.0%) knowing a moderate amount and 60 (13.33%) knowing a lot. This was expected since the questionnaire was designed to gain attention from people interested in Chinese calligraphy and participate. Interestingly, we also had a number of respondents (6.4%, 29 persons) who took part in the study even though they knew nothing about Chinese calligraphy. This small proportion of people could be non-Chinese people since the numbers are roughly the same, they participated in the study since they were curious about it, but it should also be observed that even for native Chinese people, Chinese calligraphy has the connotation of elite culture and superiority, therefore, it is normal if people have little knowledge about it (Zhang, et al., 2008). Afterwards, respondents were asked if they had a Chinese calligraphy artwork in their families. A fair share of our respondents (55.8%) acknowledged that they had. This indicates that they are not entirely unfamiliar with this fine art.

The distribution of responses for knowledge about Chinese art market was quite interesting since it was not highly skewed as was expected. Despite the fact that a small proportion (4.0%, 18) knew quite a bit about Chinese art market, the proportions for the other three groups (knowing a moderate amount, a little and nothing), were all around 30%. Whereas when it comes to the question about art knowledge in general, we noticed that a great majority (88%) among our respondents knew something about art, this shows that we did manage to recruit people interested in art.

Apart from these aforementioned questions asking about knowledge, we had a few questions about the use value of art. When asked about whether they had bought art before, more than half (58.09%) gave negative answers. Despite the fact that we had 189 art buyers in our sample, the result suggests that not a lot of people have positive willingness to pay for art. Among the participants, a great majority (78.9%) have not been to an art auction, at the same time, 95 out of 451 had experiences with art auctions, who are likely

to be more familiar with art auction mechanisms and are expected to make more informed decisions answering questions about economic value.

At last, we asked the participants whether they were able to read Chinese. This question will give us some nuanced findings as we compare with the outcome of the experiments. It is not surprising to see that of the 451 respondents, 422 (93.6%) can read Chinese, who are most likely natives. Simultaneously, we have equally small numbers of respondents who do not know much about the language, with 14 (3.1%) knowing a little and 15 (3.3%) knowing nothing. These small proportions of respondents again, correspond with the number of non-Chinese respondents. This makes us think, when people say they can read Chinese, does it mean they can equally read Chinese calligraphy and even understand it? Although we have good reasons to believe that these natives are able to, it remains to be seen if the transcriptions we provide them have any value at all when they claim they know Chinese. If it turns out that they are not able to read Chinese calligraphy, and that they appreciate the transcriptions we provide, then it would mean there is at least value in the literal content of Chinese calligraphy, and we will further be able to test if this will have an effect on the perceived value.

4.1.2 Description of the Experiment Outcome

In this sub-section, we are covering two important components[36] of the main body of the questionnaire—overall perceived value and important factors to determine price.

Overall Perceived Value

First of all, the overall perceived value[37] is examined. Basic descriptive statistics for each measurement item can be found in Table 4.2, while the frequency tables are placed in Appendix H. An overview of each dimension[38] of value is displayed in Table 4.3.

[36] As the answers for questions about literal content and economic value largely vary across groups, descriptive analyses will not suffice here, hence the data will be processed in the next section when we address our research questions.

[37] This concerns the measurement items derived from literature, which are dimensions of value that are widely recognised to exist in visual arts or Chinese calligraphy specifically. They are the established ones and are measured in five-point Likert scales, where 1 indicates ‘strongly agree’, where 5 stands for ‘strongly disagree’, and 3 means a neutral stand.

[38] The composite score for each dimension was calculated using means of respective measurement item(s) for each, while the score representing overall value is the mean of all dimensions involved.

Table 4.2

An Overview of Each Likert Scale Item

Perceived Value		Total					
Dimension	Item	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
aesthetic value	beautiful	1.78	2	1	0.95	1.13	0.62
	harmonious	1.84	2	1	0.92	0.93	0.15
spiritual value	inspiring	2.25	2	2	1.02	0.49	-0.40
	thought-provoking	2.17	2	2	1.03	0.61	-0.27
	philosophical	1.91	2	1	0.95	0.85	0.14
social value	sense of identity	1.87	2	1	0.95	0.95	0.34
	conversation	2.24	2	1	1.10	0.46	-0.84
historical value	historical	2.23	2	2	1.07	0.47	-0.71
symbolic value	national symbol	1.70	1	1	0.92	1.29	1.19
authenticity value	creative	2.10	2	1	1.00	0.51	-0.65
	original	1.67	1	1	0.95	1.40	1.40
revelation value	personality	2.00	2	2	0.98	0.81	0.00
spontaneity value	fascinating	1.90	2	1	0.94	0.89	0.35
	skillful	1.82	2	1	0.93	1.06	0.66
	rhythm	1.80	2	1	0.91	1.08	0.71
emotion value	sad	2.89	3	3	1.15	-0.11	-0.86
	lonesome	2.77	3	4	1.14	-0.08	-1.03
	joyous	2.32	2	3	1.05	0.22	-0.90
	curious	2.06	2	2	1.02	0.73	-0.24
investment value	investment	3.11	3	4	1.25	-0.29	-0.93

Table 4.3

An Overview of Perceived Value

	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
aesthetic value	1.81	1.50	1	0.82	0.84	0.16
spiritual value	2.11	2.00	1	0.83	0.51	0.01
social value	2.05	2.00	1	0.89	0.54	-0.32
historical value	2.23	2.00	2	1.07	0.47	-0.71
symbolic value	1.70	1.00	1	0.92	1.29	1.19
authenticity value	1.88	2.00	1	0.80	0.74	0.17
revelation value	2.00	2.00	2	0.98	0.81	0.00
spontaneity value	1.84	1.67	1	0.79	0.92	0.86
emotion value	2.51	2.50	3	0.80	-0.15	-0.38
investment value	3.11	3.00	4	1.25	-0.29	-0.93
overall value	2.13	2.10	1	0.69	0.32	0.04

According to the overview of dimensions of value measured, we can see that responses are highly skewed to the left side of the scale (mean values less than 3), and the overall value 2.13 suggests that respondents mostly agree with the statements presented. The exception is investment value, which has an average of a 3.11, the highest value of all dimensions, meaning not everyone consider investing in the artwork of Chinese calligraphy. This is reasonable considering the nature of our sample. On the other hand, symbolic value has the lowest value, this indicates that people very much agree that Chinese calligraphy is a symbol of Chinese culture. This finding corresponds with previous literature, such as Su et al. (2020), and shows that it is widely recognised that Chinese calligraphy is a national symbol.

In addition, some interesting patterns can be identified from results of each measurement item. Firstly, for aesthetic value, answers to the two measurement items exhibited similar patterns[39]: both of their distributions were right skewed, with the majority

[39] Of course this was no coincidence since the items were displayed to individual respondents at random, instead, the result testified that the two statements were measuring the same dimension of value and thus highly correlated to each other.

responding positively to the statements. This pattern suggests to us that there was consensus among the participants that the artworks of Chinese calligraphy had high aesthetic value, which supports a whole body of literature, including Throsby (2001) and Li (2011).

Secondly, for spiritual value, we found less one-sided results for the three measurement items. Although still right skewed, meaning respondents generally acknowledged high spiritual value in Chinese calligraphy, the attitudes in regards to the statements for spiritual value were less strong compared to that of aesthetic value. The first items showed similar patterns, where 'somewhat agree' dominated the groups, whereas for the third item, the majority again concentrated on 'strongly agree'.

Two statements measuring social value followed. Although both were right skewed, there were apparently more agreement on the first statement than the second, where a vast majority (76.9%) recognised a sense of identity through the artwork but less people (61.6%) felt like talking about the artwork with others. This could be due to the reason that Chinese calligraphy is considered high art which admittedly, not everyone is able to understand, but we can assume that if people know the literal content of Chinese calligraphy and find it interesting, they will be less reluctant to talk about it with others.

We used single items to measure historical, symbolic and revelation value. For historical value, we had almost equal numbers of respondents acknowledge it (137 strongly agree and 143 somewhat agree). At the same time, over a hundred respondents (107) took a neutral stand, and disagreements occupied the minority (64, 14.2%). In contrast, respondents could not seem to agree more on the symbolic value of Chinese calligraphy, where more than half (54.3%) strongly agreed that Chinese calligraphy was symbolic of Chinese culture, together with 27.7% somewhat agreed upon it. Only 5.1% thought otherwise. In regards to revelation value, 74.1% of the respondents concurred, while less than 10% disagreed. This demonstrates high degree of consensus about Chinese calligraphy being a reflection of the calligrapher (Iezzi, 2013; Zhi, 2019).

When it comes to the two items for authenticity value, different patterns could be spotted. Despite the fact that the majority agreed upon both of the statements, there was a much greater number of respondents having a preference for an original artwork compared to those that considered the artwork creative. This interesting result indicates that for authenticity value, we were measuring it from quite distinct angles, but both of them suggested high level of authenticity value can be found in the Chinese calligraphy artworks presented (Abbing, 2002; Hager et al., 2012; Throsby, 2001).

Next, we measured spontaneity value. Again, data collected for these items displayed similar, if not identical, patterns. The vast majority of our respondents (above 75%) found the artist's manner of writing fascinating, the work done skilfully and special rhythm accompanied the writing. The rates of disagreement on the three items were pretty low, 5.5%, 6.0% and 5.8% respectively. These indicate that it was generally agreed that Chinese calligraphy had high spontaneity value, as highlighted in literature (e.g. Li, 2011).

The most controversy lay in emotion value, where no consensus could be found from the outcome. For this kind of cognitive stimulation questions (Hager et al., 2012), large groups of respondents chose to keep silent, especially for the first three statements, where respectively 30.8%, 27.3% and 33.0% of them chose 'neither agree or disagree'. Interestingly, compared with the first two statements involving negative emotions (sadness and loneliness), we had a great deal more agreements on statements with positive or neutral emotions (joy and curiosity). This could mean that Chinese calligraphy artworks are more likely to arouse positive emotions than negative, despite the fact that the literal content of the artworks may not necessarily be positive as it is the case in our sample.

For the last statement 'I would consider investing a large sum of money to buy this piece of art', respondents reported a certain degree of uncertainty. The overall distribution was left skewed, meaning there were more disagreements than agreements. Over a hundred (115) decided not to take sides and opted for the option in the middle. This is understandable when we take into account the demographic information, less than half of

our respondents had had positive willingness to buy art and only a bit over 20 percent had been to an art auction[40].

To sum up, when it comes to appraisals of the value of Chinese calligraphy, although to a large extent, respondents were able to recognise and appreciate various dimensions of value in Chinese calligraphy, there was still some evidence of uncertainty especially in terms of emotion value and economic value[41].

Important Factors to Determine Price

Secondly, we are going to take a look at what factors respondents took into consideration when they determined the economic value of the Chinese calligraphy artworks. In this section, we are trying to see to what extent what people consider important is / is not highlighted in the market empirically or in the literature, and what it means to us. Table 4.4 below summaries the findings.

The factors had varying numbers of the vote, which shows that what is important is in the eye of the beholder. Nevertheless, some obvious patterns can be spotted. Out of the eight factors given, artist name was the one criterion most frequently chosen: more than half, 59.2%, of the participants regarded it important. This is a price determinant that is of paramount importance when determining price and hence has been discussed extensively in the literature. For instance, Hernando & Campo (2017) from the perspective of art marketing argue that the artist name serves as a brand for the artist, which become competitive advantage for the artist when well leveraged. Artist names can also be regarded as signals or certifications of quality, which have significant influences on prices (e.g., Grampp, 1989; Miller & Plott, 1985; Radermecker et al., 2017). This also explains

[40] Nevertheless, this is not necessarily a bad thing for us since it simply means that more emphasis would be paid by the respondents to the intangible cultural value of Chinese calligraphy, and less utilitarian considerations which may confound our experiment outcome.

[41] In this section we only talked about one element of economic value, which is investment value, there is more to discuss when it comes to economic value.

why in the responses, artistic quality was given great emphasis on as well: 217 individuals out of 451 cared about it when they make decisions about price. Admittedly, in fact buyers seek big names not in the names themselves—they are only labels and nothing else—the abundance of information artist names entail and subsequently the certainty they ensure are what it is really about (e.g., Kripke, 1972; Radermecker, 2019). This is quite the case in Chinese art market for Chinese calligraphy (e.g., Zong, 2013).

Table 4.4

Important Factors to Determine Price

Factor	N	Percent	Percent of respondents[42]
Artist name	267	22.8%	59.2%
Artwork size	99	8.4%	22.0%
Writing style	178	15.2%	39.5%
Material	100	8.5%	22.2%
Seal	56	4.8%	12.4%
Artistic quality	217	18.5%	48.1%
Literal content	126	10.7%	27.9%
Price estimate	110	9.4%	24.4%
Other	20	1.7%	4.4%
Total	1173	100.0%	260.1%

When it comes to artwork properties, there was also a considerable number of respondents (178, 39.5%) who paid attention to the writing style, which in our case, all four artworks had the same style, i.e., running script. According to Lu (2012), running script is one of the higher priced writing styles.

[42] The question presented multiple choices and asked respondents to select all that applied, as a result, each respondent may choose at least one option, which is why there can be seen overlaps from the numbers.

Onto the subject of particular interest to us, literal content. As it turned out, there were quite a few respondents (126, 27.9%) considered it an important factor when they made decisions about the economic value of Chinese calligraphy. This is such a positive sign for us as it corroborates our hypothesis that the literal content of Chinese calligraphy matters in the evaluation of Chinese calligraphy, although it is still too early to conclude. We are waiting to see what effects the literal content actually have on the value perception of Chinese calligraphy when we further analyse our data.

According to Velthuis (2011), due to uncertainties in the determination of value and quality of the artworks, expert opinions on the construction of art prices are relied upon to a considerable extent. Agents such as experts and art historians play an indispensable role in overcoming discrepancies between demand and supply (e.g., Cameron, 1995; Harpring, 2010; Rose, 2012), and are the people who possess 'symbolic capital' (Bourdieu, 1993, p.41), which is accumulated by a mixture of factors such as cultural knowledge and years of commitment to the art world (Velthuis, 2011). In this regard, the price estimates that they give should be trusted as good indicators of the quality of the artworks in concern, which is reflected in our results where 110 respondents considered price estimates important, although at the same time, we can see that the estimates definitely do not tell the whole story and other factors are simultaneously balanced by the respondents as well.

The size and material of the artwork are both mentioned in the literature as essential factors when determining price, especially artwork size (e.g., Song, 2020; Zong, 2013). However, our respondents did not give much thought on either of the two factors compared to other factors just mentioned, only 100 individuals selected artwork material and 99 selected size. In addition, seals had the lowest number of proponents (56), this means generally they tend to be overlooked in the artworks, although as a matter of fact, seals are usually organically incorporated in the Chinese calligraphy artworks and they add the finishing touch and elevate the artworks to a higher level; they are essential to Chinese calligraphy artworks, without which the work is considered nowhere complete.

Calligraphers often pay great attention on the use of seals, which are considered to possess important functions including balancing the artwork out, adding colours and gradations to the artwork, and acting as certifications of authenticity (e.g., Zhang, 2018).

In addition to the determinants we offered, 20 respondents also shared their ideas to us and pointed out some other crucial factors. The most common answer was the age of the artwork, history, or the era where it was created: eight out of these respondents stressed the importance of this factor. Indeed, this is an important determinant of price as acknowledged in the literature (e.g., Ni, 2007), and this factor can be accounted for as historical value in our case. Other answers include: the story behind the artwork, the atmosphere of an art auction, calligraphy itself and one mentioned the authenticity of the artwork. These points from the respondents are undoubtedly valuable and she light on directions for future research.

In a nutshell, the findings above indicate to us that there are factors that although greatly valued by the market but not necessarily on an individual level, and vice versa. And it makes us wonder, does the fact that some factors, such as the literal content we are most interested in, are not put great emphasis on in the art market mean that they do not really matter, or that they are hidden treasures that the market has yet to discover and take advantage of?

4.2 Research Questions and Testing

This section presents the data analyses that address our research questions. Table 4.5 gives a recap of our research questions and their data processing strategies. We are going to address each research question accordingly in the following sub-sections.

Table 4.5

Research Questions and Strategies

#	Research Question	Data Analysis Strategy
1	To what extent do transcriptions affect the perceived value of Chinese calligraphy?	Factorial ANOVA
2	What are the relationships between dimensions of value?	Pearson's Correlation Coefficient
3	What are the effects of other influences on perceived value?	Multiple Linear Regression

4.2.1 Effects of Transcriptions on Perceived Value

To find out what effects the transcriptions of Chinese calligraphy can have on the perceived value, factorial ANOVAs are conducted.

Recall that in our factorial survey experiment (2*4), we have two levels to our IV transcription (additional literal content information and artworks), and two major aspects to consider for our DVs (overall perceived value and economic value). To examine the effects of our IVs on each of the DVs, we are going to carry out factorial ANOVAs on each DV separately.

For these factorial ANOVAs, the general null hypotheses for the tests are:

H_{10}: The additional literal content information by itself does not create significant differences in the perceived value of calligraphy artworks among the groups.

H_{20}: Difference in artworks by itself does not create significant differences in the perceived value of calligraphy artworks among the groups.

H_{30}: There is no significant interaction effect between the additional literal content information and different artworks on the perceived value of calligraphy artworks among the groups.

a) Effects of Transcriptions on Established Value

First we are going to assess the effects of transcriptions on the perceived value extracted from literature. A factorial ANOVA was conducted for the overall value[43]. Much to our surprise, we found that neither additional content information ($F(1, 443) = 0.26$, $p = 0.61$) nor different artworks ($F(3, 443) = 1.75$, $p = 0.16$) had statistically significant effect on the overall perceived value. Moreover, no interaction effect ($F(3, 443) = 1.06$, $p = 0.37$) was detected[44]. What these findings mean, at first sight, would be that the transcriptions of Chinese calligraphy do not make an effect on people's perceived value, which corresponds with our second hypothesis presented in 2.3, that auction houses do not expect an effect of transcriptions on the perceived value of Chinese calligraphy.

But is it really the case? Various theories in addition to our empirical findings suggest that people find the literal content information important when evaluating a Chinese calligraphy artwork, how is it possible that there is no difference made in value perception? This made us think about what could be the alternative reasons for this counterintuitive finding, notwithstanding the possibility that the variance in perceived value really approximates equal. There could be two explanations to this. Firstly, for the DV we used a composite score that represented the overall perceived value in the test, but we did not take into account that this overall value was actually made up of a number of different dimensions. In other words, by reducing various dimensions of value to one single item, discrepancies between dimensions were evened out. This was the main reason why auction houses were made to falsely believe transcriptions of Chinese calligraphy did not add value. Secondly, it could also be that the effects of transcriptions, if at all, were indirect rather than direct. What this means is that, the real effects of transcriptions were not captured with our scale, and that there should be dimensions directly affected by them other than the ones we considered.

[43] See Table 4.3 for a summary of the value.

[44] See full results in Appendix I.

With the two assumptions considered, our strategies for next are: 1) to test for the effects of transcriptions on individual measurement items of perceived value; 2) to test for the effects of transcriptions on the direct questions on literal content. If we manage to find any significant effects in the tests that follow, then it suggests that there is value to transcriptions when they are provided, suggesting potentials in exploiting its value if it was not made known already.

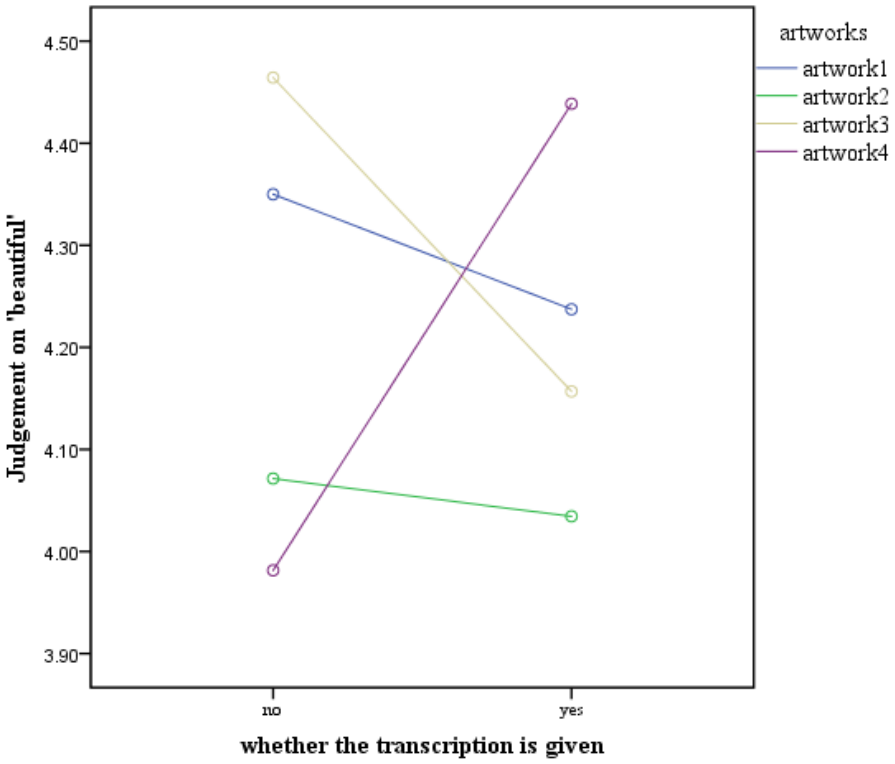
Effects of Transcriptions on Individual Measurement Items

Factorial ANOVAs were conducted treating each unique Likert scale item (20 in total) as DVs. This time, as anticipated, we found some significant effects of the transcriptions.

The effects were on three statements specifically: 'This artwork is beautiful (pleasant aesthetically).' (aesthetic value), 'This calligraphy work is a supplement to the deficiency of traditional historical records.' (historical value) and 'I can tell the personality of the calligrapher from the artwork.' (revelation value). Among which, for the first statement, we found an interaction effect. For the other two, main effects of different artworks were detected. In the following we are focusing on the three significant effects, examining the interaction effect and main effects separately. Full test results for all 20 statements can be found in Appendix J.

It was interesting to find the interaction effect ($F(3, 443) = 3.31$, $p = 0.02$) between additional information*artwork displayed in judging the statement 'This artwork is beautiful,' since this was discovered under the condition that there were no significant main effects of additional literal content information ($F(1, 443) = 0.00$, $p = 1.00$) or different artworks ($F(3, 443) = 1.78$, $p = 0.15$). This interaction effect yielded an effect size of 0.022, indicating that 2.2% of the variance in the judgments of the statement was explained by this interaction, which suggested to us whether additional content information was given had differing effects on the ratings for different artworks (Figure 4.1).

This interaction effect indicates to us that the literal content information of Chinese calligraphy, after all, does have an effect on judgements of beauty, moreover, this effect is largely dependent on different artworks and their different literal content conveyed.



Interaction between Additional Literal Content Information and Different Artworks

Figure 4.1[45]

The main effects[46] discovered for the other two statements on historical value ($F(3, 443) = 3.28$, $p = 0.02$) and revelation value ($F(3, 443) = 2.69$, $p = 0.046$) were both based on different artworks, while there were no main effects of additional information or interaction effect produced. Their effect sizes were 0.022 and 0.018 respectively, meaning that 2.2% and 1.8% of the variances in judgements of the corresponding statements were explained by differences in artworks. In turn, it suggests us that while judgements on other

[45] DV score exhibited in this test result was reversed since in the original scale, 1 represents 'strongly agree.'

[46] See Appendix K.

statements did not vary much across artworks, which means these artworks were similar enough in various aspects, they exhibited different historical and revelation value based on what differed among them, that is, different literal content. This further is evidence that shows the importance of literal content, since if it were not for different literal content, perceived value on these artworks would have been all the same.

Effects of Transcriptions on Literal Content

Three factorial ANOVA tests were conducted to see if the provision of transcription information had any direct effect on questions about literal content.

We found statistically significant effects of additional literal content information on the understanding of the literal content of Chinese calligraphy ($F(1, 443) = 13.74$, $p = 0.00$), interest in the literal content ($F(1, 443) = 4.98$, $p = 0.03$), as well as the extent to which people find the literal content interesting ($F(1, 443) = 4.20$, $p = 0.04$).

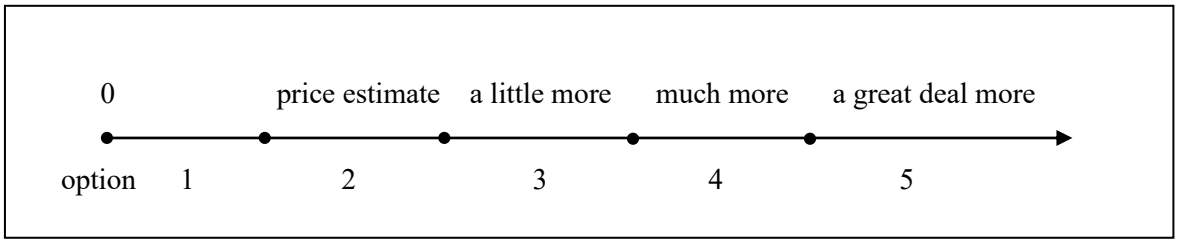
This is evidence to us that there is the direct effect of transcriptions on the perceived value of literal content, and more specifically, the provision of additional information enhanced understanding and interest in the literal content and that people did find the literal content of Chinese calligraphy artworks more interesting when transcriptions were offered. In other words, we discovered that people would be able to perceive the value in literal content Chinese calligraphy artworks if additional literal content information was given, and that adding to the various dimensions of value found in Chinese calligraphy, literal content value is one extra dimension to be taken into consideration.

b) Effects of Transcriptions on the Estimated Economic Value

In the above subsection, we investigated the effects of literal content information on the perceived value measured in Likert scales, as well as the direct effects of the provision of literal content information on perceptions of literal content. Now we are examining the effects of the literal content information on the economic value people attribute to the

artworks, looking to see if the provision of additional literal content information or different literal content of artworks have any effect on the way people perceive the price.

Again, factorial ANOVA is conducted, DV being the options of price ranges respondents chose. Although technically, these four artworks have different market value, in that they have different price estimates from the auction house and varying auction prices, the way the survey question and options of price ranges were constructed were comparable to a large extent, where price ranges were composed based on respective price estimates and the distances between numbers were ordered but unequal, which is similar to the way we treated the Likert scale items (Figure 4.4). This makes comparisons between artworks viable.



Demonstration of the Construction of Price Ranges

Figure 4.4

The two-way analysis of variance yielded a main effect for different artworks, $F(3, 443) = 3.481$, $p = 0.02$. This is not surprising in itself, since the four artworks did have different market prices as well as auction house price estimates, but it is interesting to us in that having looked at the four artworks together, we are fully aware of how similar they are, in addition, previous tests attested to us that the perceived value on them did not vary to a large extent, as a result, theoretically, if respondents judged the economic value of different artworks solely based on cultural value, the answers would not have varied much. But this is contrary to what we have found, one possible reason would be that respondents referred

to the different price estimates provided, so that their judgements of economic value would differ accordingly.

4.2.2 Relationships between Dimensions of Value

In the following section, we are going to look at the correlations between value of Chinese calligraphy with pooled data, exploring the connections between various dimensions of value. This is mostly because in the tests of the above section, dimensions of value were all treated separately as the DVs, now we are curious to know to what extent they are / are not correlated. In particular, we would like to know if there is any relationship between literal content value and other dimensions of established value, since now we already know that additional information on literal content directly increases literal content value, and if this literal content value is correlated with other dimensions of value, which is possible, then we will be able to verify the second hypothesis we made at the beginning, in which respect, it suggests that transcriptions indeed have an effect on the perceived value, but it is more indirect than direct.

a) Relationships between Dimensions of Cultural Value

Before we run the test of Pearson's *r* correlation, there is one preparation to be done to make sure the test is valid, and that is, to convert questions of different format on literal content to Likert style statements and transform three questions to one single item just as how we did it for other dimensions of value. Below is a demonstration of the conversion (Table 4.6). This item[47] of literal content value, along with ten other dimensions of value, were subject to a correlation test. Findings are shown in Table 4.7.

[47] After the conversion was done, Cronbach's alpha was calculated for the three items as a whole in order to test for the reliability of the measurement of the literal content value. Results indicated good reliability ($\alpha = 0.742$) which meant that the test items were consistent in the way they measured the value of literal content, and therefore, could be used to calculate a composite score which represents literal content value.

Table 4.6

Conversion[48] *of Questions Related to Literal Content*

#	Original	Rephrased
6	Please rate your understanding of its literal content on a scale of 0 - 10.	I can understand its literal content. (5-point Likert scale, 1 being "strongly agree")
7	To what extent is the literal content of the artwork of interest to you on a scale of 0 - 10?	The literal content is of interest to me. (5-point Likert scale, 1 being "strongly agree")
8	With regards to its literal content, I think this artwork is interesting. (5-point Likert scale, plus one "not applicable" option)	Kept the same, with the "not applicable" option changed to "neither agree or disagree"

[48] The conversion procedures for the first two questions were roughly the same, which consisted of two steps. First, combine options of a 11-point rating scale to a 5-point Likert scale, where 0 & 1 in the original scale are merged to 1 in the new scale, 2 & 3 merged to 2, 4 & 5 to 3, 6 & 7 to 4 and 8, 9 & 10 to 5. Second, reverse the scale. This is done so as to match the direction of the order of the other Likert-scales in the questionnaire, where 1 represents "strongly agree." For the third question, Likert scale options remained the same, only the "not applicable" option due to "cannot read" was recoded to a neutral option "neither agree or disagree."

Table 4.7

Descriptive Statistics and Correlation Coefficients for Variables of Value

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Aesthetic value	1.81	0.82										
2. Spiritual value	2.11	0.83	.625**									
3. Social value	2.05	0.89	.631**	.755**								
4. Historical value	2.23	1.07	.455**	.622**	.549**							
5. Symbolic value	1.70	0.92	.587**	.579**	.566**	.381**						
6. Authenticity value	1.88	0.80	.570**	.646**	.609**	.482**	.535**					
7. Revelation value	2.00	0.98	.404**	.530**	.541**	.492**	.373**	.506**				
8. Spontaneity value	1.84	0.79	.767**	.681**	.707**	.498**	.613**	.678**	.519**			
9. Emotion value	2.51	0.80	.417**	.642**	.562**	.523**	.419**	.497**	.485**	.514**		
10. Investment value	3.11	1.25	.362**	.537**	.509**	.422**	.298**	.418**	.429**	.422**	.599**	
11. Literal content value	2.19	0.86	.444**	.569**	.577**	.374**	.367**	.486**	.389**	.470**	.418**	.414**

** p < .01 (2-tailed); N = 451.

We found positive correlations between all dimensions of value[49] at the 0.01 level, including the complimentary literal content value. Regarding strengths of the relationships, according to the coefficients, we can see that most of them were around 0.5, indicating moderate in strength. Among all the relationships, we observed two that were strong in strength: social value and spiritual value ($r = 0.76$), social value and spontaneity value ($r = 0.71$). This means that as the Chinese calligraphy is perceived to have higher social value[50], its perceived spiritual value[51], as well as spontaneity value[52] tend to be better valued too. Although it is warned that we need to be careful interpreting correlations and not mistaking it for causations, among these three dimensions with most pronounced relationships, it is not hard to see that spontaneity value is more pertinent to the artwork itself, and that social value is related to both of the other two dimensions of value. We can infer that if the Chinese calligraphy artwork is considered skilfully done, people tend to notice the spiritual aspect of it and get inspired, also feel the urge to talk about it with others, and feel a sense of belonging.

These findings indeed shed light on our understanding of the value of Chinese calligraphy in two ways. On the one hand, it attest to the non-singular nature[53] of cultural goods. Smith (1999, as cited in Throsby, 2001) points out a 'doubling' of certain qualities, where there are oftentimes overlaps between dimensions of value, and that the same concept may convey different meanings when placed in a different value chain. On the other hand, examining the correlation coefficients between literal content value and the other ten dimensions of value, what we found were moderate, positive relationships ($0.3 < r < 0.7$) according to the general rule of thumb (Sloan, & Angell, 2015; Taylor, 1990). This confirms our assumption that literal content value is correlated to other dimensions of perceived value, which alludes to the indirect effect of additional content information on

[49] See Table 3.4 for a recap on the measurement items.

[50] Social value was assessed from two aspects: sense of belonging and the willingness to talk about the artwork with people.

[51] Spiritual value was assessed with three Likert type items: feel inspired, thought-provoking and reflection of the spirit ad philosophy of China.

[52] Spontaneity value was more about the artistic quality of the artwork, involving the judgements on the artist's manner of writing, skills and rhythmic movement to the writing.

[53] At the same time, the positive correlation between measures of value had been indicated by the result of the reliability test we did earlier, where a high value of Cronbach's alpha showed good internal consistency between items and hence correlations.

the perceived value. In addition, among all the relationships that literal content value had with other dimensions of value, the ones with spiritual value ($r = 0.57$) and social value ($r = 0.58$) were identified to be the strongest. This is in a way corresponds with the finding that spiritual value and social value are strongly correlated from the above analysis. What is more interesting to us is their relationships with literal content value. When transcriptions are given, people have greater understanding of the literal content of the Chinese calligraphy, and start to find it interesting, as this happens, they simultaneously not only grow in the tendency to talk about the artwork with others (social value), feel more of a sense of belonging, but also begin to appreciate the spiritual aspect of the writing. Although those dimensions of cultural value on Chinese calligraphy are already generally well recognised when transcriptions are not given, we find that the literal content information intensifies the appreciation, and brings the artwork more vividly to the viewers' mind.

Here we can also add that since social value was found to be strongly correlated with various dimensions of value, its importance in the understanding of the value of Chinese calligraphy is not to be underestimated. Klamer (2004, p.149) highlights the presence of social value in parallel with economic value since it is believed that people operate 'in a context of interpersonal relationships, groups, communities, and societies' and therefore are preoccupied with it on a day to day basis. Hence, it is no wonder that we identified strong correlations between social value and other dimensions of value.

To recap briefly and combine this finding with previous findings, it is now clear to us that the additional information on the literal content of Chinese calligraphy artworks directly increases the literal content value, which is positively correlated to all the other dimensions of value we are made aware of, consequently, the provision of additional literal content information in turn reinforces the appreciation of the value of Chinese calligraphy, despite the fact that this phenomenon was less observable at first glance.

b) Relationships between Cultural and Economic Value

In the previous sub-section, we have examined the relationships between dimensions of value (mostly cultural value) and found significant positive correlations between each variables. But how about economic value? To what extent are cultural value and economic value as separate entities are related? As implied in Throsby (2001), it should help if we

attempt to investigate the relationship between the two despite the fact that there is no consensus on their relationship. In doing so, we will get a better understanding of the value of the cultural good as well as the relationship between cultural and economic value with our case of Chinese calligraphy. Therefore, in the following we are exploring the relationship between the cultural and economic value by exploiting the data gathered in the questionnaire.

Looking at our data, we can get a glimpse of the distinct nature of cultural value and economic value. Whereas cultural value was assessed using psychometric measurements (e.g. Likert scales), economic value was measured from three perspectives: investment value, estimates of the economic value and opinions on the auction price. For simplicity purposes, Throsby (2001) suggests reducing the various elements of cultural value to a single independent statistic in the exploration of the relationship between the two types of value. In our case, it is easy to compute the multiple dimensions of which cultural value is comprised into one entity because questions were formatted the same way, however, for economic value, it is better to consider the three questions respectively since they were not asked the same way and each conveyed a different message. Thus, in order to examine the relationship between cultural and economic value, we are first going to convert component elements of cultural value into one variable, then run Pearson's *r* correlation tests between the computed variable of cultural value and economic value from three perspectives.

The cultural value we are concerned with is a composite of the value elements of the variables one to nine as indicated in Table 4.7. Apart from these, we are also going to account for the literal content value which we have identified previously because it is one influential factor as well. Therefore, in total we are condensing ten elements[54] into one variable of cultural value. With this single variable representing cultural value, we are going to explore[55] its relationships between three measurements of economic value in the following.

---

[54] They are: aesthetic value, spiritual value, social value, historical value, symbolic value, authenticity value, revelation value, spontaneity value, emotion value as well as literal content value.

[55] Note that this simplification by itself is far from ideal, since it disregards the singularities of the components over the broad sweep of the concept cultural value, also the measurements of economic value may only tell part of the story. Nevertheless, an exploration of the correlation between cultural and economic value will shed light on our understanding of the relationship between the two contestable subjects, contribute to the ongoing conversation on the topic and point us in the direction for further investigations.

To start with, one Pearson's *r* correlation test was run between cultural value and two of the variables for economic value: investment value in addition to the opinion on the auction price[56]. The findings are presented in Table 4.8. We found that both investment value (r = .56) and the opinion on the auction price (r = .52) have relationships with cultural value that are positive, moderate in strength, and statistically significant. Additionally, it was revealed that investment value also had a positive, moderate relationship with opinion on price (r = .42). Thus, the findings suggest that people who attribute high cultural value to Chinese calligraphy artwork are more likely to consider investing a large sum of money to purchase the artwork, and they are also more likely to consider the auction price of the artwork reasonable. Furthermore, people who consider investing in the artwork are found to be more likely to find the auction price reasonable.

Table 4.8

Descriptive Statistics and Correlations for Study Variables 1

Variable	*M*	*SD*	1	2
1. Investment value	3.11	1.25		
2. Opinion on the auction price	2.33	1.06	.423**	
3. Cultural value	2.00	0.67	.562**	.519**

** p < .01 (2-tailed); N = 451.

In regards to the third measure of economic value, there are two ways of dealing with the data in order to make comparisons meaningful. One is to treat options of price ranges as ordinal level of measurement constructed around respective price estimates of each artwork. Ranks are assigned to each price range options in order. The higher the score, the more economic value was attached to the artwork. The other approach, in a similar manner, is to adopt the mean value[57] of the range of price as an indication of the exact economic

[56] This is because both of these two were measured in Likert type scales assessing attitudes whereas the remaining one variable of economic value was evaluated with price ranges, thus some editing is needed before we perform the correlation test which will follow later.

[57] Note that the last categories of the price ranges originally pointed to positive infinity, which makes the average score meaningless when compared with other scores. Therefore, for each artwork the value representing each last category were assigned a symbolic number that is proportionate to the distances between respective prior mean values.

value one considers the artwork to be worth. This way instead of categories for economic value we will be able to compare between artworks using monetary values, which are interval data whereas the former method treats economic value as ordinal data. Both of these methods, although far from ideal, should at least hint to us to what extent the economic value people give to Chinese calligraphy artworks is associated with the cultural value they believe them to have.

Table 4.9

Descriptive Statistics and Correlations for Study Variables 2

Variable	*M*	*SD*	1	2
1. Economic value (ordinal)	3.18	1.36		
2. Economic value (interval)	15984.48	11698.90	.830**	
3. Cultural value	2.00	0.67	-.118*	-.142**

* p < .05. ** p < .01. (2-tailed); N = 451.

Findings of the Pearson's *r* correlation test is illustrated above (Table 4.9). Results with both measures of economic value reveal that in our case of Chinese calligraphy, cultural and economic value exhibit a weak, positive correlation ($|r_1| = .118$, $|r_2| = .142$) . What this means is that when a Chinese calligraphy artwork achieves a higher score in cultural value, it would be expected to command a higher price on the market, and hence higher economic value, which corroborates Throsby's (2001) proposition on the positive relationship between the two. On the other hand, however, the imperfect relationships we have found between economic value and cultural value showcase to us that cultural value cannot be fully captured with economic value and vice versa, which at the same time, prompt us to search for other factors that could possibly influence cultural value and economic value, thus mediating the relationships between these two distinct types of value. As a result, in the subsequent section, we are looking to see the influences of other variables, such as demographic information, on the evaluation of Chinese calligraphy artworks.

4.2.3 Effects of Other Influences on Perceived Value

In the previous sub-sections, we discovered positive relationships between dimensions of cultural value, as well as those between cultural and economic value. These partial

relationships stimulated our interest in the effects of other factors on the perceived value we have examined. Accordingly, we are interested in: to what extent do general and socio-economic variables influence the perceived value, more specifically, cultural value as a whole, in addition to the economic value people attach to the Chinese calligraphy artworks.

a) Effects of Other Influences on Cultural Value

We are first going to assess the influences of the abovementioned factors on the perceived cultural value (DV).

With the regression we are using, we want to simultaneously include as many independent variables as possible, so as to obtain a high precision in the model for explanatory or predictive purposes. But at the same time, trouble awaits and precautions need to be taken since the more variables we are adding to the model, the more likely that there will be collinearity issues which are so common in multiple regression, inhibiting us from getting an accurate result. Therefore, before putting all the relevant variables together into the regression, we are going to examine the correlations between independent variables using Pearson's *r* correlation coefficients, which indicate to us in advance the strength, direction and significance of possible relationships. Table 4.10 illustrates the correlation results.

As indicated by the asterisks, the Pearson's *r* correlation test suggests to us that a good number of our IVs are significantly correlated, with several variables strongly correlated with each other ($r > .68$). This implies serious problems if we ran regressions with these variables all at the same time. As a result, measures must be taken to mitigate the multicollinearity issue, at least between those variables with strong correlations.

Table 4.10

Descriptive Statistics and Correlation Coefficients for Variables

Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Calligraphy knowledge	450	2.44	0.80														
2. Owning calligraphy	450	1.74	0.89	.359**													
3. Art purchase	451	1.58	0.49	.308**	.333**												
4. Auction goer	450	1.79	0.41	.194**	.289**	.310**											
5. Chinese art market knowledge	451	2.98	0.90	.524**	.313**	.370**	.452**										
6. Art knowledge	451	2.51	0.83	.550**	.294**	.297**	.367**	.690**									
7. Read Chinese	451	1.10	0.39	.245**	0.080	-0.006	-.121*	.093*	0.032								
8. Gender	425	1.62	0.49	.259**	.145**	.164**	.193**	.238**	.243**	-0.001							
9. Age	444	3.13	1.26	0.000	-0.083	-.201**	-.162**	-0.052	-0.005	0.087	-0.036						
10. Education	443	2.87	0.87	-0.027	-.096*	-0.021	0.033	.098*	-0.020	-0.003	-0.011	-.095*					
11. Job	443	3.75	2.17	0.091	0.038	.108*	0.014	0.048	0.050	0.081	.107*	-.183**	-.219**				
12. Native language	437	1.05	0.22	.150**	0.089	-0.042	-.114*	0.051	-0.027	.755**	0.001	.150**	0.082	0.060			
13. Nationality	433	1.06	0.23	.141**	0.069	-0.065	-0.053	0.082	-0.029	.719**	0.022	.160**	.097*	0.021	.812**		
14. Country of residence	429	1.10	0.30	0.068	-0.040	-0.063	-0.031	0.073	-0.035	.564**	0.075	.121*	.135**	0.004	.623**	.722**	
15. Cultural value (R)	451	3.00	0.67	-.286**	-.181**	-.164**	-0.057	-.237**	-.230**	-.228**	0.044	0.060	-0.076	-0.055	-.222**	-.223**	-.218**

* p < .05. ** p < .01. (2-tailed)

It is not hard to identify that those variables with high correlation coefficients turn out to be featuring two aspects respectively: prior knowledge about art[58] and familiarity with Chinese[59]. For the former aspect, it is easy to combine the three variables into one interval variable ("prior knowledge") especially since they were asked the same way assessing extents of knowledge. The other one, however, require some more consideration since those variables involved are categorical and numbers assigned to options do not have practical meanings. At the same time, those variables are so similar to each other that they more or less measure the same thing from different perspectives, which makes it hard for us to determine which one to keep in the first place. However, to overcome the collinearity problem we are facing, the most efficient approach for us to cope with is to eliminate redundant variables, and forgo three out of the four similar variables. To this end, we are turning to statistical tests to see which one permits a better fit for our regression modelling by comparisons of the effect sizes, as indicated by the *R* square and the adjusted *R* square.

Our general regression model can be expressed as follows:

$$\widehat{Cultural\ Value} = b_0 + b_1 * Prior\ Knowledge + b_2 * Owning\ Calligraphy + b_3 * Art\ Purchase + b_4 * Auction\ Goer + b_5 * Gender + b_6 * Age + b_7 * Education + b_8 * Job + b_9 * Familiarity\ with\ Chinese$$

where "cultural value" as dependent variable stands for the mean of the summated value of dimensions of cultural value and therefore is continuous. "Prior knowledge" is also continuous which we have calculated earlier, whereas the other IVs are all categorical variables which cannot be incorporated directly into the regression analysis, therefore, these variables are dummy coded (Table 4.11). Reference groups of each IV are designed as the groups with the highest frequencies, which are then compared with other groups while interpreting the results. b_0 represents the estimated value of Cultural Value for the reference group, and b_1 through b_9 are the estimated regression coefficients for the respective IVs.

[58] It involves: Calligraphy knowledge (1), Chinese art market knowledge (5), and art knowledge (6).

[59] Involving: read Chinese (7), native language (12), nationality (13), country of residence (14).

Table 4.11

Variables and Dummy Coding[60]

Dummy variables
Owning calligraphy (*yes*, I don't know, no)
Art purchase (yes, *no*)
Auction goer (yes, *no*)
Gender (male, *female*)
Age (< 18, *18-24*, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+)
Education (< high school, high school, *bachelor's*, master's, doctoral)
Job (professional, white collar, service person, blue collar, *student*, retired, self-employed, unemployed)
Read Chinese (*yes*, a little, no)
Native language (*Chinese*, other)
Nationality (*Chinese*, international)
Country of residence (*China*, other)

To decide on the variable for "familiarity with Chinese", we are testing the model with four candidates separately, and trying to see which of the options give us the highest R^2 and adjusted R^2. The test results are summarised in Table 4.12. Where Model 0 denotes the regression equation where the variable under investigation is not added, Model 1-4 respectively represent the regression when the each variable is examined in turn. When Model 0 is compared to the others, we can see that the latter models have higher values than the former. This means that the extra variables on "familiarity with Chinese" effectively help in explaining the variation in the DV. Take a closer look at the models with this additional variable, it can be found that Model 4 not only has the highest *R* square, but also the highest adjusted *R* square, although only by a small margin. This suggests that Model 4 has the highest explanatory power out of the five regression models, furthermore, it reveals that, in the regression model 22.4% of the variance in the outcome variable is explained by the predictors (R^2 = .224), and 17.6% when adjusting for the number of predictors in the model (adjusted R^2 = .176). Consequently, we are going to adopt this

[60] Reference groups as shown in italics.

model with the greatest predictive capability (Lewis-Beck, & Skalaban, 1990), where “country of residence” is used to assess “familiarity with Chinese.”

Table 4.12

Comparisons of R Square and Adjusted R Square

Model	"Familiarity with Chinese" variables	*R* Square	Adjusted *R* Square
0	N/A	0.195	0.147
1	Read Chinese	0.216	0.166
2	Native language	0.222	0.175
3	Nationality	0.222	0.174
4	Country of residence	0.224	0.176

Now we know that this model explains 22.4% of the variation in Cultural Value, what are the contributions of each IV then? What else does our model tell us? Outputs of the regression are illustrated in Table 4.13. We conducted this multiple linear regression analysis using the enter method to examine to what extent prior knowledge, owning calligraphy, art purchase, auction goer, gender, age, education, job, and familiarity with Chinese can explain perceived cultural value. The model as a whole was significant, F (26, 423) = 4.69, $p < .001$. Moreover, the findings revealed to us the varying effects of each of our nine IVs, which we are going to inspect in order.

Firstly, for the variable Prior Knowledge, we observed a significant, positive relationship with the outcome variable Cultural Value ($\beta = .29$, $t = 5.47$, $p < .001$). Holding other independent variables constant, with every one unit increase in prior knowledge, cultural value accordingly increases by 0.27. With greater prior knowledge, either about art in general, Chinese calligraphy, or the Chinese market, one would expect to appreciate the cultural value of Chinese calligraphy better. This corresponds with the findings of several scholars, e.g., Hager et al. (2012) and Wahed et al. (2021). The more prior knowledge people have about the object, the more accessible it would be for them to process, understand and evaluate the artwork.

Table 4.13

Regression analysis: Other Influences and Cultural Value

Variables	*B*	*SE*	*t*	*p*	95% CI	
					LB	*UB*
(Constant)	2.74	0.09	29.44	0.000	2.55	2.92
Prior knowledge	0.27	0.05	5.47	0.000	0.17	0.36
Yes owning calligraphy	reference					
No idea owning calligraphy	-0.23	0.09	-2.59	0.010	-0.41	-0.06
No owning calligraphy	-0.18	0.07	-2.44	0.015	-0.33	-0.04
No art purchase	reference					
Yes art purchase	0.07	0.07	0.97	0.332	-0.07	0.20
No auction goer	reference					
Yes auction goer	-0.20	0.08	-2.45	0.015	-0.36	-0.04
Gender female	reference					
Gender male	-0.19	0.07	-2.89	0.004	-0.32	-0.06
18 < age < 24	reference					
Age < 18	-0.79	0.36	-2.19	0.029	-1.50	-0.08
25 < age < 34	-0.10	0.10	-0.94	0.348	-0.30	0.11
35 < age < 44	0.01	0.11	0.05	0.963	-0.21	0.22
45 < age <54	-0.18	0.13	-1.41	0.161	-0.44	0.07
55 < age < 64	-0.31	0.27	-1.17	0.243	-0.84	0.21
65 < age < 74	0.03	0.42	0.07	0.941	-0.79	0.85
75 < age < 84	-0.10	0.48	-0.22	0.828	-1.04	0.83
Age > 85	-0.03	0.63	-0.05	0.957	-1.28	1.21
Education bachelor's	reference					
Education < high school	0.10	0.14	0.69	0.491	-0.18	0.37
Education high school	0.18	0.08	2.32	0.021	0.03	0.33
Education master's	-0.02	0.09	-0.23	0.815	-0.19	0.15
Education doctoral	0.27	0.17	1.60	0.109	-0.06	0.61
Job student	reference					
Job professional	0.10	0.11	0.89	0.376	-0.12	0.31
Job white collar	0.29	0.12	2.51	0.012	0.06	0.52
Job service person	0.11	0.18	0.64	0.519	-0.23	0.46
Job blue collar	0.20	0.20	0.96	0.338	-0.20	0.60
Job retired	0.36	0.27	1.33	0.184	-0.17	0.89
Job self-employed	0.12	0.13	0.89	0.374	-0.14	0.38
Job unemployed	0.07	0.22	0.33	0.742	-0.36	0.51
Yes familiarity with Chinese	reference					
No familiarity with Chinese	-0.42	0.11	-3.97	0.000	-0.63	-0.21

Note. CI = confidence interval; LB = lower bound; UB = upper bound; Model R^2 = .224

It was also found that compared to people who did not have an artwork of Chinese calligraphy (β = - .13, t = - 2.60, p < .05), or those who did not know if they had or not (β = - .12, t = - 2.44, p < .05), people who had calligraphy artworks at home or in their families perceived statistically significantly higher cultural value in Chinese calligraphy. This phenomenon suggested that the familiarity with Chinese calligraphy must have played a role, which could also be explained by the variable Familiarity with Chinese (β = - .19, t = - 3.97, p < .001), where compared with people who were familiar with Chinese, more specifically, those who were residing in China, those who were not perceived cultural value lower by 0.42. This familiarity with the culture as a factor has also been studied by former researchers. For instance, Yang et al (2019) using fMRI scanner demonstrated a lowering in brain activation to visual arts of different culture to their own and hence lower aesthetic judgements. It can be understood in the way that when perceivers lack related information, the visual processing consequently is disturbed as they fail to categorise and understand what has been presented (Leder et al., 2004). When considered this way, familiarity may also be closely related to the aforementioned factor prior knowledge.

Regarding the two art consumption behaviour variables, we found that participants who had experience buying art rated the cultural value of Chinese calligraphy 0.07 higher than those who had not, although this difference was not statistically significant (β = .05, t = .97, p = .332). At the same time, people who had been to art auctions had significantly lower (B = - .20) perceived cultural value on Chinese calligraphy than those who had not (β = - .12, t = - 2.45, p < .05). This may be explained by the learning by consuming theory argued by Lévy-Garboua, & Montmarquette (2011, p. 180), where individuals learn about their 'given but unknown' true tastes and constantly revise their expectations by unsystematic past consumptions of the good. In our case, consumers that have been to art auctions before are more likely to have seen works of art that are more superior to the ones included in the questionnaire, and therefore, we have reasons to believe that they would have high expectations on the artworks, whether or not it belongs to the artist Dong Qichang, when the expectations were not met, they consequently responded lower perceived cultural value on the artworks. However, when we assess the findings about art buyers, it becomes harder to explain, since firstly, we left the liberty to the respondents to decide what art was, which may be masterpieces or crafts, so when it came to our calligraphy artwork from a past master, it might be irrelevant to many of the art buyers, and

therefore, the variable would not be of much reference value in predicting perceived value. Secondly, it remains a question whether economic value is comparable to cultural value, or that the two are closely related even for art investors (Throsby, 2003). This way, even if past art purchase behaviours is to lead to more consumption or purchase of the cultural good, this does not convey to us how they would perceive the cultural value of the good. Thirdly, assuming that economic and cultural value are highly correlated, consumption behaviour of an individual in the end is subject to constraints such as prices and incomes (Stigler, & Becker, 1977), which we were unfortunately not able to control for in our regression model. For the above reasons, we found it insufficient to spell out the relationships between past art consumption behaviour and the perceived cultural value.

Next, we are going to look at demographic variables, including gender, age, education level, and occupation together[61], since researchers have found that the characteristics of art consumers are often very similar, with individuals who are young, female, well-educated, from middle-to-upper social class and well-paid dominate the consumption (e.g., Ateca-Amestoy, 2008; Kurabayashi & Ito, 1992; Stigler, & Becker, 1977). With our empirical data, we found a significant gender gap in the appreciation of Chinese calligraphy, where females had higher perceived cultural value on Chinese calligraphy compared to males ($\beta = -.14$, $t = -2.90$, $p < .005$). In terms of age, it was revealed that compared to the group aged between 18 to 24, people who were younger than 18 ($\beta = -.10$, $t = -2.19$, $p < .05$) had significantly lower perceived cultural value ($B = -.79$). But this finding should be treated carefully since for the youngest age group, we only had three respondent, which means that the random error could be high and therefore does not add much value.

We also found that people who had level of education that was high school[62] ($\beta = .12$, $t = -2.32$, $p < .05$) appreciated Chinese calligraphy more compared with those with bachelor degrees. This finding is interesting since theoretically, education is believed to be positively correlated with the consumption of art; the higher the education, the more art is likely to be consumed, which contributes to the accumulation of cultural capital or consumption capital (Bourdieu, 1984; Stigler, & Becker, 1977), which in turn enhances the ability to appreciate art. However, what our finding tells us is quite the contrary: people with relatively lower education appreciate Chinese calligraphy more than those with higher

[61] See Table 4.1 for a descriptive recap of the sample.

[62] This former age group occupied 23.9% of our sample, being the second largest age group.

education. One possible explanation to this is that in the present times, with the diffusion of information communications technology (Bekar & Haswell, 2014), the abundance of leisurely activities other than art consumption makes the distinction on ability to appreciate art less pronounced than it was before, which suggests to us that other than the factors cited in literature, there should be other extraneous factors expected to be controlled for.

For occupation, in comparison to the reference group of students, white collars were found to appreciate Chinese calligraphy more ($\beta = .16$, $t = 2.51$, $p < .05$). We could explain this by term of the distinction of taste corresponding to different levels of the social class (Abbing, 2002; Bourdieu, 1984), since white collars are believed to be among the higher social classes, but again, this should be treated carefully, since our reference group of students technically do not fit with the classifications, instead, what we assume contributes more to the distinction, could be related to consumption level, i.e., income level. For the reason that demand for art is income elastic and that white collars possess higher income, which students do not have, they will be able to spend more in the arts, and thereby explains why they would have higher appreciation in our finding (Felton, 1992; Grampp, 1989). It is warranted that in future studies control for this important factor of income, and see where the influence actually lies.

b) Effects of Other Influences on Economic Value

In the previous sub-section, we explored the influences of other IVs on cultural value, and found several of our socio-economic factors influencing the perceived value. In this section, we first are going to run a similar regression using the same IVs and see what effects these variables have on economic value.

Our second regression model can be expressed as follows:

$$\widehat{Economic\ Value} = b_0' + b_1' * Prior\ Knowledge + b_2' * Owning\ Calligraphy + b_3' * Art\ Purchase + b_4' * Auction\ Goer + b_5' * Gender + b_6' * Age + b_7' * Education + b_8' * Job + b_9' * Familiarity\ with\ Chinese$$

where for DV Economic Value, we are specifically focusing on the economic value people assigned to the artworks (price estimates[63]) which we had determined in the previous

[63] The prices are not log transformed because although there are distances between them, the distribution of prices is not highly skewed, and the original value explains more of the variance of the regression model.

section, since this allows for comparisons across artworks and is conducible to greater generalisability. The IVs remain the same as the ones in the previous sub-section.

Table 4.14 shows the effects of other factors on the perceived economic value. Overall, the model was found to be significant, F (26, 423) = 1.979, $p < .005$. Compared with the regression we conducted on cultural value (R^2 = .224, adjusted R^2 = .176), this regression model had a relatively smaller R^2 (.108) as well as adjusted R^2 (.054). This means that the IVs in this model had lower predictive power than them in the former one, in spite of this, 10.8% of the variance in economic value is explained by the variance in them. What are the significant contributors to this variance? Turning to the p values of each individual variable, we found only very few of the IVs actually accounted for the difference, which are Owning calligraphy and two of the groups of education levels. In the following we are examining these two IVs and their effects on economic value in detail.

Owning calligraphy was also revealed as one of the influences for cultural value in the previous regression model. In this regression for economic value, we found that people who owned Chinese calligraphy artworks at home assigned significantly higher economic value to the artworks presented to them when compared with those who did not own one (β = - .14, t = - 2.49, $p < .05$) and those who had no idea they owned or not (β = - .16, t = - 3.10, $p < .005$). More specifically, people who denied having Chinese calligraphy gave 3479.99 RMB lower, and the number was even lower for those with no idea (B = - 5268.25). When it comes to education level, we found that those with high school education (β = - .14, t = - 2.57, $p < .05$) or lower (β = - .14, t = - 2.77, $p < .01$) attributed to Chinese calligraphy artworks significantly lower economic value (3752.43 and 7199.08 lower respectively) compared to the reference group with bachelor's degree. Other education groups also gave lower estimated prices but these differences were non-significant.

Table 4.14

Regression Analysis: Other Influences and Economic Value

Variables	*B*	*SE*	*t*	*p*	95% CI	
					LB	*UB*
(Constant)	16115.15	1750.40	9.21	0.000	12674.58	19555.73
Prior knowledge	1546.90	923.29	1.68	0.095	-267.91	3361.72
Yes owning calligraphy	reference					
No idea owning calligraphy	-5268.25	1700.42	-3.10	0.002	-8610.57	-1925.92
No owning calligraphy	-3479.99	1396.85	-2.49	0.013	-6225.63	-734.36
No art purchase	reference					
Yes art purchase	1038.62	1274.81	0.81	0.416	-1467.14	3544.38
No auction goer	reference					
Yes auction goer	-2038.13	1519.80	-1.34	0.181	-5025.44	949.18
Gender female	reference					
Gender male	570.83	1229.99	0.46	0.643	-1846.81	2988.48
18 < age < 24	reference					
Age < 18	1693.34	6785.66	0.25	0.803	-11644.47	15031.14
25 < age < 34	2765.55	1957.72	1.41	0.158	-1082.52	6613.63
35 < age < 44	2093.23	2043.69	1.02	0.306	-1923.82	6110.29
45 < age <54	-598.10	2436.60	-0.25	0.806	-5387.44	4191.25
55 < age < 64	1092.55	5045.46	0.22	0.829	-8824.75	11009.86
65 < age < 74	385.11	7894.03	0.05	0.961	-15131.30	15901.51
75 < age < 84	-6934.22	8965.95	-0.77	0.440	-24557.58	10689.13
Age > 85	14461.54	11948.00	1.21	0.227	-9023.30	37946.38
Education bachelor's	reference					
Education < high school	-7199.08	2602.73	-2.77	0.006	-12314.97	-2083.19
Education high school	-3752.43	1459.57	-2.57	0.010	-6621.35	-883.51
Education master's	-61.66	1633.15	-0.04	0.970	-3271.75	3148.43
Education doctoral	-4218.68	3207.26	-1.32	0.189	-10522.84	2085.47
Job student	reference					
Job professional	0.80	2029.46	0.00	1.000	-3988.30	3989.89
Job white collar	375.49	2198.75	0.17	0.864	-3946.34	4697.32
Job service person	-2453.44	3333.20	-0.74	0.462	-9005.13	4098.25
Job blue collar	-4225.16	3838.25	-1.10	0.272	-11769.58	3319.25
Job retired	1891.40	5060.94	0.37	0.709	-8056.33	11839.13
Job self-employed	-1296.23	2532.26	-0.51	0.609	-6273.60	3681.14
Job unemployed	1099.54	4183.77	0.26	0.793	-7124.02	9323.11
Yes familiarity with Chinese	reference					
No familiarity with Chinese	626.43	2007.13	0.31	0.755	-3318.75	4571.61

Note. CI = confidence interval; LB = lower bound; UB = upper bound; Model $R^2 = .108$

The small explanatory power of this regression model triggered our interest in other factors that could potentially have an effect on economic value. Recall the analysis we did in section 4.2 of the effects of extraneous variables on the estimated price, we found that different artworks were believed to have different economic value by the respondents, in other words, different artworks will make a difference in the perceived economic value. Following that, we are adding dummy variables representing different artworks to the regression model, in an attempt to see if the explanatory power of the model has increased or not.

This third regression equation is thus expressed as:

$$\widehat{Economic\ Value} = b_0'' + b_1'' * Prior\ Knowledge + b_2'' * Owning\ Calligraphy + b_3'' * Art\ Purchase + b_4'' * Auction\ Goer + b_5'' * Gender + b_6'' * Age + b_7'' * Education + b_8'' * Job + b_9'' * Familiarity\ with\ Chinese + b_{10}'' * Artworks\ Displayed$$

where DV Economic Value and IVs remain the same, except for the additional IV Artworks Displayed, where dummy variables are coded, with Artwork 1 chosen as the reference category.

Findings of the regression analysis are shown in Table 4.15. The model was significant, F (29, 420) = 4.354, $p < .001$. R square of .231 indicates that 23.1% of the variation in Economic Value was explained by the IVs in the model, which was much higher than the one in the previous model, even when we considered the R^2 adjusted for degrees of freedom (adj. $R^2 = .178 > .054$). Coefficients and p values of individual variables did not vary much compared to the previous model, but the newly added variable denoting different artworks contributed positively to explaining the variation in economic value. As revealed by the results, in comparisons with artwork 1, artwork 2 (β = - .16, t = - 2.91, $p < .005$) was accorded 4167.91 RMB lower in estimated price, for artwork 3 (β = - .03, t = - .55, p = .583) it was 800.54 RMB lower but not significant, at the same time, artwork 4 (β = .27, t = - 5.18, $p < .001$) was considered 7382.61 RMB higher. Further examining the economic value that people give to respective artworks in consideration, it can be understood that the economic value of these artworks largely corresponded with the price estimates given by the auction houses as provided in the item description of the questionnaire, where artwork 4 had the highest auction house price estimates (8,000 - 15,000 RMB), artwork 2 the lowest (3,000 - 6,000 RMB), artworks 1 and 3 had the same

price estimates (5,000 - 8,000 RMB). Although there were still some noticeable gaps between the auction house estimates and the economic value people attributed to the artworks, it was noteworthy that despite differences in characteristics in individuals, people still tended to trust the price estimates given by the auction house when evaluating the economic value of the artworks. This is no surprising to us because the art market is characterised by a lack of information, and this renders the gatekeeper role of the experts indispensable (e.g., Seaman, 2006).

Table 4.15

Regression Analysis: Other Influences including Artworks and Economic Value

Variables	*B*	*SE*	*t*	*p*	95% CI	
					LB	*UB*
(Constant)	15823.01	1903.08	8.31	0.000	12082.26	19563.76
Prior knowledge	1445.87	863.76	1.67	0.095	-251.96	3143.70
Yes owning calligraphy	reference					
No idea owning calligraphy	-5252.80	1589.45	-3.30	0.001	-8377.08	-2128.52
No owning calligraphy	-3696.19	1302.85	-2.84	0.005	-6257.11	-1135.27
No art purchase	reference					
Yes art purchase	19.16	1201.78	0.02	0.987	-2343.10	2381.42
No auction goer	reference					
Yes auction goer	-2281.42	1419.74	-1.61	0.109	-5072.10	509.27
Gender female	reference					
Gender male	1624.62	1154.48	1.41	0.160	-644.65	3893.90
18 < age < 24	reference					
Age < 18	1082.13	6331.20	0.17	0.864	-11362.66	13526.92
25 < age < 34	2674.51	1834.78	1.46	0.146	-931.97	6281.00
35 < age < 44	2176.87	1908.23	1.14	0.255	-1574.00	5927.73
45 < age <54	-552.35	2271.67	-0.24	0.808	-5017.60	3912.90
55 < age < 64	2041.79	4717.64	0.43	0.665	-7231.33	11314.92
65 < age < 74	3080.89	7367.27	0.42	0.676	-11400.42	17562.20
75 < age < 84	-8110.44	8362.26	-0.97	0.333	-24547.54	8326.66
Age > 85	16288.96	11170.09	1.46	0.146	-5667.29	38245.21
Education bachelor's	reference					
Education < high school	-7296.07	2427.81	-3.01	0.003	-12068.24	-2523.91
Education high school	-3772.71	1365.18	-2.76	0.006	-6456.14	-1089.28
Education master's	619.84	1525.80	0.41	0.685	-2379.31	3618.99
Education doctoral	-4245.90	2990.85	-1.42	0.156	-10124.80	1633.00
Job student	reference					

Job professional	58.58	1895.31	0.03	0.975	-3666.89	3784.05
Job white collar	-96.06	2057.12	-0.05	0.963	-4139.60	3947.48
Job service person	-1278.40	3114.23	-0.41	0.682	-7399.83	4843.03
Job blue collar	-4242.16	3577.71	-1.19	0.236	-11274.61	2790.28
Job retired	-1365.98	4733.59	-0.29	0.773	-10670.46	7938.50
Job self-employed	-1238.58	2362.14	-0.52	0.600	-5881.67	3404.51
Job unemployed	-610.63	3905.00	-0.16	0.876	-8286.41	7065.14
Yes familiarity with Chinese	reference					
No familiarity with Chinese	467.12	1870.80	0.25	0.803	-3210.18	4144.42
Artwork 1	reference					
Artwork 2	-4167.91	1433.61	-2.91	0.004	-6985.86	-1349.96
Artwork 3	-800.54	1458.48	-0.55	0.583	-3667.37	2066.28
Artwork 4	7382.61	1424.87	5.18	0.000	4581.84	10183.38

Note. CI = confidence interval; LB = lower bound; UB = upper bound; Model $R^2 = .231$

4.3 Main Findings

So far, we have come a long way in the quest for our research questions. With the following, we are going to synthesise the findings from each research question before we move on to our conclusion.

To what extent do transcriptions affect the perceived value of Chinese calligraphy?

We found that transcriptions of Chinese calligraphy artworks influence the perceive value in a more nuanced way. Compared to the situation where no supplementary transcriptions were provided, judgements on the beauty of these Chinese calligraphy artworks varied significantly. In other words, the additional supply of literal content information made a difference on perceived aesthetic value. Moreover, regardless of whether transcriptions were provided or not, perceptions on the historical value and revelation value between these artworks varied significantly. These findings, however, came off as a bit surprising.

Firstly, although we expected there would be an effect of transcriptions on the aesthetic value, which is one aspect of value that is considered most relevant in artwork appreciations (Hager et al., 2012), we did not anticipate the extent to which the aesthetic value vary across artworks to differ much. Secondly, the perceived historical value[64] was expected to be homogeneous across the artworks selected, since it was taken for granted to

[64] as measured using the statement 'This calligraphy work is a supplement to the deficiency of traditional historical records'

be inherent in artworks from history (Throsby, 2001). In addition, for our artworks selected specifically, the creation time was expected to be the same since we have found that they were treated in one album set in various Chinese calligraphy appraisal articles, and all other features of the artworks, except for the literal content written were similar enough to assume that they were created at the same time. In this sense, the only explanation for the variation of perceived historical value lies in the differences in literal content, which we had not expected. Considering the revelation value in these three artworks, which is the reflection of individuality through the writings, we can only infer the differences across artworks exist in the way the calligrapher wielded the brush strokes and thereby conceived differently by the viewers.

To sum it up briefly, we verified that the provision of transcriptions had some effects of the perceived value of Chinese calligraphy artworks, perception of beauty is most pronounced, however, the differences in value largely depended upon the distinctions in individual artworks, therefore, there is still quite some uncertainty from the perspective of auction houses whether the provision of literal content information will be a bless, or harm.

Nevertheless, when we examined the effects of transcriptions on the perceptions of literal content value, we found more definite answers that the provision of additional literal content brought positive effect on the perceptions of literal content, in that people found the literal content easier to understand, more interesting, and they were more interested in the literal content. So at least from this aspect, auction houses would be certain that if they offered additional literal content information to consumers, they would appreciate it. And that since it was reported that the literal content value is one important aspect that people took into consideration, we suggested an inclusion of the dimension of literal content value into the scale measuring perceived value of Chinese calligraphy.

What are the relationships between dimensions of value?

Close relationships were found between all dimensions of value. This corresponded to the non-singular nature of the value of cultural goods (Throsby, 2001). All of these relationships were significant at the 0.01 level and were positive, moderate in strength. This means that when the artwork is perceived to have higher value in one dimension, the other dimensions tend to be high as well. In particular, we found that among all the relationships, to relationships were strong in strength, which were social value and spiritual

value ($r = 0.76$), social value and spontaneity value ($r = 0.71$). This indicated strong correlations between the two pairs, and we could infer from the measurement items for these dimensions that if the Chinese calligraphy artwork is considered skilfully done, people tend to notice the spiritual aspect of it and get inspired, also feel the urge to talk about it with others, and feel a sense of belonging.

Furthermore, we examined the relationship between the additional literal content value and other dimensions of value, results showed moderate and positive relationships between them. This confirmed our assumption that literal content value is correlated to other dimensions of perceived value, which alluded to the indirect effect of additional content information on the perceived value. Moreover, we found that the literal content value had stronger relationships with spiritual value and social value. What this could mean to us is that, when transcriptions are given, people not only tend to talk about the artwork with others, feel more of a sense of belonging, but also begin to appreciate the spiritual and deeper aspect of the writing. To sum it up, combining the findings above, we confirmed the assumption that the additional literal content had an indirect effect on all dimensions of perceived value, and that the literal content information has the potential to intensify the appreciation on various dimensions of value simultaneously, in particular, social value, spiritual value, and spontaneity value.

When it comes to the dichotomous relationship between cultural and economic value, it turned out that cultural value and economic value are positively correlated, which suggest that people who attribute high cultural value to Chinese calligraphy artwork are more likely to consider investing a large sum of money to purchase the artwork, accept a higher price and consider the auction price of the artwork reasonable. These findings verified the proposition by Throsby (2001).

What are the effects of other influences on perceived value?

For this question, we approached the perceived value from the cultural and economic value respectively, and did multiple linear regression modelling to incorporate more general and socio-economic information of the respondents into consideration.

Our model explaining for cultural value explained 22.4% of the variation, and significant predictors[65] of cultural value, as we have found, were: prior knowledge,

[65] ceteris paribus

familiarity with Chinese calligraphy, experience to art auctions, gender, education, and occupation. For knowledge, we confirmed the findings of various scholars, e.g., Hager et al. (2012). And found that, the more prior knowledge people have about the object, the more accessible it would be for them to process, understand and evaluate the artwork. For familiarity, we found that people who had calligraphy artworks at home or in their families perceived statistically significantly higher cultural value in Chinese calligraphy. This factor was investigated by former researchers in the field of psychology, e.g., Yang et al (2019). We suspected that familiarity may also be closely related to the aforementioned factor prior knowledge since it influenced understanding. We explained the fact that people who had been to art auctions had significantly lower perceived cultural value on Chinese calligraphy than those who had not by the learning by consuming theory by Lévy-Garboua, & Montmarquette (2011), where people with experience with art auctions would have higher expectations on the artworks, therefore, responded lower perceived cultural value on the artworks we presented. For gender, we found a significant gender gap in the appreciation of Chinese calligraphy, where females had higher perceived cultural value on Chinese calligraphy compared to males, this consumption pattern corresponds with several other scholars, e.g., Ateca-Amestoy, 2008. We found people with high school education level appreciated Chinese calligraphy more compared with those with bachelor degrees, this was contradictory to theory ((Bourdieu, 1984), where education is positively correlated with ability to appreciate art. We explained this phenomenon with the development of ICT, but this still requires further testing. For occupation, we found white collars appreciated Chinese calligraphy more than students, and explained this in relation to the distinction of tastes of social classes (Bourdieu, 1984) but also suspected it to be more relevant to the level of income (Felton, 1992).

In terms of economic value, we did two regressions and the final model explained for 23.1% of the variation. The most significant indicators of economic value were found to be different artwork price estimates, in addition to familiarity with Chinese calligraphy (owning Chinese calligraphy) as well as education. We found that people who owned Chinese calligraphy artworks at home assigned significantly higher economic value to the artworks presented to them when compared with those who did not own one, this corresponds with the effect of the same variable on cultural value. When it comes to education level, we found that those with high school education or lower attributed to

Chinese calligraphy artworks significantly lower economic value (3752.43 and 7199.08 lower respectively) compared to the reference group with bachelor's degree, this could be explained by the lower cultural capital and therefore lower appreciation of Chinese calligraphy. Interestingly, we found despite differences in respondents and appreciation on the attributes in the artworks, economic value people assigned to the artworks highly corresponded with price estimates given by the auction house, this suggested the uncertainty consumers generally face when it comes to evaluation of an artwork and therefore the authority of the auction houses (e.g., Seaman, 2006).

4. Conclusion

One of the most influential philosophers Immanuel Kant (1724-1804) argues in his critique of aesthetic judgment that it is the form not the content that is the central concern and emphasises that the experience of the beautiful does not require understanding, but rather, imagination and feeling (Van den Braembussche, 2009). In our case of Chinese calligraphy, we constructed a measurement scale and used a factorial survey experiment (2*4) with 451 samples from geographically diverse respondents, and attested that it might not be the truth.

The main research question that we have addressed in the paper is to what extent do transcriptions affect the perceived value of Chinese calligraphy. We found rather nuanced answers. Firstly, compared to the situation where no supplementary transcriptions were provided, judgements on the beauty of these Chinese calligraphy artworks varied significantly. This indicated an effect of transcriptions, or understanding of the literal content if you will, on the aesthetic value of the artwork. In other words, the literal content matters in the aesthetic judgement and understanding is sought after. However, differences in perceived value also depended upon different artworks, regardless of the provision of literal content. This was shown in our analysis that the historical value and revelation value varied across artworks, most likely because of the different literal content. However, in our study, due to a limited number of study cases and their literal content, we could not conclude for certain what exactly it was that caused significant different perceptions of the preceding dimensions of value. This in a way, showed the uncertainty existing in the trade of artworks, as the value is hard to ascertain.

On the other hand, we have shown that when the additional literal content information is provided, the value of literal content can be appreciated immediately by the consumers. This can be explained by the certainty additional information gives to the consumers, but also, our empirical study indicates that there is this demand for transcriptions of the Chinese calligraphy artworks, and auction houses should have known that, if they supplied that information to consumers, the perceived value of the artworks would increase simultaneously without any doubt. This is because we found in our results that with the provision of transcriptions, there is an increase in the perceived literal content value, which is positively correlated with all the other dimensions of value considered in Chinese calligraphy, including economic value.

Apart from the influences of literal content on the perceived value of Chinese calligraphy artworks, we find several variables on the individual level are also of influence, while controlling for other variables. Prior knowledge, familiarity with Chinese calligraphy, experience to art auctions, gender, education, occupation, as well as familiarity with Chinese language are found to be significant predictors of cultural value. On the other hand, familiarity with Chinese calligraphy as well as education can explain some of the variance in economic value people attribute to Chinese calligraphy artworks, but compared to the model predicting cultural value, it explained much less. We also confirmed the assumption by Throsby (2001) that cultural value and economic value are positively correlated. In addition, price estimates from the auction houses were considered important indicators of the economic value of the artworks by the participants, after controlling for individual differences.

Our study further shows that the art market is full of uncertainty, and from the perspective of the auction houses, providing additional literal content information may complicate the situation. But our study has shown promises that the literal content information be appreciated by a general audience, and auction houses should not be dissuaded by the uncertainty that different literal content involves, and conduct further studies with larger samples of Chinese calligraphy artworks of different literal content types, this may render a better understanding of the effect of different content on the value perception and reduce the uncertainty, and auction house can further use the possibilities that rich literal content information contains to their advantage. It would also be of great significance if future studies investigate the differences on the perceived value of Chinese calligraphy artworks for people from different culture and speak different languages. Our study in a rather restricted manner indicated that the familiarity with Chinese had an influence on the perceived cultural value, but it was compromised since we had a proportionately smaller sample of international participants than Chinese natives.

The study is not without limitations. Firstly, our study encompasses various disciplines, as suggested by Throsby (2001), cultural value cannot be fully understood in a single domain. Due to constraints of time and research scope, we only managed to touch upon studies in a superficial manner, this is less than ideal when we strive for a fuller account of the issue we are studying. Therefore, interdisciplinary collaborations are called for that strategically combine the expertise and knowledge of different fields. Apart from

this, at an early stage, we recognised the need to do more in-depth interviews not only with the participants to get a better understanding of their interpretations of the Chinese calligraphy artworks, but also with the experts such as those from the auction houses, to get first-hand information and navigate a more informed research strategies. For a better understanding of the inner workings of the market segment, support and information from auction house are desperately in need of. Our findings will benefit both the demand and supply side if well implemented, but it is only possible if we get the information across. Furthermore, although our study in an innovative way investigated the challenging social construct of value, and contributed to a much better understanding to both, restricted by the scope, more comprehensive studies on the cultural and economic value of cultural goods is needed since our study has also shown not only is the relationship between the two hard to disentangle, but that there are inexplicable factors that influence both of these value. Also we acknowledge the limitation of our sample and any mistranslations from one language to another.

There may be policy implications on Chinese calligraphy as well. Since the inscription of it on the World Heritage list, Chinese government has started to recognise the soft power embedded in cultural heritage as well as its potential role in national economic development (Bowitz, & Ibenholt, 2009). The enactment of Intangible Heritage Law in 2011 has provided guarantee for the safeguarding of Chinese calligraphy (Li, 2017). The Chinese Ministry of Education has published a series of documents stressing the importance of Chinese calligraphy and the necessity of the popularisation of calligraphy and its inclusion within the curriculum (Zhang, 2018). Considering the importance the public attach in knowing the literal content of those important historical works of art, for the sake of transparency, market efficiency but also a better safeguarding of the national heritage, Chinese government could enact some national standards for the auction houses to provide literal content information for the Chinese calligraphy artworks. In addition, as the Chinese art market expands overseas, giving sufficient information about the content and the deeper meanings may provide an opportunity for Chinese calligraphy to be better understood by an international audience, and turn this art into a medium for global comprehension and communication.

With the present paper, we offered an insight into the value of the literal content of Chinese calligraphy, which makes us, and perhaps more, realise that the literal content of

Chinese calligraphy may not be what makes Chinese calligraphy great, since the cultural value of the artworks has a multifaceted nature, but the literal content is something that it cannot do without.

References

Abbing, H. (2002). *Why are artists poor?: the exceptional economy of the arts*. Amsterdam University Press.

Angelini, F., & Castellani, M. (2019). Cultural and economic value: a critical review. *Journal of Cultural Economics*, *43*(2), 173-188.

Ateca-Amestoy, V. (2008), 'Determining Heterogeneous Behaviour for Theatre Attendance', *Journal of Cultural Economics*, 32, 127–51.

Auspurg, K., Hinz, T., & Sauer, C. (2017). Why should women get less? Evidence on the gender pay gap from multifactorial survey experiments. *American Sociological Review*, *82*(1), 179-210.

Barrera, D., & Simpson, B. (2012). Much ado about deception: Consequences of deceiving research participants in the social sciences. *Sociological Methods & Research*, *41*(3), 383-413.

Bekar, C., & Haswell, E. (2014). General purpose technologies. In *Handbook on the Digital Creative Economy*. Edward Elgar Publishing.

Belozerova, V. (2019). Significance of Career as an Official in the Life and Creative Work of Dong Qichang (1555–1636). *Vostok. Afro-aziatskie obshchestva: istoriia i sovremennost*, (3), 170-182.

Bennett, D. A. (2001). How can I deal with missing data in my study?. *Australian and New Zealand journal of public health*, *25*(5), 464-469.

Boltanski, L., & Esquerre, A. (2015). Grappling with the Economy of Enrichment. *Valuation Studies*, *3*(1), 75-83.

Bonus, H., & Ronte, D. (1997). Credibility and economic value in the visual arts. *Journal of cultural economics*, *21*(2), 103-118.

Boone, H. N., & Boone, D. A. (2012). Analyzing likert data. *Journal of extension*, *50*(2), 1-5.

Boring, E. G. (1954). The nature and history of experimental control. *The American Journal of Psychology*, *67*(4), 573-589.

Bourdieu, P. (1983). The field of cultural production, or: The economic world reversed. *Poetics*, *12*(4-5), 311-356.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*, Routledge: New York/London.

Bourdieu, P. (1993). *Sociology in question* (Vol. 18). Sage.

Bowitz, E., & Ibenholt, K. (2009). Economic impacts of cultural heritage–Research and perspectives. *Journal of cultural heritage*, *10*(1), 1-8.

Bryman, A. (2016). *Social research methods*. Oxford university press.

Bundgaard, P. F., Heath, J., & Østergaard, S. (2017). Aesthetic perception, attention, and non-genericity: How artists exploit the automatisms of perception to construct meaning in vision. *Cognitive Semiotics*, *10*(2), 91-120.

Burnett, K. P. (2003). Words on word-images: An aspect of Dong Qichang's calligraphy criticism. *Word & Image*, *19*(4), 327-335.

Buttery, E. A., & Leung, T. K. (1998). The difference between Chinese and Western negotiations. *European Journal of Marketing*.

Cameron, S. (1995). On the role of critics in the culture industry. *Journal of cultural economics*, *19*(4), 321-331.

Campos, N. F., & Barbosa, R. L. (2009). Paintings and numbers: an econometric investigation of sales rates, prices, and returns in Latin American art auctions. *Oxford Economic Papers*, *61*(1), 28-51.

Candela, G., Castellani, M., & Pattitoni, P. (2012). Tribal art market: signs and signals. *Journal of Cultural Economics*, *36*(4), 289-308.

Champ, P. A., & Bishop, R. C. (2001). Donation payment mechanisms and contingent valuation: an empirical study of hypothetical bias. *Environmental and resource economics*, *19*(4), 383-402.

China Guardian. (n.d.) What we do. Retrieved from http://www.cguardian.com/en/gyjd/ywfw/index.shtml

Cui, E. (1993). Lidai shufa lunwenxuan xubian. [A selection of essays on Chinese calligraphy in the past]. Shanghai Chinese Calligraphy and Painting Press: Shanghai.

Darby, M. R., & Karni, E. (1973). Free competition and the optimal amount of fraud. *The Journal of law and economics*, *16*(1), 67-88.

DiMaggio, P., & Useem, M. (1978). Social class and arts consumption. *Theory and society*, *5*(2), 141-161.

Dong, Y., & Peng, C. Y. J. (2013). Principled missing data methods for researchers. *SpringerPlus*, *2*(1), 1-17.

Dorfman, Marcy H., (1996). 'Evaluating the interpretive community: Evidence from expert and novice readers.' *Poetics*, Vol. 23, No. 6, pp. 453-470

Druckman, J. N., Green, D. P., Kuklinski, J. H., & Lupia, A. (2006). The growth and development of experimental research in political science. *American Political Science Review*, 627-635.

Ekelund, R. B., Mixon, F. G., & Ressler, R. W. (1995). Advertising and information. *Journal of Economic Studies*.

Fedderke, J. W., & Li, K. (2020). Art in Africa: Hedonic price analysis of the South African fine art auction market, 2009–2014. *Economic Modelling, 84*, 88-101.

Felton, M. V. (1992). On the assumed inelasticity of demand for the performing arts. *Journal of Cultural Economics*, *16*(1), 1-12.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Financial Times. (2012). Chinese auction houses go global. Retrieved from https://www.ft.com/content/07a62a82-3181-11e2-b68b-00144feabdc0

Frey, B. S., & Pommerehne, W. W. (1989). *Muses and Markets: Explorations in the Economics of the Arts*. Blackwell.

Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.

Grampp, William D., (1989). *Pricing the priceless: art, artists and economics.* New York: Basic Books.

Gulik, R. H. V. (1958). *Chinese pictorial art as viewed by the connoisseur.* Rome: Serie Orientale Roma.

Hager, M., Hagemann, D., Danner, D., & Schankin, A. (2012). Assessing aesthetic appreciation of visual artworks—The construction of the Art Reception Survey (ARS). *Psychology of Aesthetics, Creativity, and the Arts*, *6*(4), 320.

Hagtvedt, H., Patrick, V. M., & Hagtvedt, R. (2008). The perception and evaluation of visual art. *Empirical studies of the arts*, *26*(2), 197-218.

Hall, D. L., & Ames, R. T. (1995). *Anticipating China: Thinking through the narratives of Chinese and Western culture*. SUNY Press.

Harrist Jr, R. E. (1999). Reading Chinese Calligraphy. *The Embodied Image: Chinese Calligraphy from the John B. Elliot Collection*, 3-27.

Heine, S. J. (2010). *Cultural psychology*. John Wiley & Sons Inc.

Hernando, E., & Campo, S. (2017). Does the artist's name influence the perceived value of an art work?. *International Journal of Arts Management*, 46-58.

Holland, P. W. (1986). Statistics and causal inference. *Journal of the American statistical Association*, *81*(396), 945-960.

Hue, M. T. (2009). Promotion of spiritual development: exploration of the self and spiritualism through the practice of Chinese calligraphy. *Pastoral Care in Education*, *27*(1), 63-76.

Hume, D. (1962). A treatise of human nature (Book 1). *JM Dent & Sons, London*.

Hutter, M. & Frey, B. (2010). On the Influence of Cultural Value on Economic Value. *Revue d'économie politique*, 1(1), 35-46. https://doi.org/10.3917/redp.201.0035

Iezzi, A. (2013). Contemporary Chinese calligraphy between tradition and innovation. *Journal of Literature and Art Studies*, *3*(3), 158-179.

Johnson, R. D., & Levin, I. P. (1985). More than meets the eye: The effect of missing information on purchase evaluations. *Journal of Consumer Research*, *12*(2), 169-177.

Kharchenkova, S., & Velthuis, O. (2018). How to become a judgment device: valuation practices and the role of auctions in the emerging Chinese art market. *Socio-Economic Review, 16*(3), 459-477.

Klamer, A. (2003). Social, cultural and economic values of cultural goods. *Journal of Cultural Economics*, *3*(3), 17-39.

Klamer, A. (2004). Cultural goods are good for more than their economic value. *Culture and public action*, 138-162.

Klamer, A. (2017). *Doing the right thing: A value based economy*. Ubiquity Press.

Klamer, A., & Mignosa, A. (2019). The Financing of Cultural Heritage: A Value Based Approach. In *Cultural Heritage in the European Union* (pp. 163-183). Brill Nijhoff.

Kripke, S. A. (1972). Naming and necessity. In D. Davidson & G. Harmand (Eds.), *Semantics of natural language.* Boston: D. Reidel.

Kurabayashi, Y., & Ito, T. (1992). Socio-economic characteristics of audiences for Western classical music in Japan: a statistical analysis. In *Cultural economics* (pp. 275-287). Springer, Berlin, Heidelberg.

Ledderose, L. (1984). Some Taoist Elements in the Calligraphy of the Six Dynasties. *T'oung Pao, 70 (Livr. 4/5),* 246-278.

Leder, H., Belke, B., Oeberst, A., & Augustin, D. (2004). A model of aesthetic appreciation and aesthetic judgments. *British journal of psychology, 95*(4), 489-508.

Lévy-Garboua, L., & Montmarquette, C. (2011). Demand. In *A Handbook of Cultural Economics, Second Edition*. Edward Elgar Publishing.

Lewis-Beck, M. S., & Skalaban, A. (1990). The R-squared: Some straight talk. *Political Analysis*, *2*, 153-171.

Li, B. (2011). *Lun Shuzihua Beijingxia Zhongguoshufa Cunzai de Yiyi* [About the significance of Chinese calligraphy in times of digitalisation]. *Novel Critics, 2,* 348-350.

Li, S. (2017). *Zhongguo Shufa Zuowei Renlei Feiwuzhiwenhuayichan de Xiandai Chuancheng Yu Baohu* [Promoting and safeguarding Chinese calligraphy in modern times]. *Culture Resources, 103,* 29-33.

Lu, J. (2012). Reflecting on the National Judgment Orientation of Calligraphy Works by Calligraphy Auction. *Literatus: theory edition, 12*(2), 253-254.

Lupton, S. (2005). Shared quality uncertainty and the introduction of indeterminate goods. *Cambridge Journal of Economics*, *29*(3), 399-421.

Ma, Y. (2013). The artistic features of Dong Qichang calligraphy. *Contemporary Beauty, 5* (31), 85-86.

Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. *The annals of mathematical statistics*, 50-60.

Mazzanti, M. (2002). Cultural heritage as multi-dimensional, multi-value and multi-attribute economic good: toward a new framework for economic analysis and valuation. *The Journal of Socio-Economics*, *31*(5), 529-558.

McAndrew, C. (2014) The Global Art Market, with a Focus on the US and China, Maastricht, The European Fine Art Foundation (TEFAF)

Meeker, B. F., & Elliott, G. C. (1987). Counting the costs: Equity and the allocation of negative group products. *Social Psychology Quarterly*, 7-15.

Mi, Q. (2020). *Zhongguo Shufa Yishu de Shenmei Tezheng Tanxi* [Analysis of the aesthetics of Chinese calligraphy]. *Home of Drama, 347* (11), 221.

Milgrom, P. R., & Weber, R. J. (1982). A theory of auctions and competitive bidding. *Econometrica: Journal of the Econometric Society*, 1089-1122.

Miller, R. M., & Plott, C. R. (1985). Product quality signaling in experimental markets. *Econometrica: Journal of the Econometric Society*, 837-872.

Millis, K. (2001). Making meaning brings pleasure: The influence of titles on aesthetic experiences. *Emotion*, *1*(3), 320.

Millis, K., Steciuch, C., & Kopatich, R. (2020). *Cohesion Matters: Exploring the Impact of Accompanying Text on Responses to Art* (No. 3934). EasyChair.

Mutz, D. C. (2011). *Population-based survey experiments*. Princeton University Press.

Nelson, P. (1970). Information and consumer behavior. *Journal of political economy*, *78*(2), 311-329.

Ng, T. (2007). *Chinese Culture, Western Culture: Why Must We Learn from Each Other?*. iUniverse.

Ni, J. (2007). On pricing calligraphy and painting. *Journal of Southeast University (Philosophy and Social Science), 9*(6), 77-81.

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in health sciences education*, *15*(5), 625-632.

Oosterlinck, K., & Radermecker, A. S. (2019). "The Master of…": creating names for art history and the art market. *Journal of Cultural Economics*, 43(1), 57-95.

Pager, D., & Quillian, L. (2005). Walking the Talk? What Employers Say Versus What They Do. American Sociological Review, 70(3), 355–380. https://doi.org/10.1177/000312240507000301

Parsons, M. J. (1987). *How we understand art: A cognitive developmental account of aesthetic experience*. Cambridge University Press.

Peltoniemi, M. (2015). Cultural industries: Product–market characteristics, management challenges and industry dynamics. *International journal of management reviews*, *17*(1), 41-68.

Petzold, K., & Wolbring, T. (2018). What Can We Learn From Factorial Surveys About Human Behavior?. *Methodology*.

Piper, A. I. (1998). Conducting social science laboratory experiments on the World Wide Web. *Library & Information Science Research*, *20*(1), 5-21.

Presser, S., & Blair, J. (1994). Survey Pretesting: Do Different Methods Produce Different Results? *Sociological Methodology, 24*, 73-104. doi:10.2307/270979

Presser, S., Couper, M. P., Lessler, J. T., Martin, E., Martin, J., Rothgeb, J. M., & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public opinion quarterly*, *68*(1), 109-130.

Qiu, Q., Zheng, T., Xiang, Z., & Zhang, M. (2020). Visiting intangible cultural heritage tourism sites: from value cognition to attitude and intention. *Sustainability*, *12*(1), 132.

Radermecker, A.-S. (2019). Artworks without names: an insight into the market for anonymous paintings. *Journal of Cultural Economics*, *43*(3), 443-483.

Radermecker, A.-S., Ginsburgh, V., & Tommasi, D. (2017). The implicit value of arts experts: The case of Klaus Ertz and Pieter Brueghel the Younger. *ECARES Working Papers*.

Renneboog, L., & Spaenjers, C. (2013). Buying beauty: On prices and returns in the art market. *Management Science, 59*(1), 36–53.

Rose, F. (2012). *The economics, concept, and design of information intermediaries: A theoretic approach*. Springer Science & Business Media.

Rosen, S. (1974). Hedonic prices and implicit markets: product differentiation in pure competition. *Journal of political economy*, *82*(1), 34-55.

Schafer, J. L. (1999). Multiple imputation: a primer. *Statistical methods in medical research*, *8*(1), 3-15.

Seaman, B. A. (2006). Empirical studies of demand for the performing arts. In V. A. Ginsburgh & D. Throsby (Eds.), *Handbook of the economics of art and culture* (Vol. 1, pp. 415-472). Amsterdam: Elsevier.

Shi, X. (2020). As If One Witnessed the Creation: Rethinking the Aesthetic Appreciation of Chinese Calligraphy. *Philosophy East and West*, *70*(2), 485-505.

Shmueli, G. (2010). To explain or to predict?. *Statistical science*, *25*(3), 289-310.

Sloan, L., & Angell, R. (2015). *Learn about Pearson's Correlation Coefficient in SPSS with Data from the UK Living Cost and Food Survey (2010)*. SAGE Publications.

Smith, T. (2009). *What is contemporary art?*. University of Chicago Press.

Snowball, J. D. (2007). *Measuring the value of culture: Methods and examples in cultural economics*. Springer Science & Business Media.

Song, Y. (2020). *Analysis of the determinants of prices for calligraphy works by the artist Dong Qichang.* (Unpublished undergraduate thesis). Erasmus University Rotterdam, Rotterdam, Netherlands.

Spector, P. (1992). *Summated rating scale construction*. Thousand Oaks, CA: Sage.

Stephan, E., Faust, M., & Borodkin, K. (2018). The role of psychological distancing in appreciation of art: Can native versus foreign language context affect responses to abstract and representational paintings?. *Acta psychologica*, *186*, 71-80.

Stigler, G. J., & Becker, G. S. (1977). De gustibus non est disputandum. *The American Economic Review*, *67*(2), 76-90.

Su, X., Li, X., Wu, Y., & Yao, L. (2020). How is intangible cultural heritage valued in the eyes of inheritors? Scale development and validation. *Journal of Hospitality & Tourism Research*, *44*(5), 806-834.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of graduate medical education*, *5*(4), 541.

Sullivan, M. (1986) *The Three Perfections – Chinese Painting, Poetry and Calligraphy*. London: Thames and Hudson.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*(6), 1273-1296.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, *2*, 53.

Taylor, R. (1990). Interpretation of the correlation coefficient: a basic review. *Journal of diagnostic medical sonography*, *6*(1), 35-39.

The Wallstreet Journal. (2012). Art Sales' Old Guard Gets Rival From Asia. Retrieved from https://www.wsj.com/articles/SB10000872396390443493304578035981146176160

Throsby, D. (2001). *Economics and culture*. Cambridge, UK: Cambridge University Press.

Throsby, D. (2003). Determining the value of cultural goods: How much (or how little) does contingent valuation tell us?. *Journal of cultural economics*, *27*(3), 275-285.

Tourangeau, R., & Yan, T. (2007). Sensitive questions in surveys. *Psychological bulletin*, *133*, 859-883.

Towse, R. (2019). *A textbook of cultural economics*. Cambridge University Press.

Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How reliable are measurement scales? External factors with indirect influence on reliability estimators. *Procedia Economics and Finance*, *20*, 679-686.

Van den Braembussche, A.A. (2009). Thinking Art: An Introduction to Philosophy of Art, Springer: New York.

Velthuis, O. (2003). Symbolic meanings of prices: Constructing the value of contemporary art in Amsterdam and New York galleries. *Theory and society*, *32*(2), 181-215.

Velthuis, O. (2011). Art markets. *A handbook of cultural economics*, *2*, 33-42.

Vogelsang, M., Rockenbauch, K., Wrigge, H., Heinke, W., & Hempel, G. (2018). Medical Education for "Generation Z": Everything online?! - An analysis of Internet-based media use by teachers in medicine. *GMS journal for medical education*, *35*(2), Doc21.

Wahed, W. J. E., Yusoff, S. B. M., Saad, N., & Pitil, P. P. (2021). Systematic Literature Review of Art Reception Survey (ARS) on Aesthetic Perception Studies And Future Research Directions. *International Journal of Academic Research in Business and Social Sciences*, *11*(3), 997-1008.

Wallander, L. (2009). 25 years of factorial surveys in sociology: A review. *Social science research*, *38*(3), 505-520.

Wang, J. (2016). Shufa neirong yuxingshi wenti de zai sikao. [Rethinking content and form in Chinese calligraphy]. *Chinese Calligraphy, 12*, 145.

Wang, Z. (2020). *Shufa zuopin de wenzi neirong ji beijing xinxi dui shenmei panduan de yingxiang. [An examination of the influence of writing content and contextual information on the aesthetics of Chinese calligraphy]*. [Master's thesis, Nanjing Normal University]. CNKI.

Webster, M., & Sell, J. (Eds.). (2014). *Laboratory experiments in the social sciences*. Elsevier.

Weinberg, J. D., Freese, J., & McElhattan, D. (2014). Comparing data characteristics and results of an online factorial survey between a population-based and a crowdsource-recruited sample. *Sociological Science*, *1*.

Wilde, O. (2014). *Lady Windermere's fan*. A&C Black.

Wu, X. (2017). The research of Kuangshi' calligraphy auctions from 2005 to 2015. (Doctor), Fujian Normal University, China. Available from CNKI.

Xenakis, I., & Arnellos, A. (2014). Aesthetic perception and its minimal content: a naturalistic perspective. *Frontiers in psychology, 5*, 1038.

Yashiro, Y. (1936). Connoisseurship in Chinese Painting. *Journal of the Royal Society of Arts, 84*(4339), 262-272.

Ye, K. (2018). Analysis of the Calligraphy and Painting Pricing System of Ming Dynasty. *Chinese Art, 18*(9), 40-45.

Zhang, J., Tang, W., Shi, C., Liu, Z., & Wang, X. (2008). Chinese calligraphy and tourism: from cultural heritage to landscape symbol and media of the tourism industry. *Current Issues in Tourism*, *11*(6), 529-548.

Zhang, Y. & Zhang, G. (2019). *Lun Zhongguo Shufa Yishu de Jingshen Jihua* [About the spirit of the art of Chinese calligraphy]. *New Works of Art*, 85-90.

Zhang, Y. (2018). *Shufa Zuopin Zhong de Tikuan yu Yongyin Yanjiu* [The Study of Postscripts and Usage of Seals in Chinese Calligraphy]. *The Art of Chinese Calligraphy,* 85.

Zhang, Y. (1998). *Brushed Voices: Calligraphy in Contemporary China*. Seattle: University of Washington Press.

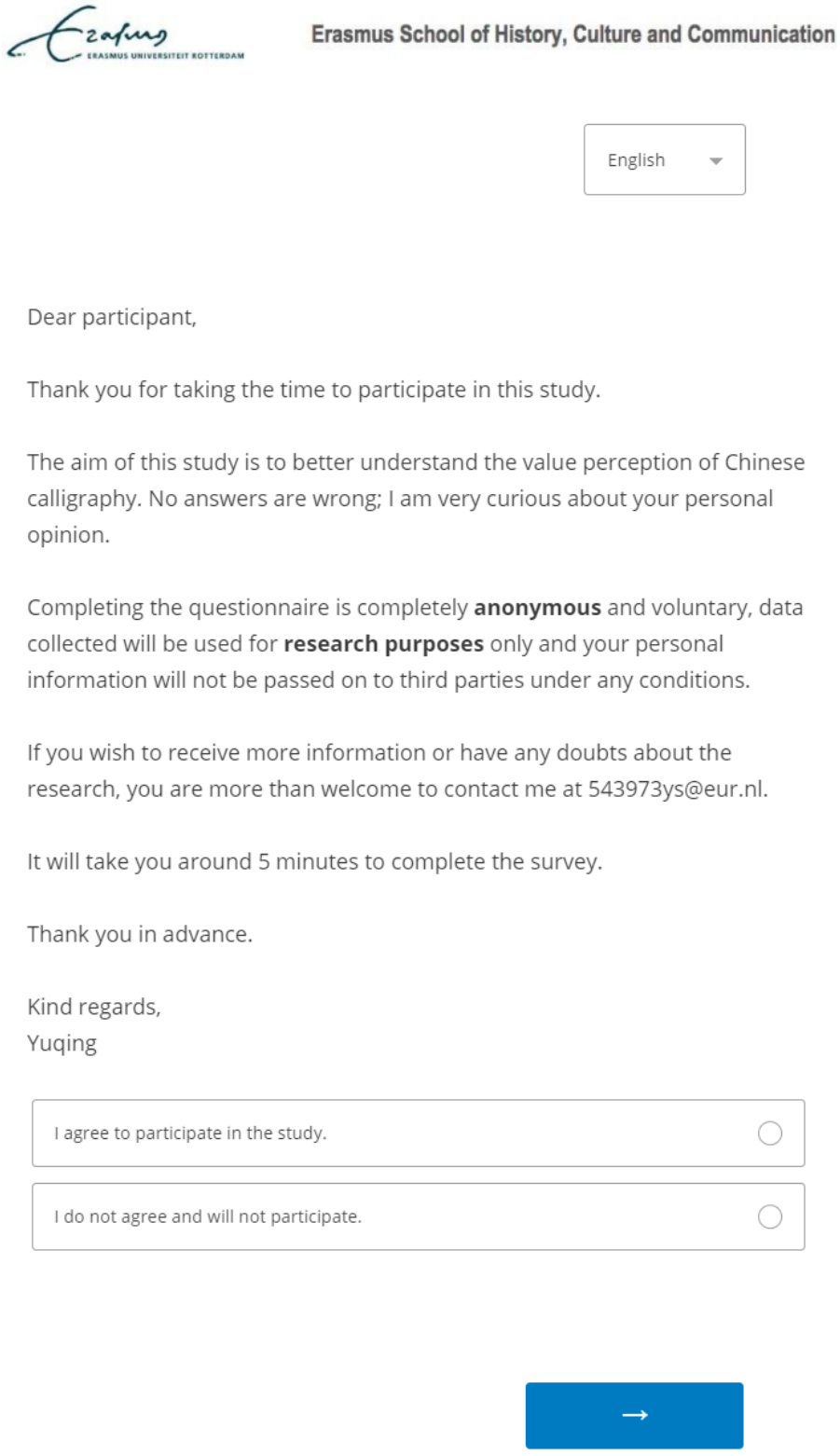
Zhi, J. (2019). *Yu Shufa Yishu zhi Mei Wu Shufa Jingshen zhi Dao* [Cultivation of the beauty of Chinese calligraphy, comprehension of the spirit of Chinese calligraphy]. *Jiangsu Education, 5,* 65-68.

Zong, Y. (2013). Research on the Price Fixing for the Transactions of the Painting and Calligraphy Markets of Peking and Tianjin Districts during the Republic of China. *Arts Exploration, 27*(4), 37-42.

Appendices

Appendix A

Cover Story of the Questionnaire



Debriefing of the Questionnaire

Erasmus School of History, Culture and Communication

English

Congratulations, you've made it to the end of the survey.

Thank you for your contribution.

This study aims to examine to what extent the literal content of Chinese calligraphy influences how the value of the artwork is perceived. You were randomly assigned to one of the eight experimental conditions below designed for this study.

- artwork 1 x basic information
- artwork 2 x basic information
- artwork 3 x basic information
- artwork 4 x basic information
- artwork 1 x basic information x additional content information
- artwork 2 x basic information x additional content information
- artwork 3 x basic information x additional content information
- artwork 4 x basic information x additional content information

It is guaranteed that the data collected will be used for this research only and will not be passed on to third parties.

You can contact me at 543973ys@eur.nl if you have any questions or wish to receive more information.

Cool!

Appendix B

Screenshot for Calligraphy 1

中国嘉德 CHINA GUARDIAN AUCTIONS

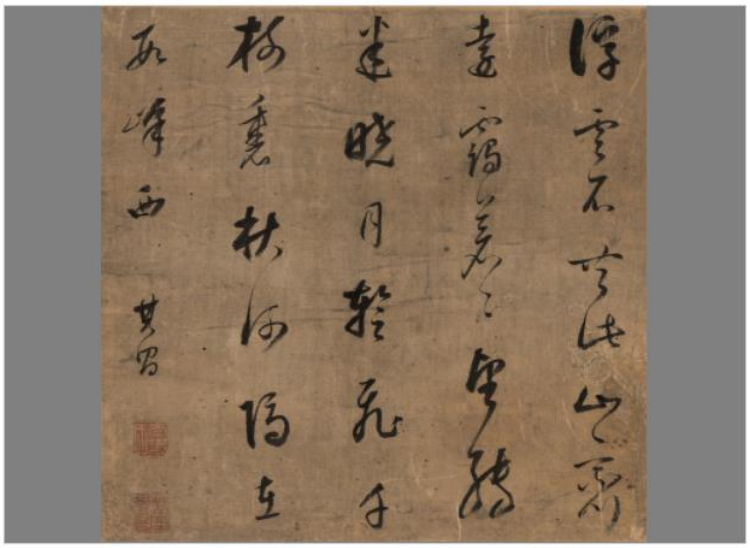
Lot | Please Enter Keyword | Search

HOME | AUCTIONS | ITEMS | SERVICES | NEWS | ABOUT US | LANGUAGES

Current Position: Home > Items

董其昌(款)(1555-1636) 行书
七言诗

LOT 1003



Chinese Painting and Calligraphy (II)(251-1099)

行书"千古流芳"
LOT 1004
RMB 3,000-6,000

行书
LOT 1005
RMB 3,000-6,000

隶书七言诗
LOT 1006
RMB 12,000-22,000

篆书
LOT 1007
RMB 12,000-22,000

Check All

Item Information

Add to My Favorites

LOT 1003

董其昌(款)(1555-1636) 行书七言诗

Price estimate:	RMB:5,000-8,000
Lot Sold:	RMB43,700
Auction:	46th China Guardian Quarterly Auctions
Session:	Chinese Painting and Calligraphy (II)
Auction Venue:	Convention Center, Beijing International Hotel (9, Jianguomennei St., Beijing)
Artist:	董其昌(款)(1555-1636)
Material:	绫本 镜心
size:	25×26 cm 约0.6平尺

Screenshot for [Calligraphy 2]

中国嘉德 CHINA GUARDIAN AUCTIONS

Lot | Please Enter Keyword | Search

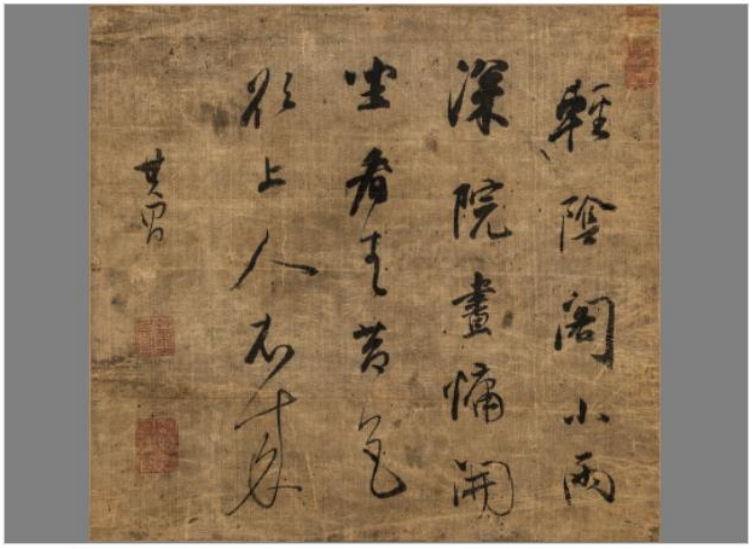
HOME | AUCTIONS | ITEMS | SERVICES | NEWS | ABOUT US | LANGUAGES

Current Position: Home > Items

Dong Qichang

Calligraphy

LOT 2236



Classical Chinese Paintings and Calligraphy (II)

Calligraph
LOT 2237
RMB 5,000-8,000

Calligraph
LOT 2238
RMB 1,000-3,000

Calligraph
LOT 2239
RMB 1,000-3,000

Calligraph
LOT 2240
RMB 3,000-6,000

Check All

Item Information

Add to My Favorites

LOT 2236

Dong Qichang Calligraphy

Price estimate:	RMB:3,000-6,000
Lot Sold:	RMB80,500
Auction:	51th China Guardian Quarterly Auctions
Session:	Classical Chinese Paintings and Calligraphy (II)
Auction Venue:	Guardian Art Center, No.1 Wangfujing Street, Dongcheng District, Beijing
Artist:	Dong Qichang
Birth and death date of author:	(1555-1636)
Material:	绫本
Form:	镜心
size:	25×26 cm 约0.6平尺
General questions:	其昌。

Screenshot for [Calligraphy 3]

中国嘉德 CHINA GUARDIAN AUCTIONS

Lot | Please Enter Keyword | Search

HOME | AUCTIONS | ITEMS | SERVICES | NEWS | ABOUT US | LANGUAGES

Current Position: Home > Items

Calligraphy

Calligraphy

LOT 2440

Classical Chinese Painting and Calligraphy（II）

Calligraph
LOT 2442
RMB 3,000-6,000

Calligraph
LOT 2443
RMB 3,000-6,000

Calligraph
LOT 2444
RMB 20,000-40,000

Calligraph
LOT 2445
RMB 40,000-60,000

Check All

Item Information

Add to My Favorites

LOT 2440

Calligraphy Calligraphy

Price estimate:	RMB:5,000-8,000
Lot Sold:	RMB112,700
Auction:	48th China Guardian Quarterly Auctions
Session:	Classical Chinese Painting and Calligraphy（II）
Auction Venue:	Convention Center, Beijing International Hotel (9, Jianguomennei St., Beijing)
Artist:	Calligraphy
Birth and death date of author:	(1555-1636)
Material:	绫本
Form:	镜心
size:	24×26cm
General questions:	其昌。

Screenshot for [Calligraphy 4]

中国嘉德 CHINA GUARDIAN AUCTIONS

Lot | Please Enter Keyword | Search

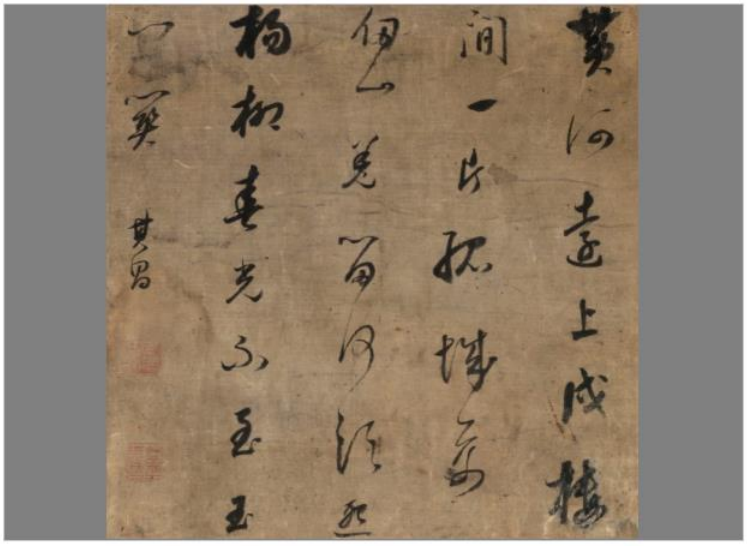
HOME | AUCTIONS | ITEMS | SERVICES | NEWS | ABOUT US | LANGUAGES

Current Position: Home > Items

Calligraphy

Calligraphy

LOT 1585



Classical Chinese Painting and Calligraphy(1141-

Calligraph
LOT 1586
RMB 3,000-6,000

Calligraph
LOT 1587
RMB 6,000-12,000

Calligraph
LOT 1588
RMB 4,000-8,000

Calligraph
LOT 1589
RMB 60,000-100,000

Check All

Item Information

Add to My Favorites

LOT 1585

Calligraphy Calligraphy

Price estimate:	RMB:8,000-15,000
Lot Sold:	RMB66,700
Auction:	47th China Guardian Quarterly Auctions
Session:	Classical Chinese Painting and Calligraphy
Auction Venue:	Convention Center, Beijing International Hotel (9, Jianguomennei St., Beijing)
Artist:	Calligraphy
Birth and death date of author:	(1555-1636)
Material:	绫本
Form:	镜心
size:	25×25cm
General questions:	其昌。

重要声明及勘误:X

Appendix C

Artwork Transcriptions and Their Origins (in Chinese)

#	Origin	Literal Translation	Literal Intrepretation
1	《宿石邑山中》 唐 韩翃	浮云不共此山齐， 远雨苍苍望转迷。 晓月暂飞高树里， 秋河隔在数峰西。	天上的浮云不能与此山平齐，山峦云雾苍苍远望反更迷离。拂晓弯月暂时飞隐到高树里，秋夜的银河远隔在数峰以西。
2	《书事》 唐 王维	轻阴阁小雨， 深院昼慵开。 坐看青苔色， 欲上人衣来。	细雨初停，天尚微阴。尽管在白昼，还是懒得开院门。坐下来静观苍苔，那可爱的绿色简直要染到人的衣服上来。
3	《春游曲》 唐 王涯	万树天边杏， 新开一夜风。 满园深浅色， 照映绿波中。	在栽有万棵杏树的江边园林，一夜春风催花开，整个园子里颜色深浅不同的杏花照在一江碧澄澄的春水之中。
4	《凉州词》 唐 王之涣	黄河远上戍楼间， 一片孤城万仞山。 羌笛何须怨杨柳， 春光不至玉门关。	辽阔的高原上，黄河奔腾而去，远远向西望去，好像流入瞭望楼中一般。在高山大河的环抱下，一座地处边塞的孤城巍然屹立。羌笛何须老是吹奏那哀怨的《折杨柳》曲调呢？要知道，玉门关外本来就是春风吹不到的地方，哪有杨柳可折！

Appendix D

Asking for Permission to Post

Chinese version

组长你好呀，我是书法组小组的一个成员，本身也是书法爱好者，练习书法十多年了。现在我正在做一项研究，研究内容是关于中国书法价值的看法的，因为我想要更好的了解大家是怎么看这一门艺术的。

不知道可不可以在讨论组里发一个帖子，征集一下大家的意见呢？是真心诚意的，后面的研究结果我也会公开透明的分享给大家。我相信如果是同样爱好书法的朋友的话，大家也会对这个话题感兴趣的。

这个是我的问卷，你可以先看一下~

https://erasmusuniversity.eu.qualtrics.com/jfe/form/SV_1Zlna02jtnYQf3g

先谢谢你啦！

English version

Hi☺, I am a master's student at Erasmus University Rotterdam majoring in Cultural Economics and Entrepreneurship, and for my thesis, I am currently doing research on the value perception of Chinese calligraphy. I have been in this group for quite a while now, knowing that people in the group are all avid Chinese art lovers and friendly people, therefore, I was wondering if it will be okay if I share my survey with the group and see what they have to say about the topic?

Here is the survey, you can take a look first (you can switch the language setting on the first page).
https://erasmusuniversity.eu.qualtrics.com/jfe/form/SV_1Zlna02jtnYQf3g

Thanks:)!

Post Message

Chinese Version

同好们可以帮忙给我对于中国书法价值的研究提供一点点帮助吗🙇?

中国书法的价值在于什么?

（已得到组长许可）这是我硕士毕业论文的研究课题，目的是为了更好的了解书法爱好者对于中国书法的价值判断👀。

花了好长时间设计的问卷，真的反复修改了上百遍呜呜😿，希望大家能够多给我提供一些数据🙏，后续我会把调研结果还有研究成果整理出来方便大家查阅的🙏!

只需要五分钟的时间，都是些认知判断的题，很好作答的🙂~

这个是问卷的链接：

https://erasmusuniversity.eu.qualtrics.com/jfe/form/SV_1ZIna02jtnYQf3q

如果大家有什么问题或者建议的话也可以在下面问我，我看到都会回答的🙋!

如果觉得这个话题很有趣，如果可以的话，也可以帮忙转发一下，发给同样爱好书法艺术的朋友们❤️~

先在这里谢谢大家了🥰🤎🤎

English Version

Hello everyone! I am a young researcher, Chinese art lover, and calligraphy practitioner who is now doing a study on the value perception of Chinese calligraphy and I am very curious about your points of view on this particular form of art👀.

If by any chance, you could lend me 5 minutes and participate in the survey (entirely voluntary and anonymous), I would be forever grateful and I am also willing to share the research findings with you in the near future🙏.

Here is the link to the survey if you decide to take a look (You can change the language setting with the button on the first page).
https://erasmusuniversity.eu.qualtrics.com/jfe/form/SV_1Zlna02jtnYOf3g

Thank you in advance🥰!

And please feel free to share with us if you feel inspired by this topic/the questionnaire😉!

Appendix E

List of Social Media

Social Media	#	(Group) Name	Number of Members	Refresh Date
Douban	1	书法	119.4k	07, 08, 09, 10, 11
	2	学书法	9.3k	08, 09, 11
	3	我练了一手好字	1.3k	07, 08
	4	每天沉迷练字	29.8k	11, 12
	5	练字	5.6k	11
Facebook	1	MEISHU (美术): Chinese Art (and then some...)	3.2k	13
	2	Collecting Chinese scrolls, drawings & paintings	3.6k	13
	3	Chinese Calligraphy	2.3k	13
	4	两岸三地中国书画学术交流群	2.6k	13
Social Apps	1	墨池书法	na	08, 09, 10
	2	书法碑帖大全	na	09, 10
	3	LOFTER	na	09, 10
	4	绿洲	na	09, 10, 11
	5	墨趣书法	na	09, 10
Forums	1	百度贴吧 书法吧	767k	09, 10
	2	书艺公社	na	10
Group Chats	1	书道讲谈社	85	na
	2	书法艺术交流群	408	na
	3	文渊阁	356	na
	4	2016诗韵书画社	52	na

Appendix F

Numbers of Respondents per Version

Vignette	Experimental Condition	Number of Respondents
A10	Calligraphy 1 x basic information	60
A20	Calligraphy 2 x basic information	56
A30	Calligraphy 3 x basic information	56
A40	Calligraphy 4 x basic information	54
A11	Calligraphy 1 x basic information x additional content information	59
A21	Calligraphy 1 x basic information x additional content information	58
A31	Calligraphy 1 x basic information x additional content information	51
A41	Calligraphy 1 x basic information x additional content information	57

Appendix G

Main Body of the Questionnaire (English Version)

Start of Block: General questions

1. How much do you know about Chinese calligraphy?
   - A lot
   - A moderate amount
   - A little
   - Nothing

2. Do you have a piece of Chinese calligraphy artwork at home / in your family?
   - Yes
   - I don't know
   - No

3. Have you ever bought any artwork before?
   - Yes
   - No

4. Have you been to an art auction before?
   - Yes
   - No

5. How much do you know about Chinese art market?
   - A lot
   - A moderate amount
   - A little
   - Nothing

6. How much do you know about art in general?
   - A lot
   - A moderate amount
   - A little
   - Nothing

7. Can you read Chinese?
   - Yes
   - Just a little
   - No

End of Block: General questions

Start of Block: perceived value

You will be shown a Chinese calligraphy artwork auctioned at the auction house China Guardian in the following.

Please feel free to take some time and look at it, then answer the following questions based on the impression it gives you.

You can always scroll back and check out the artwork again if you want.

(3-second time lag)
Questions below are all about this particular artwork, therefore, it is strongly recommended that you carefully examine its entirety and read the description beneath before you move on.

(Calligraphy artwork displayed)

[Item information]

[Transcription / no transcription]

1. Please indicate to what extent you agree / disagree with the following statements.	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
This artwork is beautiful (pleasant aesthetically).	○	○	○	○	○
This artwork is harmonious (agreeable as a whole).	○	○	○	○	○
I feel inspired (filled with the urge to do something creative) by this work of art.	○	○	○	○	○
This artwork is thought-provoking (stimulating careful consideration).	○	○	○	○	○
I think the way it was written reflects the spirit and philosophy of China.	○	○	○	○	○
This artwork gives me a sense of identity and belonging.	○	○	○	○	○
I would like to talk about this artwork with people.	○	○	○	○	○
This calligraphy work is a supplement to the deficiency of traditional historical records.	○	○	○	○	○
This calligraphy work is a symbol that distinguishes its nation from others.	○	○	○	○	○
This artwork features a high level of creativity.	○	○	○	○	○
I would prefer this original artwork to a printed copy.	○	○	○	○	○
I can tell the personality of the calligrapher from the artwork.	○	○	○	○	○
The artist's manner of writing is fascinating.	○	○	○	○	○
This calligraphy work was done skillfully.	○	○	○	○	○
There is a special rhythm (movement) to the writing.	○	○	○	○	○
This artwork makes me feel sad.	○	○	○	○	○
This artwork makes me feel lonesome.	○	○	○	○	○

This artwork makes me feel joyous.	○	○	○	○	○
This artwork makes me curious.	○	○	○	○	○
I would consider investing a large sum of money to buy this piece of art.	○	○	○	○	○

2. Please rate your understanding of its literal content on a scale of 0 - 10.
(Tip: you can scroll back to check the picture if you want.)

3. To what extent is the literal content of the artwork of interest to you on a scale of 0 - 10?

4. With regards to its literal content, I think this artwork is interesting.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree
- ○ Not applicable[66]: I cannot read.

5. Which[67] of the following price (RMB) range do you think this artwork was most likely to have been auctioned at in 2016?

- ○ 0 - 5,000
- ○ 5,000 - 8,000
- ○ 8,000 - 15,000
- ○ 15,000 - 25,000
- ○ 25,000+

6. Your decision on price was mostly based on? Multiple answers allowed.

- ☐ Artist name
- ☐ Artwork size
- ☐ Writing style
- ☐ Material
- ☐ Seals
- ☐ Artistic quality
- ☐ Literal content
- ☐ Price estimate
- ☐ Other, please indicate below: _____

7. This artwork was actually auctioned at 43,700 RMB[68]. What do you think about the price?

- ○ Extremely reasonable
- ○ Somewhat reasonable
- ○ I don't know

- Somewhat unreasonable
- Extremely unreasonable

8. How certain are you that your answers above have reflected your true perception from 0 to 10?

End of Block: perceived value

Start of Block: Socio-economic questions

1. What is your gender?
   - Male
   - Female
   - Prefer not to say

2. What is your age?
   - Under 18
   - 18 - 24
   - 25 - 34
   - 35 - 44
   - 45 - 54
   - 55 - 64
   - 65 - 74
   - 75 - 84
   - 85 or older

3. What is the highest level of education that you have completed?
   - Less than high school
   - High school or equivalent
   - Bachelor's degree
   - Master's degree
   - Doctoral degree

[66] In data processing, this category will be combined into 'neither agree nor disagree.'

[67] Options vary for different artworks, one version is displayed.

[68] Actual prices are adjusted for different artworks.

4. Which of the following best describes your job at the moment?

- ○ Professional (e.g. doctor, business person, teacher)
- ○ White collar (e.g. secretary, clerk, shop assistant)
- ○ Service person (e.g. police, army, navy, air force)
- ○ Blue collar (e.g. builder, cook, cleaner, security guard)
- ○ Student
- ○ Retired
- ○ Self-employed (e.g. freelancers)
- ○ Unemployed
- ○ None of the above, it's ... _____

5. What is your monthly disposable income on average? *Please indicate the currency you are using. (e.g. 1,111 USD)

6. What is / are your native language(s)? Multiple choices allowed.

- ☐ Chinese
- ☐ Spanish
- ☐ English
- ☐ Hindi
- ☐ French
- ☐ Other(s), _____

7. What is / are your nationality / nationalities? (e.g. Chinese)

8. What is your current country of residence? (e.g. France)

End of Block: Socio-economic questions

Appendix H

Frequency Tables for Likert Measurement Items

This artwork is beautiful (pleasant aesthetically).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	223	49.4	49.4	49.4
	somewhat agree	139	30.8	30.8	80.3
	neither agree or disagree	58	12.9	12.9	93.1
	somewhat disagree	27	6.0	6.0	99.1
	strongly disagree	4	.9	.9	100.0
	Total	451	100.0	100.0	

This artwork is harmonious (agreeable as a whole).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	200	44.3	44.3	44.3
	somewhat agree	155	34.4	34.4	78.7
	neither agree or disagree	67	14.9	14.9	93.6
	somewhat disagree	27	6.0	6.0	99.6
	strongly disagree	2	.4	.4	100.0
	Total	451	100.0	100.0	

I feel inspired (filled with the urge to do something creative) by this work of art.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	121	26.8	26.8	26.8
	somewhat agree	158	35.0	35.0	61.9
	neither agree or disagree	119	26.4	26.4	88.2
	somewhat disagree	44	9.8	9.8	98.0
	strongly disagree	9	2.0	2.0	100.0
	Total	451	100.0	100.0	

This artwork is thought-provoking (stimulating careful consideration).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	139	30.8	30.8	30.8
	somewhat agree	155	34.4	34.4	65.2
	neither agree or disagree	108	23.9	23.9	89.1
	somewhat disagree	39	8.6	8.6	97.8
	strongly disagree	10	2.2	2.2	100.0
	Total	451	100.0	100.0	

I think the way it was written reflects the spirit and philosophy of China.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	187	41.5	41.5	41.5
	somewhat agree	150	33.3	33.3	74.7
	neither agree or disagree	87	19.3	19.3	94.0
	somewhat disagree	22	4.9	4.9	98.9
	strongly disagree	5	1.1	1.1	100.0
	Total	451	100.0	100.0	

This artwork gives me a sense of identity and belonging.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	197	43.7	43.7	43.7
	somewhat agree	150	33.3	33.3	76.9
	neither agree or disagree	75	16.6	16.6	93.6
	somewhat disagree	24	5.3	5.3	98.9
	strongly disagree	5	1.1	1.1	100.0
	Total	451	100.0	100.0	

I would like to talk about this artwork with people.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	144	31.9	31.9	31.9
	somewhat agree	134	29.7	29.7	61.6
	neither agree or disagree	101	22.4	22.4	84.0
	somewhat disagree	65	14.4	14.4	98.4
	strongly disagree	7	1.6	1.6	100.0
	Total	451	100.0	100.0	

This calligraphy work is a supplement to the deficiency of traditional historical records.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	137	30.4	30.4	30.4
	somewhat agree	143	31.7	31.7	62.1
	neither agree or disagree	107	23.7	23.7	85.8
	somewhat disagree	57	12.6	12.6	98.4
	strongly disagree	7	1.6	1.6	100.0
	Total	451	100.0	100.0	

This calligraphy work is a symbol that distinguishes its nation from others.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	245	54.3	54.3	54.3
	somewhat agree	125	27.7	27.7	82.0
	neither agree or disagree	58	12.9	12.9	94.9
	somewhat disagree	18	4.0	4.0	98.9
	strongly disagree	5	1.1	1.1	100.0
	Total	451	100.0	100.0	

This artwork features a high level of creativity.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	155	34.4	34.4	34.4
	somewhat agree	144	31.9	31.9	66.3
	neither agree or disagree	109	24.2	24.2	90.5
	somewhat disagree	40	8.9	8.9	99.3
	strongly disagree	3	.7	.7	100.0
	Total	451	100.0	100.0	

I would prefer this original artwork to a printed copy.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	263	58.3	58.3	58.3
	somewhat agree	104	23.1	23.1	81.4
	neither agree or disagree	59	13.1	13.1	94.5
	somewhat disagree	18	4.0	4.0	98.4
	strongly disagree	7	1.6	1.6	100.0
	Total	451	100.0	100.0	

I can tell the personality of the calligrapher from the artwork.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	164	36.4	36.4	36.4
	somewhat agree	170	37.7	37.7	74.1
	neither agree or disagree	75	16.6	16.6	90.7
	somewhat disagree	37	8.2	8.2	98.9
	strongly disagree	5	1.1	1.1	100.0
	Total	451	100.0	100.0	

The artist's manner of writing is fascinating.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	186	41.2	41.2	41.2
	somewhat agree	154	34.1	34.1	75.4
	neither agree or disagree	86	19.1	19.1	94.5
	somewhat disagree	19	4.2	4.2	98.7
	strongly disagree	6	1.3	1.3	100.0
	Total	451	100.0	100.0	

This calligraphy work was done skillfully.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	206	45.7	45.7	45.7
	somewhat agree	152	33.7	33.7	79.4
	neither agree or disagree	66	14.6	14.6	94.0
	somewhat disagree	22	4.9	4.9	98.9
	strongly disagree	5	1.1	1.1	100.0
	Total	451	100.0	100.0	

There is a special rhythm (movement) to the writing.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	209	46.3	46.3	46.3
	somewhat agree	155	34.4	34.4	80.7
	neither agree or disagree	61	13.5	13.5	94.2
	somewhat disagree	22	4.9	4.9	99.1
	strongly disagree	4	.9	.9	100.0
	Total	451	100.0	100.0	

This artwork makes me feel sad.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	66	14.6	14.6	14.6
	somewhat agree	96	21.3	21.3	35.9
	neither agree or disagree	139	30.8	30.8	66.7
	somewhat disagree	121	26.8	26.8	93.6
	strongly disagree	29	6.4	6.4	100.0
	Total	451	100.0	100.0	

This artwork makes me feel lonesome.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	78	17.3	17.3	17.3
	somewhat agree	108	23.9	23.9	41.2
	neither agree or disagree	123	27.3	27.3	68.5
	somewhat disagree	125	27.7	27.7	96.2
	strongly disagree	17	3.8	3.8	100.0
	Total	451	100.0	100.0	

This artwork makes me feel joyous.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	130	28.8	28.8	28.8
	somewhat agree	113	25.1	25.1	53.9
	neither agree or disagree	149	33.0	33.0	86.9
	somewhat disagree	53	11.8	11.8	98.7
	strongly disagree	6	1.3	1.3	100.0
	Total	451	100.0	100.0	

This artwork makes me curious.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	158	35.0	35.0	35.0
	somewhat agree	162	35.9	35.9	71.0
	neither agree or disagree	81	18.0	18.0	88.9
	somewhat disagree	44	9.8	9.8	98.7
	strongly disagree	6	1.3	1.3	100.0
	Total	451	100.0	100.0	

I would consider investing a large sum of money to buy this piece of art.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	67	14.9	14.9	14.9
	somewhat agree	70	15.5	15.5	30.4
	neither agree or disagree	115	25.5	25.5	55.9
	somewhat disagree	143	31.7	31.7	87.6
	strongly disagree	56	12.4	12.4	100.0
	Total	451	100.0	100.0	

opinion on the auction price

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely reasonable	123	27.3	27.3	27.3
	somewhat reasonable	128	28.4	28.4	55.7
	I don't know	136	30.2	30.2	85.8
	somewhat unreasonable	57	12.6	12.6	98.4
	extremely reasonable	7	1.6	1.6	100.0
	Total	451	100.0	100.0	

Appendix I

Effects of Transcriptions on Overall Perceived Value

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
whether explanation is given	1	no additional explanation	226
	2	with additional explanation	225
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111

Descriptive Statistics

Dependent Variable: overallvalue

whether explanation is given	artwork_displayed	Mean	Std. Deviation	N
no additional explanation	artwork1	1.9796	.59654	60
	artwork2	2.2814	.67161	56
	artwork3	2.0891	.71422	56
	artwork4	2.0934	.73128	54
	Total	2.1087	.68283	226
with additional explanation	artwork1	2.1438	.76619	59
	artwork2	2.1912	.66458	58
	artwork3	2.2185	.73793	51
	artwork4	2.0211	.61062	57
	Total	2.1419	.69630	225
Total	artwork1	2.0610	.68795	119
	artwork2	2.2355	.66662	114
	artwork3	2.1508	.72508	107
	artwork4	2.0562	.66993	111
	Total	2.1252	.68902	451

Tests of Between-Subjects Effects

Dependent Variable: overallvalue

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4.101[a]	7	.586	1.239	.280	.019
Intercept	2036.063	1	2036.063	4304.671	.000	.907
addi_information	.121	1	.121	.255	.614	.001
artwork_displayed	2.486	3	.829	1.752	.156	.012
addi_information * artwork_displayed	1.499	3	.500	1.057	.367	.007
Error	209.534	443	.473			
Total	2250.643	451				
Corrected Total	213.635	450				

a. R Squared = .019 (Adjusted R Squared = .004)

Appendix J

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork is beautiful (pleasant aesthetically).

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.65	.820	60
	with addtional explanation	1.76	.916	59
	Total	1.71	.867	119
artwork2	no additional explanation	1.93	1.042	56
	with addtional explanation	1.97	1.075	58
	Total	1.95	1.055	114
artwork3	no additional explanation	1.54	.738	56
	with addtional explanation	1.84	1.065	51
	Total	1.68	.917	107
artwork4	no additional explanation	2.02	1.073	54
	with addtional explanation	1.56	.708	57
	Total	1.78	.928	111
Total	no additional explanation	1.78	.940	226
	with addtional explanation	1.78	.955	225
	Total	1.78	.947	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork is beautiful (pleasant aesthetically).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.605[a]	7	1.944	2.210	.032
Intercept	1430.710	1	1430.710	1626.543	.000
artwork_displayed	4.706	3	1.569	1.783	.150
addi_information	8.302E-9	1	8.302E-9	.000	1.000
artwork_displayed * addi_information	8.734	3	2.911	3.310	.020
Error	389.664	443	.880		
Total	1833.000	451			
Corrected Total	403.268	450			

a. R Squared = .034 (Adjusted R Squared = .018)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork is harmonious (agreeable as a whole).

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.72	.825	60
	with addtional explanation	1.80	1.030	59
	Total	1.76	.929	119
artwork2	no additional explanation	2.04	.953	56
	with addtional explanation	1.86	.926	58
	Total	1.95	.939	114
artwork3	no additional explanation	1.79	.868	56
	with addtional explanation	1.90	1.044	51
	Total	1.84	.953	107
artwork4	no additional explanation	1.81	.848	54
	with addtional explanation	1.81	.875	57
	Total	1.81	.858	111
Total	no additional explanation	1.84	.877	226
	with addtional explanation	1.84	.964	225
	Total	1.84	.920	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork is harmonious (agreeable as a whole).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.653[a]	7	.522	.612	.746
Intercept	1523.429	1	1523.429	1787.610	.000
artwork_displayed	2.273	3	.758	.889	.447
addi_information	.002	1	.002	.002	.966
artwork_displayed * addi_information	1.411	3	.470	.552	.647
Error	377.531	443	.852		
Total	1905.000	451			
Corrected Total	381.184	450			

a. R Squared = .010 (Adjusted R Squared = -.006)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: I feel inspired (filled with the urge to do something creative) by this work of art.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	2.00	.844	60
	with addtional explanation	2.34	1.044	59
	Total	2.17	.960	119
artwork2	no additional explanation	2.38	1.019	56
	with addtional explanation	2.29	1.026	58
	Total	2.33	1.019	114
artwork3	no additional explanation	2.36	1.242	56
	with addtional explanation	2.33	.909	51
	Total	2.35	1.091	107
artwork4	no additional explanation	2.17	1.005	54
	with addtional explanation	2.16	1.031	57
	Total	2.16	1.014	111
Total	no additional explanation	2.22	1.039	226
	with addtional explanation	2.28	1.003	225
	Total	2.25	1.021	451

Tests of Between-Subjects Effects

Dependent Variable: I feel inspired (filled with the urge to do something creative) by this work of art.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.055[a]	7	1.008	.967	.455
Intercept	2283.416	1	2283.416	2191.254	.000
artwork_displayed	3.398	3	1.133	1.087	.354
addi_information	.354	1	.354	.340	.560
artwork_displayed * addi_information	3.208	3	1.069	1.026	.381
Error	461.632	443	1.042		
Total	2753.000	451			
Corrected Total	468.687	450			

a. R Squared = .015 (Adjusted R Squared = -.001)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork is thought-provoking (stimulating careful consideration).

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.97	.882	60
	with addtional explanation	2.20	.961	59
	Total	2.08	.926	119
artwork2	no additional explanation	2.27	1.087	56
	with addtional explanation	2.03	.878	58
	Total	2.15	.989	114
artwork3	no additional explanation	2.30	1.249	56
	with addtional explanation	2.25	1.111	51
	Total	2.28	1.180	107
artwork4	no additional explanation	2.13	1.082	54
	with addtional explanation	2.23	1.000	57
	Total	2.18	1.037	111
Total	no additional explanation	2.16	1.081	226
	with addtional explanation	2.18	.984	225
	Total	2.17	1.033	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork is thought-provoking (stimulating careful consideration).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.795[a]	7	.828	.774	.610
Intercept	2125.694	1	2125.694	1986.424	.000
artwork_displayed	2.182	3	.727	.680	.565
addi_information	.020	1	.020	.019	.892
artwork_displayed * addi_information	3.521	3	1.174	1.097	.350
Error	474.059	443	1.070		
Total	2605.000	451			
Corrected Total	479.854	450			

a. R Squared = .012 (Adjusted R Squared = -.004)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: I think the way it was written reflects the spirit and philosophy of China.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.68	.833	60
	with addtional explanation	1.83	.931	59
	Total	1.76	.883	119
artwork2	no additional explanation	2.00	.894	56
	with addtional explanation	1.95	.981	58
	Total	1.97	.936	114
artwork3	no additional explanation	1.96	1.095	56
	with addtional explanation	2.00	.959	51
	Total	1.98	1.028	107
artwork4	no additional explanation	2.11	.984	54
	with addtional explanation	1.77	.866	57
	Total	1.94	.937	111
Total	no additional explanation	1.93	.961	226
	with addtional explanation	1.88	.933	225
	Total	1.91	.947	451

Tests of Between-Subjects Effects

Dependent Variable: I think the way it was written reflects the spirit and philosophy of China.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.842[a]	7	1.120	1.255	.271
Intercept	1647.752	1	1647.752	1845.975	.000
artwork_displayed	3.923	3	1.308	1.465	.223
addi_information	.304	1	.304	.341	.560
artwork_displayed * addi_information	3.672	3	1.224	1.371	.251
Error	395.430	443	.893		
Total	2047.000	451			
Corrected Total	403.273	450			

a. R Squared = .019 (Adjusted R Squared = .004)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork gives me a sense of identity and belonging.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.70	.889	60
	with addtional explanation	1.86	1.025	59
	Total	1.78	.958	119
artwork2	no additional explanation	2.05	.980	56
	with addtional explanation	1.93	.989	58
	Total	1.99	.982	114
artwork3	no additional explanation	1.82	.993	56
	with addtional explanation	1.98	1.010	51
	Total	1.90	.999	107
artwork4	no additional explanation	1.89	.883	54
	with addtional explanation	1.74	.813	57
	Total	1.81	.848	111
Total	no additional explanation	1.86	.940	226
	with addtional explanation	1.88	.960	225
	Total	1.87	.949	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork gives me a sense of identity and belonging.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.622[a]	7	.803	.890	.514
Intercept	1576.876	1	1576.876	1747.878	.000
artwork_displayed	3.086	3	1.029	1.140	.333
addi_information	.017	1	.017	.019	.892
artwork_displayed * addi_information	2.529	3	.843	.935	.424
Error	399.659	443	.902		
Total	1981.000	451			
Corrected Total	405.282	450			

a. R Squared = .014 (Adjusted R Squared = -.002)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: I would like to talk about this artwork with people.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	2.05	.999	60
	with addtional explanation	2.32	1.074	59
	Total	2.18	1.041	119
artwork2	no additional explanation	2.18	1.162	56
	with addtional explanation	2.36	1.087	58
	Total	2.27	1.123	114
artwork3	no additional explanation	2.29	1.171	56
	with addtional explanation	2.29	1.119	51
	Total	2.29	1.141	107
artwork4	no additional explanation	2.33	1.166	54
	with addtional explanation	2.11	1.030	57
	Total	2.22	1.099	111
Total	no additional explanation	2.21	1.122	226
	with addtional explanation	2.27	1.074	225
	Total	2.24	1.098	451

Tests of Between-Subjects Effects

Dependent Variable: I would like to talk about this artwork with people.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.410[a]	7	.773	.638	.725
Intercept	2260.409	1	2260.409	1865.679	.000
artwork_displayed	.765	3	.255	.210	.889
addi_information	.391	1	.391	.323	.570
artwork_displayed * addi_information	4.142	3	1.381	1.140	.333
Error	536.727	443	1.212		
Total	2804.000	451			
Corrected Total	542.137	450			

a. R Squared = .010 (Adjusted R Squared = -.006)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork features a high level of creativity.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.98	.911	60
	with addtional explanation	2.25	1.108	59
	Total	2.12	1.018	119
artwork2	no additional explanation	2.23	.972	56
	with addtional explanation	2.05	1.099	58
	Total	2.14	1.038	114
artwork3	no additional explanation	2.07	1.093	56
	with addtional explanation	2.06	.925	51
	Total	2.07	1.012	107
artwork4	no additional explanation	2.11	.984	54
	with addtional explanation	2.00	.866	57
	Total	2.05	.923	111
Total	no additional explanation	2.10	.989	226
	with addtional explanation	2.09	1.007	225
	Total	2.10	.997	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork features a high level of creativity.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.032[a]	7	.576	.576	.775
Intercept	1975.451	1	1975.451	1976.040	.000
artwork_displayed	.585	3	.195	.195	.900
addi_information	.008	1	.008	.008	.930
artwork_displayed * addi_information	3.455	3	1.152	1.152	.328
Error	442.868	443	1.000		
Total	2427.000	451			
Corrected Total	446.900	450			

a. R Squared = .009 (Adjusted R Squared = -.007)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: I would prefer this original artwork to a printed copy.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.53	.812	60
	with addtional explanation	1.71	.966	59
	Total	1.62	.892	119
artwork2	no additional explanation	1.77	1.027	56
	with addtional explanation	1.71	1.060	58
	Total	1.74	1.040	114
artwork3	no additional explanation	1.84	1.187	56
	with addtional explanation	1.65	.913	51
	Total	1.75	1.065	107
artwork4	no additional explanation	1.52	.746	54
	with addtional explanation	1.67	.852	57
	Total	1.59	.802	111
Total	no additional explanation	1.66	.963	226
	with addtional explanation	1.68	.946	225
	Total	1.67	.953	451

Tests of Between-Subjects Effects

Dependent Variable: I would prefer this original artwork to a printed copy.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.703[a]	7	.672	.736	.641
Intercept	1260.754	1	1260.754	1381.150	.000
artwork_displayed	2.017	3	.672	.737	.531
addi_information	.038	1	.038	.042	.838
artwork_displayed * addi_information	2.591	3	.864	.946	.418
Error	404.383	443	.913		
Total	1673.000	451			
Corrected Total	409.086	450			

a. R Squared = .011 (Adjusted R Squared = -.004)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: The artist's manner of writing is fascinating.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.73	.821	60
	with addtional explanation	1.95	.899	59
	Total	1.84	.863	119
artwork2	no additional explanation	2.14	.999	56
	with addtional explanation	1.86	.963	58
	Total	2.00	.987	114
artwork3	no additional explanation	1.79	.929	56
	with addtional explanation	2.02	1.068	51
	Total	1.90	.999	107
artwork4	no additional explanation	1.91	.937	54
	with addtional explanation	1.84	.902	57
	Total	1.87	.916	111
Total	no additional explanation	1.89	.929	226
	with addtional explanation	1.92	.953	225
	Total	1.90	.940	451

Tests of Between-Subjects Effects

Dependent Variable: The artist's manner of writing is fascinating.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.848[a]	7	.978	1.109	.356
Intercept	1633.319	1	1633.319	1851.203	.000
artwork_displayed	1.668	3	.556	.630	.596
addi_information	.075	1	.075	.086	.770
artwork_displayed * addi_information	5.138	3	1.713	1.941	.122
Error	390.859	443	.882		
Total	2030.000	451			
Corrected Total	397.707	450			

a. R Squared = .017 (Adjusted R Squared = .002)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This calligraphy work was done skillfully.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.73	.899	60
	with addtional explanation	1.97	.909	59
	Total	1.85	.908	119
artwork2	no additional explanation	1.84	.949	56
	with addtional explanation	1.83	.901	58
	Total	1.83	.921	114
artwork3	no additional explanation	1.79	.948	56
	with addtional explanation	1.92	1.129	51
	Total	1.85	1.035	107
artwork4	no additional explanation	1.80	.939	54
	with addtional explanation	1.70	.801	57
	Total	1.75	.868	111
Total	no additional explanation	1.79	.928	226
	with addtional explanation	1.85	.936	225
	Total	1.82	.931	451

Tests of Between-Subjects Effects

Dependent Variable: This calligraphy work was done skillfully.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.153[a]	7	.450	.515	.823
Intercept	1492.760	1	1492.760	1707.448	.000
artwork_displayed	.804	3	.268	.306	.821
addi_information	.484	1	.484	.554	.457
artwork_displayed * addi_information	1.844	3	.615	.703	.551
Error	387.299	443	.874		
Total	1885.000	451			
Corrected Total	390.452	450			

a. R Squared = .008 (Adjusted R Squared = -.008)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: There is a special rhythm (movement) to the writing.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.58	.829	60
	with addtional explanation	1.83	.913	59
	Total	1.71	.877	119
artwork2	no additional explanation	1.82	.936	56
	with addtional explanation	1.97	.991	58
	Total	1.89	.963	114
artwork3	no additional explanation	1.68	.855	56
	with addtional explanation	1.92	1.074	51
	Total	1.79	.969	107
artwork4	no additional explanation	1.81	.933	54
	with addtional explanation	1.77	.756	57
	Total	1.79	.843	111
Total	no additional explanation	1.72	.888	226
	with addtional explanation	1.87	.934	225
	Total	1.80	.913	451

Tests of Between-Subjects Effects

Dependent Variable: There is a special rhythm (movement) to the writing.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.115[a]	7	.874	1.048	.396
Intercept	1455.305	1	1455.305	1746.599	.000
artwork_displayed	2.029	3	.676	.812	.488
addi_information	2.459	1	2.459	2.951	.087
artwork_displayed * addi_information	1.544	3	.515	.618	.604
Error	369.118	443	.833		
Total	1830.000	451			
Corrected Total	375.233	450			

a. R Squared = .016 (Adjusted R Squared = .001)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork makes me feel sad.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	2.90	1.115	60
	with addtional explanation	2.86	1.166	59
	Total	2.88	1.136	119
artwork2	no additional explanation	2.93	1.042	56
	with addtional explanation	2.90	1.150	58
	Total	2.91	1.094	114
artwork3	no additional explanation	3.02	1.286	56
	with addtional explanation	3.02	1.241	51
	Total	3.02	1.259	107
artwork4	no additional explanation	2.61	1.089	54
	with addtional explanation	2.89	1.097	57
	Total	2.76	1.097	111
Total	no additional explanation	2.87	1.139	226
	with addtional explanation	2.92	1.156	225
	Total	2.89	1.147	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork makes me feel sad.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.103[a]	7	.872	.660	.706
Intercept	3762.106	1	3762.106	2846.123	.000
artwork_displayed	3.919	3	1.306	.988	.398
addi_information	.333	1	.333	.252	.616
artwork_displayed * addi_information	1.984	3	.661	.500	.682
Error	585.573	443	1.322		
Total	4362.000	451			
Corrected Total	591.676	450			

a. R Squared = .010 (Adjusted R Squared = -.005)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork makes me feel lonesome.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	2.62	1.236	60
	with addtional explanation	2.83	1.053	59
	Total	2.72	1.149	119
artwork2	no additional explanation	2.63	1.137	56
	with addtional explanation	2.60	1.107	58
	Total	2.61	1.117	114
artwork3	no additional explanation	2.98	1.152	56
	with addtional explanation	2.84	1.223	51
	Total	2.92	1.183	107
artwork4	no additional explanation	2.81	1.167	54
	with addtional explanation	2.84	1.082	57
	Total	2.83	1.119	111
Total	no additional explanation	2.76	1.177	226
	with addtional explanation	2.78	1.112	225
	Total	2.77	1.144	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork makes me feel lonesome.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.607[a]	7	1.087	.829	.564
Intercept	3451.654	1	3451.654	2632.052	.000
artwork_displayed	5.568	3	1.856	1.415	.238
addi_information	.046	1	.046	.035	.852
artwork_displayed * addi_information	1.841	3	.614	.468	.705
Error	580.947	443	1.311		
Total	4042.000	451			
Corrected Total	588.554	450			

a. R Squared = .013 (Adjusted R Squared = -.003)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork makes me feel joyous.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	2.13	.929	60
	with addtional explanation	2.34	1.092	59
	Total	2.24	1.014	119
artwork2	no additional explanation	2.46	1.044	56
	with addtional explanation	2.50	1.158	58
	Total	2.48	1.099	114
artwork3	no additional explanation	2.27	1.120	56
	with addtional explanation	2.35	.934	51
	Total	2.31	1.032	107
artwork4	no additional explanation	2.28	1.089	54
	with addtional explanation	2.21	1.048	57
	Total	2.24	1.064	111
Total	no additional explanation	2.28	1.045	226
	with addtional explanation	2.35	1.063	225
	Total	2.32	1.054	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork makes me feel joyous.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.140[a]	7	.877	.787	.598
Intercept	2418.019	1	2418.019	2170.501	.000
artwork_displayed	4.479	3	1.493	1.340	.261
addi_information	.472	1	.472	.424	.515
artwork_displayed * addi_information	1.108	3	.369	.332	.803
Error	493.518	443	1.114		
Total	2921.000	451			
Corrected Total	499.659	450			

a. R Squared = .012 (Adjusted R Squared = -.003)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This artwork makes me curious.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.87	.911	60
	with addtional explanation	2.20	1.013	59
	Total	2.03	.974	119
artwork2	no additional explanation	2.18	1.114	56
	with addtional explanation	2.05	1.016	58
	Total	2.11	1.062	114
artwork3	no additional explanation	1.93	.988	56
	with addtional explanation	2.04	1.038	51
	Total	1.98	1.009	107
artwork4	no additional explanation	2.17	1.060	54
	with addtional explanation	2.09	1.023	57
	Total	2.13	1.037	111
Total	no additional explanation	2.03	1.022	226
	with addtional explanation	2.10	1.017	225
	Total	2.06	1.019	451

Tests of Between-Subjects Effects

Dependent Variable: This artwork makes me curious.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.886[a]	7	.841	.808	.581
Intercept	1919.225	1	1919.225	1843.292	.000
artwork_displayed	1.525	3	.508	.488	.691
addi_information	.410	1	.410	.394	.531
artwork_displayed * addi_information	3.875	3	1.292	1.241	.294
Error	461.249	443	1.041		
Total	2389.000	451			
Corrected Total	467.135	450			

a. R Squared = .013 (Adjusted R Squared = -.003)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: This calligraphy work is a supplement to the deficiency of traditional historical records.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.95	.928	60
	with addtional explanation	2.25	1.092	59
	Total	2.10	1.020	119
artwork2	no additional explanation	2.45	1.111	56
	with addtional explanation	2.45	1.095	58
	Total	2.45	1.098	114
artwork3	no additional explanation	2.16	1.075	56
	with addtional explanation	2.49	1.189	51
	Total	2.32	1.138	107
artwork4	no additional explanation	2.20	1.016	54
	with addtional explanation	1.95	.915	57
	Total	2.07	.970	111
Total	no additional explanation	2.19	1.042	226
	with addtional explanation	2.28	1.088	225
	Total	2.23	1.065	451

Tests of Between-Subjects Effects

Dependent Variable: This calligraphy work is a supplement to the deficiency of traditional historical records.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	18.434[a]	7	2.633	2.371	.022
Intercept	2252.807	1	2252.807	2027.945	.000
artwork_displayed	10.934	3	3.645	3.281	.021
addi_information	1.011	1	1.011	.910	.341
artwork_displayed * addi_information	6.440	3	2.147	1.932	.124
Error	492.121	443	1.111		
Total	2759.000	451			
Corrected Total	510.554	450			

a. R Squared = .036 (Adjusted R Squared = .021)

Between-Subjects Factors

		Value Label	N
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111
whether explanation is given	1	no additional explanation	226
	2	with addtional explanation	225

Descriptive Statistics

Dependent Variable: I can tell the personality of the calligrapher from the artwork.

artwork_displayed	whether explanation is given	Mean	Std. Deviation	N
artwork1	no additional explanation	1.88	.804	60
	with addtional explanation	2.02	.938	59
	Total	1.95	.872	119
artwork2	no additional explanation	2.27	1.152	56
	with addtional explanation	2.14	1.067	58
	Total	2.20	1.107	114
artwork3	no additional explanation	1.88	1.010	56
	with addtional explanation	2.14	1.059	51
	Total	2.00	1.037	107
artwork4	no additional explanation	1.76	.775	54
	with addtional explanation	1.93	.942	57
	Total	1.85	.865	111
Total	no additional explanation	1.95	.960	226
	with addtional explanation	2.05	.999	225
	Total	2.00	.980	451

Tests of Between-Subjects Effects

Dependent Variable: I can tell the personality of the calligrapher from the artwork.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.201[a]	7	1.600	1.685	.111
Intercept	1801.421	1	1801.421	1896.462	.000
artwork_displayed	7.671	3	2.557	2.692	.046
addi_information	1.340	1	1.340	1.410	.236
artwork_displayed * addi_information	2.376	3	.792	.834	.476
Error	420.799	443	.950		
Total	2236.000	451			
Corrected Total	432.000	450			

a. R Squared = .026 (Adjusted R Squared = .011)

Between-Subjects Factors

		Value Label	N
whether explanation is given	1	no additional explanation	226
	2	with additional explanation	225
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111

Descriptive Statistics

Dependent Variable: This calligraphy work is a symbol that distinguishes its nation from others.

whether explanation is given	artwork_displayed	Mean	Std. Deviation	N
no additional explanation	artwork1	1.63	.882	60
	artwork2	1.93	.970	56
	artwork3	1.63	.885	56
	artwork4	1.74	.894	54
	Total	1.73	.911	226
with additional explanation	artwork1	1.59	.931	59
	artwork2	1.71	.991	58
	artwork3	1.75	.913	51
	artwork4	1.63	.879	57
	Total	1.67	.926	225
Total	artwork1	1.61	.903	119
	artwork2	1.82	.983	114
	artwork3	1.68	.897	107
	artwork4	1.68	.884	111
	Total	1.70	.918	451

Tests of Between-Subjects Effects

Dependent Variable: This calligraphy work is a symbol that distinguishes its nation from others.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.642[a]	7	.663	.785	.600
Intercept	1301.171	1	1301.171	1539.798	.000
addi_information	.442	1	.442	.524	.470
artwork_displayed	2.520	3	.840	.994	.395
addi_information * artwork_displayed	1.686	3	.562	.665	.574
Error	374.347	443	.845		
Total	1680.000	451			
Corrected Total	378.989	450			

a. R Squared = .012 (Adjusted R Squared = -.003)

Between-Subjects Factors

		Value Label	N
whether explanation is given	1	no additional explanation	226
	2	with additional explanation	225
artwork_displayed	1	artwork1	119
	2	artwork2	114
	3	artwork3	107
	4	artwork4	111

Descriptive Statistics

Dependent Variable: I would consider investing a large sum of money to buy this piece of art.

whether explanation is given	artwork_displayed	Mean	Std. Deviation	N
no additional explanation	artwork1	3.07	1.163	60
	artwork2	3.38	1.199	56
	artwork3	3.05	1.354	56
	artwork4	2.94	1.265	54
	Total	3.11	1.248	226
with additional explanation	artwork1	3.12	1.247	59
	artwork2	3.19	1.206	58
	artwork3	3.24	1.394	51
	artwork4	2.93	1.163	57
	Total	3.12	1.248	225
Total	artwork1	3.09	1.200	119
	artwork2	3.28	1.201	114
	artwork3	3.14	1.370	107
	artwork4	2.94	1.208	111
	Total	3.11	1.247	451

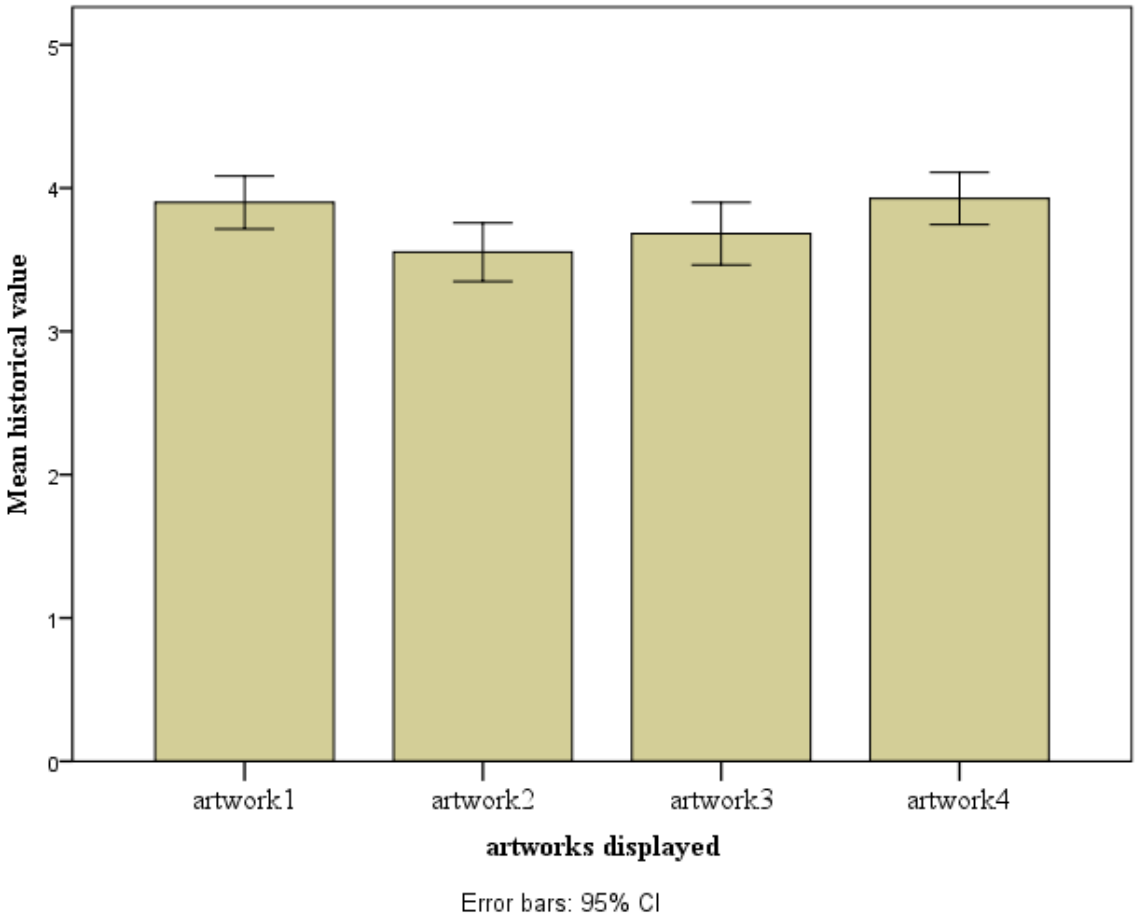
Tests of Between-Subjects Effects

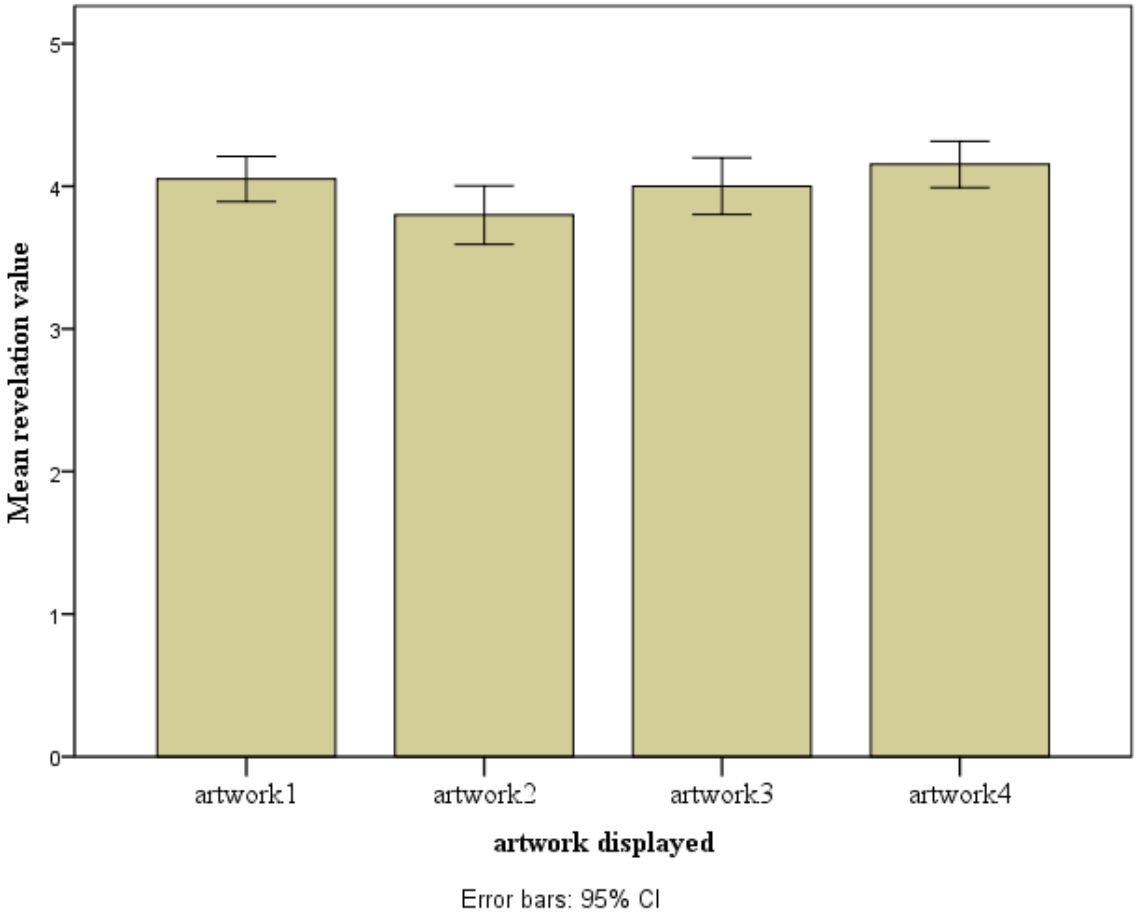
Dependent Variable: I would consider investing a large sum of money to buy this piece of art.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.723[a]	7	1.246	.799	.588
Intercept	4363.436	1	4363.436	2799.383	.000
addi_information	.008	1	.008	.005	.943
artwork_displayed	6.852	3	2.284	1.465	.223
addi_information * artwork_displayed	1.942	3	.647	.415	.742
Error	690.510	443	1.559		
Total	5070.000	451			
Corrected Total	699.233	450			

a. R Squared = .012 (Adjusted R Squared = -.003)

Appendix K


Mean historical value
5
4
3
2
1
0
artwork1
artwork2
artwork3
artwork4
artworks displayed
Error bars: 95% CI


Mean revelation value
5
4
3
2
1
0
artwork1
artwork2
artwork3
artwork4
artwork displayed
Error bars: 95% CI