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UNIVERSITAT RAMON LLULL | Facultat de Psicologia, Ciències de l'Educació i de l'Esport

DOCTORAL DISSERTATION

The effect of contemporary art perception:

Study of younger and older adults' art appreciation in museum experiences

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TESI DOCTORAL

Títol	The effect of contemporary art perception: Study of younger and older adults' art appreciation in museum experiences
Realitzada per	Andrea Granell Querol
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Art is an outlet toward regions
which are not ruled by time and space.

El arte es una salida hacia regiones
donde no dominan ni el tiempo ni el espacio.

L'art és una sortida cap a regions on
no dominen ni el temps ni l'espai.

Marcel Duchamp, 1956

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Dissertation Information

First, during her training period the researcher was a Visiting Scholar at *Arts and Mind Lab* in the Psychology Department at Boston College. The researcher was also a PhD Student Associate at Real Colegio Complutense at Harvard University. Please find attached both certificates at the very end of the document in appendices 9.5.1. and 9.5.2. The three studies for the doctoral dissertation were conducted at Museum of Fine Arts, Boston with the supervision of Lynn Courtney, Head of Planning and Evaluation. The researcher also collaborated with Harvard Institute for Learning and Retirement at Harvard University with the supervision of Lydia Sheehan, Office Manager. Both support letters are included in appendices 9.1.1 and 9.1.2.

Second, two reports from international experts on the field had been provided.

Third, the Doctoral Thesis Tribunal brings together experts from respective Visitor Studies and Evaluation, Psychology of Art and Philosophy field of study: Dr. Christina Smiraglia, Senior Research Manager at Project Zero, Harvard Graduate School of Education and Instructor of Museum Studies Program at Harvard University Extension School, Dra. Gisèle Marty, Professor of Psychology of Art, Instructor of Psychology and member of EvoCog, Human Evolution and Cognition research group at Universitat de les Illes Balears, and Dr. Tresserras, Professor of History of Contemporary Thinking and Arts and Politics, from Facultat de Comunicació i Relacions Internacionals, Blanquerna, Universitat Ramon Llull.

Finally, the dissertation is written in English. Herewith find attached the dissertation abstract in English, Spanish and Catalan.

Abstract

TITLE: The effect of contemporary art perception: Study of younger and older adults' art appreciation in museum experiences.

ABSTRACT: Psychology of Art studies aesthetic experiences and individuals' preferences while looking at art. The aim of this research is to analyze contemporary art appreciation in younger and older adults at the Museum of Fine Arts, Boston. Quantitative and qualitative analyses were conducted. Study 1 showed that younger more than older adults found that labels and conversations contributed to liking contemporary art, more in a museum setting rather than in a lab setting. Study 2 showed that the museum context contributed to appreciating the art. Also, group discussion of younger adults confirmed labels and conversations in the museum to be a starting point to understand and appreciate art; for older adults, these were not so helpful. Study 3 showed that not only were there differences between a contemporary and a traditional art gallery -participants understanding of contemporary art was greater in the contemporary art gallery-, but also between age groups -younger adults stated that they liked contemporary art more and older adults enjoyed their museum experience more. We conclude that not only age differences, but also differences related to education and museum visitation frequency contributed to art appreciation. This research is important to demonstrate how people appreciate contemporary art and how they understand it. Therefore, these findings have relevant implications for the design of museum programs about contemporary art to engage different groups of visitors.

KEYWORDS: Psychology of Art, Art Appreciation, Contemporary Art, Younger Adults, Older Adults, Museum Setting.

Resumen

TÍTULO: El efecto de la percepción del arte contemporáneo: Estudio de la apreciación del arte de jóvenes y gente mayor en la experiencia de visitar museos.

RESUMEN: La Psicología del Arte estudia las experiencias estéticas y las preferencias de los individuos mientras miran el arte. El objetivo de esta investigación es analizar la apreciación del arte contemporáneo de jóvenes y gente mayor en el MFA de Boston. Se llevaron a cabo análisis cuantitativos y cualitativos. El estudio 1 mostró que los jóvenes, más que la gente mayor, encontraron que las cartelas y conversaciones contribuyeron a apreciar el arte contemporáneo, y más en el contexto del museo que en el del laboratorio. El estudio 2 mostró que el contexto del museo contribuyó a la apreciación del arte. También, las discusiones en el grupo de jóvenes confirmaron que las cartelas y las conversaciones forman un punto de partida para entender y apreciar el arte, para la gente mayor no eran tan útiles. El estudio 3 mostró que no sólo existían diferencias entre la sala de arte contemporáneo y tradicional -la comprensión del arte contemporáneo fue mayor en la sala de arte contemporáneo-, sino también entre los grupos de edad -los jóvenes declararon que les gustaba más el arte contemporáneo y la gente mayor disfrutó más de la experiencia en el museo-. Llegamos a la conclusión de que no sólo las diferencias de edad, sino también las diferencias relacionadas con la educación y la frecuentación de visitas contribuyeron a la apreciación del arte. Esta investigación es importante para demostrar cómo la gente aprecia y entiende el arte contemporáneo. Por lo tanto, estos resultados tienen implicaciones relevantes para diseñar programas en los museos que involucren diferentes grupos.

PALABRAS CLAVE: Psicología del Arte, Apreciación del Arte, Arte Contemporáneo, Jóvenes, Gente Mayor, Contexto del Museo.

Resum

TÍTOL: L'efecte de la percepció de l'art contemporani: Estudi de l'apreciació de l'art de joves i gent gran en l'experiència de visitar museus.

RESUM: La Psicologia de l'Art estudia les experiències estètiques i les preferències dels individus mentre miren l'art. L'objectiu d'aquesta investigació és analitzar l'apreciació de l'art contemporani en joves i gent gran al MFA de Boston. Es van dur a terme anàlisis quantitatives i qualitatives. L'estudi 1 va mostrar que els joves, més que la gent gran, van trobar que les cartel·les i les converses van contribuir a apreciar l'art contemporani, i més en el context del museu que en el del laboratori. L'estudi 2 va mostrar que el context del museu va contribuir a apreciar l'art, també, en els grups de discussió els joves comentaven que les cartel·les i les converses eren un punt de partida per entendre i apreciar l'art, per la gent gran no van ser tan útils. L'estudi 3 va mostrar que no només hi havia diferències entre la sala d'art contemporani i tradicional -la comprensió de l'art contemporani va ser major en la galeria d'art contemporani-, sinó també entre els grups d'edat -els joves van declarar que els agradava més l'art contemporani i la gent gran van gaudir més de l'experiència de visitar el museu-. Vam arribar a la conclusió que no només les diferències d'edat, sinó també les diferències relacionades amb l'educació i la freqüentació de les visites als museus contribueixen a l'apreciació de l'art. Aquesta investigació és important per demostrar com la gent aprecia i entén l'art contemporani. Per tant, aquests resultats tenen implicacions rellevants per dissenyar programes d'activitats en els museus que involucrin diferents grups de visitants.

PARAULES CLAUS: Psicologia de l'Art, Apreciació de l'Art, Art Contemporani, Joves, Gent Gran, Context del Museu.

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Acronyms

BC = Boston College

FPCEE = Facultat de Psicologia, Ciències de l'Educació i de l'Esport, Blanquerna

HILR = Harvard Institute for Learning in Retirement, Harvard University

IRB = Institutional Review Board

Met= The Metropolitan Museum of Art, New York

MFA = Museum of Fine Arts, Boston

OAC= Older Adults Computer

OACA= Older Adults Contemporary Art

OAM = Older Adults Museum

OATA= Older Adults Traditional Art

PA = Psychology of Art

URL = Universitat Ramon Llull

VTS = Visual Thinking Strategies

YAC= Younger Adults Computer

YACA= Younger Adults Contemporary Art

YAM = Younger Adults Museum

YATA= Younger Adults Traditional Art

1. Introduction

1.1. Justification

One evening in Boston, the researcher had the opportunity to attend Howard Gardner's Conference "Education for Understanding within and across the Disciplines" at the Harvard Graduate School of Education. It was an honor and a pleasure to be sitting and listening to the author the researcher had been reading, studying and commenting on during her Psychology Studies. In that conference, Gardner emphasized the importance of education being interdisciplinary. The researcher's combination of Psychology Studies and a Master in Cultural Production and Communication oriented her to the interdisciplinary study of **Psychology of Art** (PA). The researcher has always been very interested in knowing how the mind works and also very curious about what has been created for the pleasure of other humans to be observed, felt and admired. PA it is not a widely known discipline, and there is a lot of new knowledge the researcher could learn and contribute to.

After observing visitors in museums while they looked at art, the researcher asked herself what was happening in visitors' minds. For that reason, we chose to study the concrete experience of **looking at art**. More concretely, we wanted to know why we like the art we like. That is why we wanted to analyze visitors' **art appreciation**. Furthermore, we wondered whether individuals needed to be **art experts** to understand what they are looking at in an art museum.

This research could have been done in other artistic activities, such as after a dance show or a concert, but we focused our interest on the visual arts. Specifically, we chose **contemporary art** because it is unfamiliar to most people; it is not always 'pretty', and it is often very difficult to understand what the artist is trying to express and even to understand why these works qualify as 'art'. We also compared a **contemporary art gallery with a**

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more traditional art gallery because we wanted to explore if there were differences between visitors visiting these two types of galleries and their contemporary art appreciation.

We chose to compare **younger and older adults** to observe if there were differences in terms of age and art appreciation. Museums are trying to engage younger adults to enter these cultural institutions. Therefore, more museum studies have been conducted in relation to this age group. However, research including older adults as subjects is unusual despite the prevalence of older adults among many art museum audiences.

Next, we wanted to observe how different contexts influenced participants' art appreciation. For that reason, we chose to compare participants **in a lab and in a museum setting**. People looking at art are daily in ordinary museum settings. However, in the field of PA, a lot of research has been done in university labs. We wanted to explore the lab and the real museum setting and make our results comparable to existing studies.

We asked participants to look at works of contemporary art **with and without labels** and **with and without conversations,** having the opportunity to discuss their reactions with others. This method allowed us to determine the perceived value of a rich context (labels and discussion) compared to a bare context (no labels and solitary viewing). This conformed a very experimental study under conditions that participants followed.

Finally, we chose to study the variables '**understanding**', '**liking**', and '**enjoyment**' because we wanted to explore how visitors make meaning of their museum experiences while looking and trying to understand artworks. Also, we wanted to know the level of art appreciation or confusion visitors have and in what way they found the museum experience a different life experience that could be enjoyed.

1.2. Dissertation Organization

The dissertation is organized as follows.

First, we introduce our research with a theoretical background about PA history from the early theories until what we understand in PA today. Also, we will study the elements of the aesthetic experience and the phenomena of art appreciation. Then, we explain the research objectives and hypothesis.

Second, we discuss research ethics and explain all the procedures we had to follow as principal researchers to be able to do the studies that were performed.

Third, the research body is composed of the three studies that were conducted at the MFA; first, we compared younger and older adults' responses to contemporary art viewed in a lab and in a museum setting, second, we analyzed younger and older adult focus groups after the museum experience, and third, we compared the experience of looking at art in a contemporary art gallery with a more accessible art, in a more traditional art gallery. Each study is divided into the following sections; introduction, methods, results, discussion and conclusion. After the third study, a general discussion of the thesis work compiles the main accomplishments and contributions of this research and invites museums to do more research in this field of study.

Finally, references and appendices are listed. Additionally, appendices with participants' questionnaires and transcripts of conversations and focus groups are included in a CD attached to this dissertation.

2. Theoretical Background

A. General Fundamentals

2.1. The Psychology of Art

New people I met recently asked me about what I was studying for my PhD. After two minutes of description the most common people's response was a positive one, but generally, they looked at me with a face of 'what is all this about?' The answer is not easy. My very firsts questions were, why do we like art? Why do we like a specific kind of art and not another one? What happens in our mind while looking at art? Do we need to have art-knowledge to understand art? Why do we feel different after a cultural activity (museum, concert, film, dance)? And, after a cultural event, what do we take with us in terms of learning, growth and feelings?

After a visit to a museum, going to a concert or a dance performance, our emotions arise and we feel different. These emotions are known as 'aesthetic emotions' and are a kind of emotions that appear in our daily life. For instance when we see the sunset or a beautiful image, and those emotions are not being studied in formal education (Bisquerra, 2003, 2009; Damasio 1994). Aesthetic experiences are part of the human nature. Therefore, where there are human beings we can find artistic expressions. The first handbook on this topic shows the following definition of Psychology of Art (PA):

> *The psychology of aesthetics and the arts is the study of our interactions with artworks; our reactions to paintings, literature, poetry, music, movies and performances; our experiences of beauty and ugliness; our preferences and dislikes; and our everyday perceptions of things in our world – of natural and built environments, design objects, consumer products and, of course, people.* (Tinio & Smith, 2014, p.3)

Aesthetics were the main subject for a long time among philosophers and is still a debate. In the remaining section a fundamental background with the main theories developed in PA will be presented.

2.1.1. Early Theories of Psychology of Art

According to Munro (1963), **Aristotle** described appreciation in an empirical sense maintaining that different types of art arouse different types of pleasures. He reasoned about how an act that could be painful in real life (e.g. tragedy) could be translated in a satisfactory emotion in art. **Plato** responded to artistic creation from a religious and mystical point of view emphasizing the supernatural and pure 'beauty'. He argued about 'inspiration' phenomena and on how, for example, musical training in younger adults would affect their character.

In the XVII century philosophy moved to the naturalistic approach with **Bacon**, **Hobbes** and **Locke** that had little interest in art because it was associated with irrational emotion. In the XVIII century **Hume** developed an approach based in association between objects and ideas with emotions like pleasure or pain. This fact introduced the concept of 'taste' in art. The 'good taste' was the one of the 'sensitive and experienced connoisseur'. A controversial topic emerged, as if the process of creation and appreciation of art were rational or otherwise based on the senses and emotion. These themes recurred in the romantic period where they refused any rational element in the artist creation.

Kant based his theory on how men 'should' judge art and maintained an 'a priori standard of taste'. **Hegel** went back into the philosophy and continued speculating about the empirical properties of the discipline. With the naturalistic **Comte** in France the PA experienced a period of inaction.

In the XIX century the early theories of PA were still important for the understanding of aesthetics. **Darwin** and his **theory of evolution** included the arts as a key factor for progressive evolution and culture. From the prehistoric art, the development of art grew together with the physical development of human beings. Later on, from a **naturalistic approach**, art was included in the mental processes of human beings and physiological psychologists like **Wundt** in Germany got interested in those processes. Also, **Lange** theory of emotions, emphasizing the physical trends, was crucial for this naturalistic part of PA. In the same period, **Marx** and **Engels** created a **socio-economic interpretation of art** where the social revolutionary conditions influenced the arts and the attitudes towards artists and art styles. **Taine**, a French critic, who was very interested in the role of the **psychological environment** where the art is created, analyzed the social factors. This author described three factors that were influencing styles and tastes of art taking into account the nation and period: the environment, hereditary race, and moment – the temporary changing characteristics of a group in a certain time. This fact allowed Taine to be a pioneer in Social Psychology. **Nietzsche** was an artist himself and was very interested in the creative process. He studied Greek Art tendencies and distinguished different types of arts and artists' personalities, based on the different attitudes between culture and epochs. Finally, the **theory of empathy** studied aesthetic responses in terms of how the viewer tends to project himself into the piece. This fact helped researchers explore the process of art appreciation.

Definitely, the pioneer in PA was **Fechner** (1871) who investigated aesthetic behaviors through the experimental study of perception. Fechner was a psychophysicist; he was interested in the relation between physical properties of an artwork (as stimulus) and the consequences (sensations). Also, he explored the neural activity in relation to perceptual

processes anticipating the objectives of current neuroscience. **Fechner's psychophysical theory** described three methods of investigation: *method of choice* where subjects had to chose different alternative stimulus considering them agreeable or disagreeable, *method of production* where subjects were asked to produce an object with agreeable and disagreeable characteristics, and *method of use* where subjects were examining pre-existing objects with a research hypothesis. After testing these aesthetic experiences and preferences to simple forms, shapes and rectangles in lab experiments Fechner was the founder of *experimental aesthetics*. For that reason, the discipline was first named *Experimental Psychology of Art.*

Fechner (1876) distinguished what he named the 'aesthetic from above' -based on knowledge related trends- from the 'aesthetic from below'-based on sensory trends-, intellectual vs. direct pleasure of art. In this regard, he studied the topic that still remains today in empirical aesthetics studies: to explain why we like certain art and why we dislike other kind of art.

2.1.2. Twentieth-Century Approaches of Psychology of Art

In the XX century PA was present in different psychological branches.

Psychoanalysis. Freud was very interested in art, as demonstrated by the numerous photographs showing his room with plenty of collected statues and antiquities. He gave importance to the symbolism of all kinds of art (literature, poetry, visual art) and related them with dreams and the unconscious (Álvarez, 1974; Freud, 1970). Freud focused on the intention of the artist. He thought that by discovering why the artist wanted to create a concrete artwork individuals would be able to interpret their artworks. For that reason, in two publications Freud analyzed visual arts (D'Alleva, 2012): 1. *Leonardo da Vinci and a Memory of His Childhood* (Freud, 1910), in which Freud analyzed the artist's early childhood memories when he lived with an unmarried mother and applied the

psychoanalytical model to the artist life. For instance, he stated that Mona Lisa's smile represented at the same time the mother and the father smile being simultaneously tender and threatening, and 2. *The Moses of Michelangelo* (Freud, 1914), in which Freud examined the statues' gestures and details from a psychoanalytical point of view. In that case, he revealed the inhibited anger of the artist. Instead, Lacan (1992) looked over the pathobiographical information of the artist and asserted that social dimension also count:

> *No correct evaluation of sublimination in art is possible if we overlook the fact that all artistic production, including especially that of the fine arts, is historically situated. You don't paint in Picasso's time as you painted in Velázquez's.* (Lacan in D'Alleva, 2012, p.98)

Gestalt Psychology. In this approach psychologists confirmed that perception of the world is complex and used the grouping factor to understand it. Arnheim (1966) was a psychologist and art theorist. He reported the aesthetic experience should include the physical as well as the mental aspect, and used the grouping factor to make meaning of the artworks. Arnheim studied visual perception as an active exploration process:

> *Rather, in looking at an object, we reach out for it. With an invisible finger we move through the space around us, go out to the distant places where things are found, touch them, scan their surfaces, trace their borders, and explore their texture. It is an eminently active occupation.* (Arnheim, 1969, p.33)

This artwork exploration allowed him to understand the selection process of looking at art. **Arnheim's Gestalt theory** demonstrated that: first, perception goes from general to particular features; second, effects of structure and expression arouse in aesthetic experiences; and third, language of Gestalt psychologists and artists could be overlapped.

Psychobiology. From a psychobiological point of view, Berlyne (1971) studied how artworks promoted feelings like pleasure in human beings. He explained that an artwork as stimulus could have two impacts on the nervous system of the beholder: the information processed in the nervous system and the potential properties -psychophysical (color), collative (complexity), and ecological (meaning). Through the brain circuitry ARAS (Ascending Reticular Activation System) he wanted to predict if there was relation between arousal and beholder preferences. The collative property is the one that related with beauty judgment (Osborne & Farley, 1970). **Berlyne's psychobiological theory** contributed to research techniques for quantifying artworks' effects and was a model that unified the study of independent properties.

Cultural Psychology. From an anthropological point of view, experiences towards art changed from one culture to another. Also, art varied from one period to another within the same culture. It is relevant that PA recognizes this fact. Art is influenced by the culture where it is produced. Thus, it is also important to study and compare the different cultures and individuals' social behaviors (Eisner, 1989; Hewstone et al., 1990). **Vygotsky** (1971) from a socio-cultural perspective considered art being a 'social technique of the senses', a tool in society that allowed individuals to enjoy artwork alone but at the same time within society. He confirmed that art was the means to establish equilibrium between human beings and critical moments with tremendous responsibilities of their lives. Vygotsky took into consideration artworks' emotion generation and referred to a 'catharsis' moment when creators' and spectators' emotions converged. In his dissertation titled 'Psychology of Art' (presented in 1925 but published in 1971) Vygotsky analyzed different pieces, *Krilov's fables*, *Gentle Breath* by Bunin, and *Hamlet* by Shakespeare empathizing drama and cultural conditions for individuals' personality development.

Cognitive Psychology. In 1980 the cognitive approach was introduced into empirical aesthetics. Martindale (2007) developed the prototype theory of preference and, consequently created a general neural network. In the prototype studies Martindale found that prototypicality could determine individuals' preferences. Martindale designed a neural network compound by six components: nodes, states of activation, connections, input and outputs rule, learning rule, and an environment. Connections would be created among nodes and would result in divers aesthetics effects. **Martindale's neural network theory** demonstrated that beauty is a complex cognitive process, whereas preference is easier to determine. This neural network for the cognitive processing of artwork was a challenge.

Having summarized the firsts theories of empirical aesthetics; Fechner's psychophysical theory, Arnheim's Gestalt theory, Berlyne's psychobiological theory, and Martindale's neural network theory, we will now present the **contemporary framework for PA**. **Jacobsen** (2006, 2010) established a framework in order to study the seven vantages to understand PA:

1. *Diachronia*: this vantage considered the developmental aesthetic stages (Housen, 1992; Parsons, 1987) and it is focused on the evolutionary approach (Nadal et al., 2009). Also, this vantage considered the changes individuals have in artistic preferences over time.

2. *Ipsichronia:* this vantage contemplated art preferences within a time frame such as cross-cultural differences in terms of aesthetic preferences (Halász, 1991; Morra & Lazzarini, 2002; Wang & Ishizaki, 2012). Art appreciation studies within the same culture were performed (López-Sintas et al., 2012; Rashid et al., 2014) but cross-cultural studies are still rare.

3. *Mind:* PA studying cognitive and emotional outcomes of looking at art (Chatterjee, 2004; Leder et al., 2004; Vartanian & Nadal, 2007).

4. *Body:* PA studying neurosciences (Kandel, 2012; Skov &Vartanian, 2009).

5. *Content:* this vantage is referring to the characteristics of the stimulus or artwork (Danto, 1997, 2014; Varnedoe, 2006; Villeneuve & Erickson, 2008).

6. *Person:* this vantage is referring to individual differences in the aesthetic experience (Cleridou & Furnham, 2014; Mastandrea et al., 2009; Rawlings, 2003).

7. *Situation:* this vantage is referring to the spatial dimension, such as the museum (Brieber et al., 2015b; Falk & Dierking, 2013; Smith, 2014).

We have to note that PA is not more recent than general Psychology, meaning that PA has always existed. Gombrich (1960) was an art historian that applied Gestalt and cognitive theories to understand art and in his book included the following quote:

> *Art being a thing of the mind, it follows that any scientific study of art will be psychology. It may be other things as well, but psychology it will always be*. (Max J. Friendlander, *Von Kunst und Kennerschaft*, in Gombrich, 1960, p.3)

Figure 1: Theories of Psychology of Art (PA)
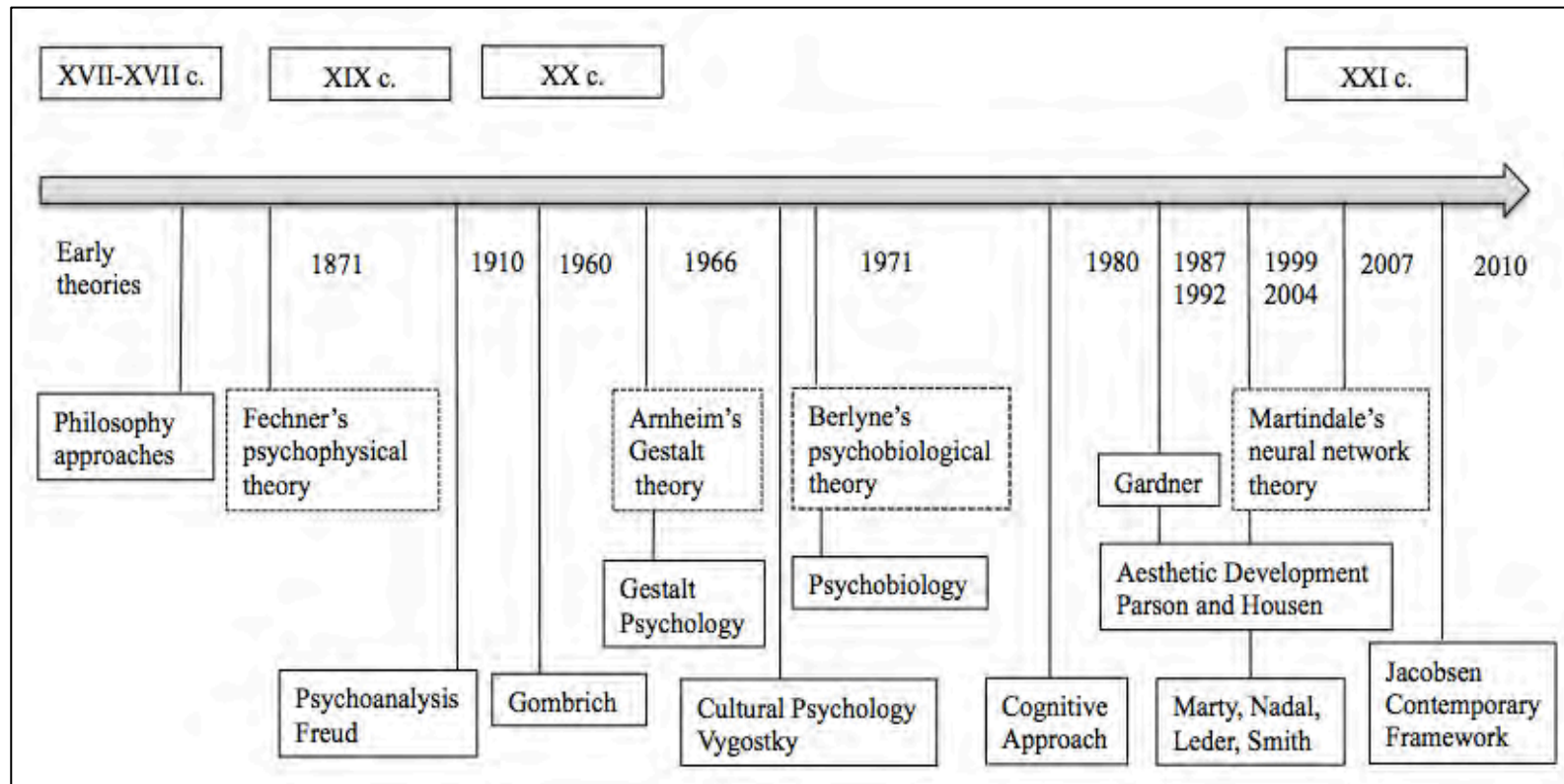
Source: own elaboration

2.1.3. Psychology of Art: Present

Revised theories presented persist still today and continue to be relevant for the investigation of PA. It is important to have in mind that PA is connected to other disciplines like Art history. Figure 2 confirms a clear overlap in Perception, Interpretation and Art historical frame. Art history is focused on the works of art, whereas PA is focused on the behavior of the beholder. However, in the study of PA we should know both about psychology and art. The two disciplines merge and both areas of expertise are needed.

Figure 2: Overlap Psychology and Art History
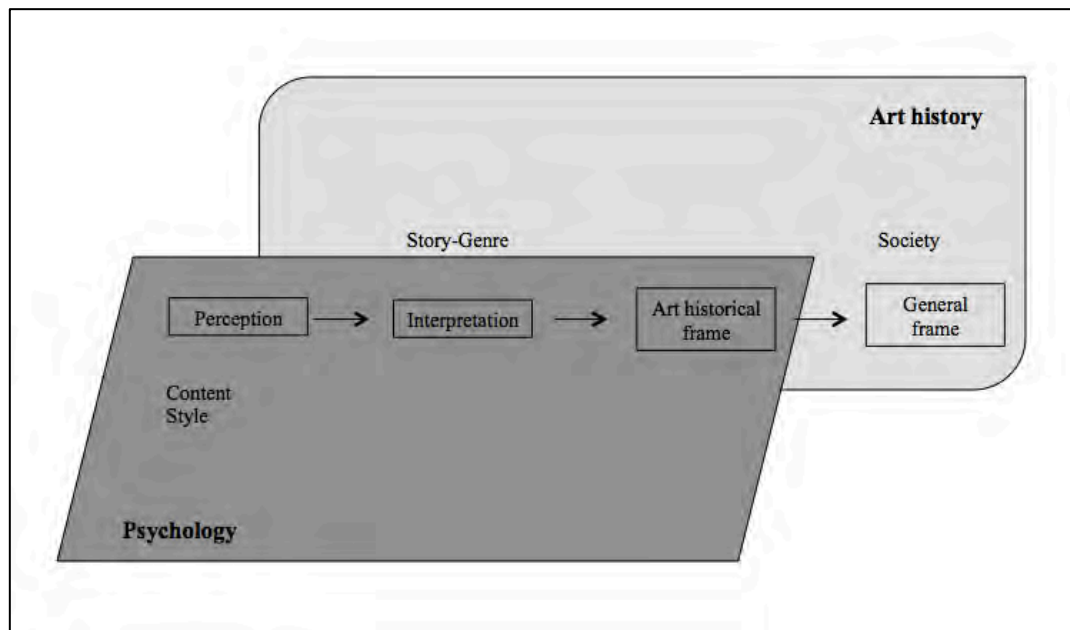
Source: Adapted from Leder in Tinio and Smith (2014, p.134)

Nowadays, PA is a growing area in psychology. Authors like Gardner (1982, 1994, 2011) continue their work in this field of study in Project Zero (1967) at Harvard Graduate School of Education. Researchers in EvoCog research group (2000) at Universitat de les Illes Balears and Marty (1997, 1999, 2000) study PA from a psychological basic processes,

cognition, emotion, memory and evolution field of study. In Spanish universities we still find a lack of subjects in this field of study.

PA has evolved as artistic expressions are also evolving. Nevertheless, PA has also been subject to criticism (Funch, 1997, p.35). First of all, paintings in experiments are usually small reproductions of real paintings. Secondly, participants are asked to view a large amount of pieces in a short time period, sometimes this makes it impossible to look at the art carefully. Finally, participants are usually asked for their likes and dislikes about different artworks, and this directs their attitudes towards art and limits their opinion compared to their responses in ordinary settings like art museums.

PA is also related to two relevant areas.

Art and Therapy. Art therapy is a relatively new field of study, which is growing exponentially in terms of studies and publications (Case & Dalley, 1992). In United States and England art therapy was initiated since professionals adventured to experiment with artistic practices in the health sector. The nature of art as being therapeutic has to be considered. However, art therapy still needs to be consolidated. Not only research in visual art, but also in other artistic activities like music (Gilroy & Lee, 1995) or theatre (Jones, 1996; Cabré, 2014) are needed.

Arts Education. Winner et al. (2013) reported that arts education has an influence on the development of some skills such as verbal skills that could be improved with theatre, but unfortunately this subject is rarely taught in classrooms. Besides, little research has studied the impact of art education on students' motivation, creativity and critical thinking. Depending on how the arts are taught, art education could enhance these outcomes. Regarding critical thinking Tishman and Palmer (2006) provided the Artful Thinking Approach that consists of using art to develop learning skills across subjects in school. The

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Artful Thinking program goals are helping teachers in creating rich environments where students could encounter works of art and relate them to different topics, and through these activities, promote critical thinking. Artworks are defined as '*things to think about that provoke rich, multilayered meaning-making in ways unlike other disciplines*'. The relevant task of artworks - raising questions, evoking connections and transforming individuals - must be used in schools and needs more research. Art is a human experience and takes part of our lives. For that reason, it is crucial that art education is included in school curriculum. Precisely, we still have to learn how to educate individuals on looking at art.

2.2. Looking at Art

Looking at art is a complex process because interactions between artworks and viewers are not easy to define and interpret (Tinio & Smith, 2014). From a biological perspective vision and art have been related (Gregory, 1997; Livingstone, 2002; Solso, 2003). Solso (2003) described an example of artwork information processing (figure 3) based in three stages. Summarizing, in the first stage (stage 1) the artwork is viewed through the eye, inverted and retained in the retina. By the optic nerve electromechanical impulses are processed into the visual cortex. In this part of the brain (stage 2) the visual stimulus would be analyzed in terms of processing curves and angles. These facts would be processed among the brain network (stage 3) allowing different parts to create associations between the artwork characteristics such as color, figures, landscapes, materials and the person's knowledge.

Figure 3: Artwork Information Processing
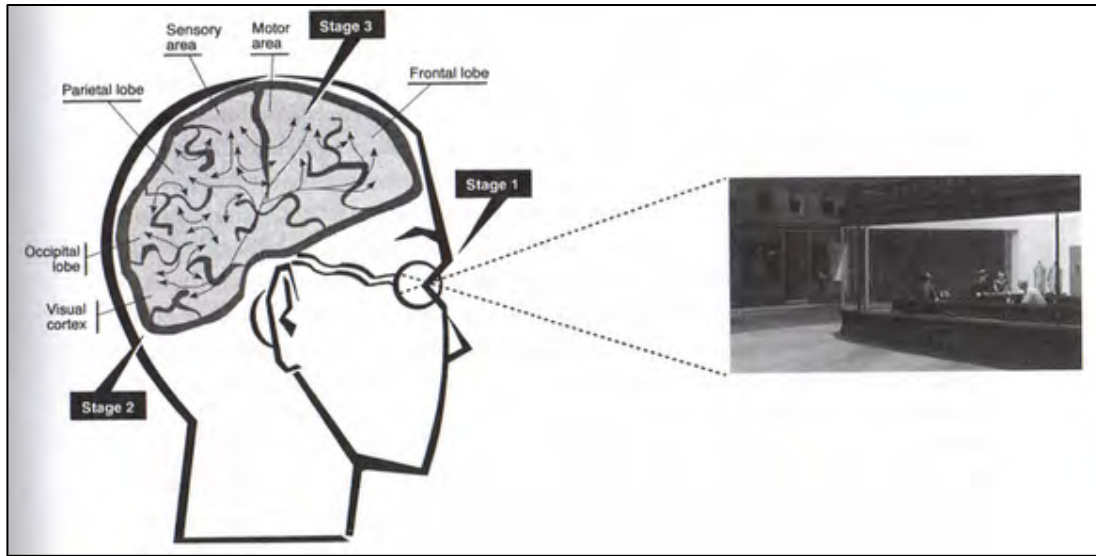
Throughout this research we will study how art affects viewers. If we want to know about art, we have to look at artworks; whereas if we want to know in what way art affects people we will have to look at people looking at art (Smith, 2014). If we spend some time observing people while they look at art in a museum we could see divers people (tourists, families, young adults, older adults, school groups, individuals alone) spending half or one-day trip in a museum and looking at some of the artworks for a long or a short time.

Smith and Smith (2001) counted the time people spend looking at different artworks at the Met in New York and they demonstrated that people spend around 27 seconds looking at an artwork, even the most famous one. These authors classified the visitors' behavior as the following:

Table 1: Smith and Smith (2001) group of visitors by time spend looking at art

Groups of visitors	Time spend
Samplers	10 seconds
Consuming	30 seconds
Savoring	1 minute

Smith et al. (2016) revisited the 2001 study at Art Institute of Chicago and found similar results; the mean amount of contemplation time was 28 seconds and there were no differences between age or gender. Nevertheless, they found that 'selfies', photos with artworks were taken independently of age, gender or group size.

Professor Roberts (2013) from Arts & Humanities Division at Harvard University teaches the course "The Art of Looking" in which her students are challenged to look at the painting *A Boy with a Flying Squirrel* (1765) from J.S. Copley (figure 4) for three hours. She stated that she wants to give her students permission to slow down and be engaged in deceleration and patience. Before doing any research about the artwork, students are invited to go to the MFA where the piece hangs and identify questions that can emerge from the observation process.

Figure 4: John Singleton Copley's *A Boy with a Flying Squirrel*, 1765

Photograph © [2013] Museum of Fine Arts, Boston

Roberts (2013) did the same experiment and realized the following:

It took me nine minutes to notice that the shape of the boy's ear precisely echoes that of the ruff along the squirrel's belly- and that Copley was making some kind of

connection between the animal and the human body and the sensory capacities of each. It

was 21 minutes before I registered the fact that the fingers holding the chain exactly span

the diameter of the water glass beneath them. It took a good 45 minutes before I realized

that the seemingly random folds and wrinkles in the background curtain are actually

perfect copies of the shapes of the boy's ear and eye, as if Copley had imagined those

sensory organs distributing or imprinting themselves on the surface behind him. And so on.
(Roberts, 2013, p. 42).

Three full hours looking at an artwork can seem a little bit too long. The students were first a little bit skeptical about the exercise. Nevertheless, after the assignment, they realized the potential of the patient effort and the museum environment, which removed them from their everyday life. Roberts (2013) argues that this exercise has the power to demonstrate that looking at something does not necessarily mean that you have seen it and understand it. To sum up, learning takes time and patience. For that reason, she confirms that her course is not only about art history but also serves as a lesson on how to live and develop patience for investigation and critical attention.

Giving people different instructions for looking at art would influence their artwork viewing experience. Visitors are no longer just spectators but participants (Pol, 2012). If we give instructions that stimulate thinking about artworks, viewers could learn and enjoy about the experience of looking at art. For that reason, different techniques on how people look at art in museums are being developed from an educational perspective.

2.2.1. Visual Thinking Strategies

Visual Thinking Strategies (VTS) is a methodology from the United States co-founded by educator Yenawine (2013) and cognitive psychologist Housen (1992, 2002). VTS consists of using a work of art as a tool for learning how to observe, think and

communicate. These social needs, part of emotional education (Bisquerra, 2003), are not sufficiently served in formal education. Implementing VTS in a group means discussing an artwork for approximately 15-20 minutes with an educator as a facilitator. The group analyzes the artwork content following three open questions:

    1. What is going on in this picture?

    2. What do you see that makes you say that?

    3. What more can we see?

The aim is that students can express freely their opinions to promote exchange of experiences and collective research. After a student opinion the educator will repeat their thoughts paraphrasing and pointing out what the student said about the artwork to underscore that educator was listening and understanding what has been said. This fact would make student feel valued and capable of commenting on an artwork. There is not a good or a bad answer. The educator must maintain a non-intimidating neutral attitude, nodding and smiling, but without correcting or adding comments. Also, the facilitator must guide the group so all students could express their opinions about the artwork. After the first intervention, the educator would acknowledge student comments and encourage other students to participate. Therefore, VTS is an inclusive methodology that encourages all students' participation, even those shy or newcomers who are not yet comfortable with English language. VTS can be a clear means to achieve integration and accessibility of different students, given its focus on the use of language through visual art. Also, essential values such as learn to respect the speaking time, listening to peers, learn to observe, and communicate would be practiced. Individual growth and understanding of art will result from participating (Housen, 2002).

Following what Piaget did with the stages of cognitive development of child in 1920 (table 2), Parsons (1987) and Housen (1992) identified stages for appreciation of works of art, tables 3 and 4 respectively. Piaget asserted that a child must follow each stage in sequence, one after the other one. Certainly, artistic skills were not contemplated in Piaget's stages (De Sentis & Housen, 1996). Instead, Parson's stages are 'clusters of idea', not individuals' properties, ideas on how people understand artworks.

Table 2: Piaget's Stages of Development

Sensory-motor stage (approximately 0-2 years)	The infant can understand only in terms of what can be perceived through senses (sensory) and movement (motor), and how its senses and movements relate to each other. The child learns through acting on things (for example, shaking a rattle and learning that it makes sound) and through repetitive attempts to control that experience (repeatedly shaking a rattle to generate the same sound).
Pre-operational stage (2-7 years)	The child can use symbols (words, marks on paper, role-playing) instead of simply relying on sensory-motor exploration. The child develops the capacity for representation and can use words— the symbolic system of language—that stand for actions and things without their immediate physical presence. This becomes apparent, for example, when the child engages in imaginative play—pretending that s/he is feeding a doll or taking care of a stuffed animal as if it were alive. Another characteristic of the pre-operational child is his or her continued egocentrism; the child lacks the cognitive flexibility to take someone else's position.
Concrete-operational stage (7-12 years)	The child develops the capacity to have abstract thought about concrete experiences. This greater coordination of thought is limited to operations performed on objects. For example, the child can think back and recreate a path to remember where s/he left his/her drum set— instead of going into every room to look for it as would the pre-operational child.
Formal operational stage (12+ years)	The adolescent moves into the logic of the hypothetical (for examples, forecasting the implications of a certain event) the kind of thinking of which a function adult remains capable. Using the knowledge that the sound of a drum is distorted underwater, the adolescent can speculate about the distortion of sound in another environment. At this stage the learner can think about ideas as well as concrete things. S/he can hypothesize that since certain music forms, whether rock and roll, punk or rap, were considered by some to be subversive and dangerous when first introduced, any new music form may encounter a similar reaction. At this stage the adolescent is capable of seeing things from another's point of view.

Source: De Sentis & Housen (1996)

2.2.2. Aesthetic Development

Parson was more influenced by artists than by psychologists when creating the stages of aesthetic development. He focused on familiarity and expressions, such as beauty, when people talked about art. Like Piaget, Parson attributed age groups for each stage.

Table 3: Parson's Stages of Aesthetic Development (1987)

Stage I	**Favoritism** (age 5)	- Intuitive delight to artworks but without any inquiry. - Strong attraction to color. - Freewheeling or associative response to subject matter. - Assumption others will concur.
Stage II	**Beauty and Realism** (age 10)	- Interpretation of the artwork through the subject (the artwork is not separate from the subject; "transparency"). - Technical skill admired. - Realism preferred. - Assumption others will concur (for example, beauty and ugliness are seen as objectively identifiable qualities).
Stage III	**Expressiveness** (adolescence)	- Artworks express a theme or an idea (beyond the subject shown). - Interest in interpreting meaning of the work as a whole. - Looking at an artwork for what it expresses and as a source of personal experience; the expressive qualities are very important. - Skepticism about the value of critical talk or contextual information in influencing their interpretation.
Stage IV	**Style and Form** (young adults)	- Recognition that significance of an artwork is a social as well as an individual achievement. - Recognition that artworks exist within culture and an art world. - Medium, style, and technique help convey the message. - A willingness to negotiate meaning, to spend time thinking about an interpretation. - Interpretations and judgments are weighed against others.
Stage V	**Autonomy** (professionally trained adults)	- Capable of making independent judgments based on knowledge of art and culture. - Using a sophisticated understanding of culture and history to interpret a work and its significance.

Concerning **Parson**'s stages of aesthetic development, in **Stage I** an artwork was considered pleasant, lacking of understanding about good or bad art; 'It's my favorite color'. In **Stage II** good and bad art is differentiated; 'It looks just like the real thing'. **Stage III** is characterized by the empathy and the expressions of adolescents; 'Distortion really brings out the feeling' or 'We all experience it differently'. In **Stage IV** style and form became important and the artwork is understood within a society; 'See the grief in the tension in the lines, the pulling on the handkerchief!' or 'He's playing with the eyes. They are more like cups or boats; it's a visual metaphor'. Finally, in **Stage V** adults are more critical with artworks and artistic values and accept or change opinions following their understanding within a tradition; 'In the end, the style is too loose, too self-indulgent. I want to see more self-control' or 'I used to think it too rhetorical; now I vibrate to it again' (Efland, 2002, p.29).

In the 1970s, **Housen** started studying people looking at art; she wanted to discover what people think and say about art. She used the Aesthetic Development Interview (ADI), a non-directive interview in which participants were invited to talk about art saying whatever was coming their minds. Housen analyzed individuals' thoughts and organized them into subcategories. Until today Housen and her researchers compared more than 6000 ADIs from individuals of different age, gender, economic status, art experience, education and culture. The result was the identification of a five stage theory (following developmental theories) applied to aesthetic changes in individuals. Every stage represented ways of thinking while looking at art and were listed from less (Stage I) to more (Stage V) level of growth when encountering an artwork. Interestingly, Housen did not relate stages with age, she confirmed that 'exposure to art' is the only way to enhance artworks understanding.

Table 4: Housen's Stages of Aesthetic Development (1992)

Stage I	**Accountive** viewers are storytellers. Using their senses, memories and personal associations, they make concrete observations about a work of art that are woven into a narrative. Here, judgments are based on what is known and what is liked. Emotions color their comments, as viewers seem to enter the work of art and become part of its unfolding narrative.
Stage II	**Constructive** viewers set about actively building a framework for looking at works of art, using the most logical and accessible tools: their own perceptions, their knowledge of the natural world, and the values of their social, moral and conventional world. If the work does not look the way it is "supposed to"-if craft, skill, technique, hard work, utility, and function are not evident, or if the subject seems inappropriate - then these viewers judge the work to be "weird", lacking or of no value. Their sense of what is realistic is the standard often applied to determine value. As emotions begin to go underground, these viewers begin to distance themselves from the work of art.
Stage III	**Classifying** viewers adopt the analytical and critical stance of the art historian. They want to identify the work as to place, school, style, time and provenance. They decode the work using their library of facts and figures, which they are ready and eager to expand. This viewer believes that properly categorized, the work of art's meaning and message can be explained and rationalized.
Stage IV	**Interpretative** viewers seek a personal encounter with a work of art. Exploring the work, letting its meaning slowly unfold, they appreciate subtleties of line and shape and color. Now, critical skills are put in the service of feelings and intuitions as these viewers let underlying meanings of the work -what it symbolizes- emerge. Each new encounter with a work of art presents a chance for new comparisons, insight and experiences. Knowing that the work of art's identity and value are subject to reinterpretation, these viewers see their own processes subject to chance and change.
Stage V	**Re-Creative** viewers, having a long history of viewing and reflecting about works of art, now "willingly suspend disbelief". A familiar painting is like an old friend who is known intimately, yet full of surprise, deserving attention on a daily level but also existing on an elevated plane. As in all-important friendship, time is a key ingredient, allowing Stage V viewers to know the ecology of a work-its time, its history, its questions, its travels, its intricacies. Drawing on their own history with one work in particular, and with viewing in general, these viewers combine personal contemplation with views that broadly encompass universal concerns. Here, memory infuses the landscape of the painting, intricately combining the personal and the universal.

If we compare Parson's and Housen's stages of aesthetic development (table 5) we can see that in both models, while progressing from one stage to the other, art viewers will reach higher levels of responses and understanding of works of art. As commented, Parson's stages are listed by age, whereas Housen's stages are independent of age groups. In Parsons' case, as adults it is considered easy to reach the last stage. In contrast, Housen found that the majority of interviewees were in Stage I or II. In addition, she confirmed that interviewees that were frequent museum visitors did not exceed level III. Parson's approach was more structured. Instead, Housen's approach to scoring through categories yields reliable responses. However, it would be relevant to know if these stages could be generalizable to cultures beyond United States and Europe.

Table 5: Comparison of Parsons and Housen Models

	Parsons	Housen
Stage I	Favoritism: This stage is associated with young children; paintings exist for pleasure.	Accountive: The viewer creates a narrative of the art. Evaluation is based on what the viewer likes.
Stage II	Beauty and Realism: Paintings exist to represent things and should be attractive.	Constructive: Personal judgments of whether work of art looks like they are supposed to.
Stage III	Expressiveness: The expressiveness of the painting as it is personally understood is more important than beauty.	Classifying: Works described in art historical terms, using a school, genre, or period as a basis.
Stage IV	Style and Form: Medium, style, and form are important. The work of art exists in public and in an artistic tradition.	Interpretative: Personal feelings and meanings guide interpretation of the work.
Stage V	Autonomy: The individual can transcend traditional and cultural limitations on interpretation of the work.	Re-Creative: Personal meaning combines with broader understanding and concerns.

Source: Smith (2014, p.74)

2.3. Aesthetic Experience

The **aesthetic experience** refers to how art is perceived. Therefore, aesthetic experiences are subjective with every artwork being unique and every person observing it having different singularities. However, common patterns are studied. In an aesthetic experience in a museum (figure 5) three elements are related; the *beholder*, a person with different thoughts, knowledge and associations; the *artwork*, with different characteristics such as colors, style, material; and the *label* or extra information provided in the museum about the artwork.

Figure 5: Aesthetic Experience: beholder, artwork, and information
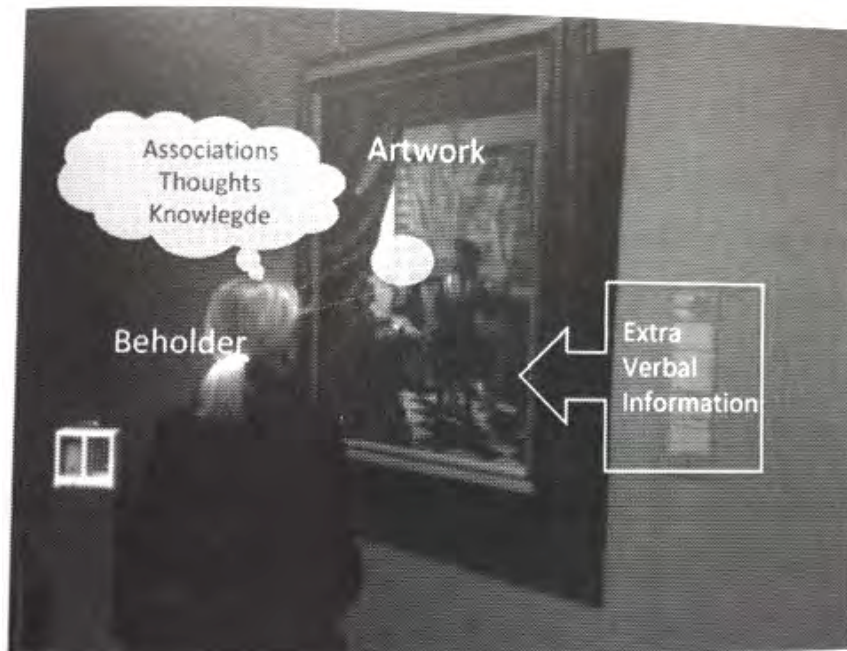
Source: Leder in Tinio and Smith (2014, p.123)

Next, in an aesthetic experience in a museum both cognitive and emotional aspects play a key role. As Gardner (1994) notes, 'our emotions are in consonance with cognition'. Attached we will study and contrast different models of aesthetic experience.

2.3.1. Models of Aesthetic Experience

Chatterjee's (2004) model focused on the visual and neurological aspect of the aesthetic experience (figure 6). The artwork as stimulus is perceived (shape, color) through the early vision and then through the intermediate vision that groups the different viewed elements. Attention is a regular factor in the process and the outcomes are decision and emotion. This author distinguished between the emotional responses of liking versus wanting in terms of pleasure or utilitarian response.

Figure 6: Chatterjee (2004) Model of Aesthetic Experience
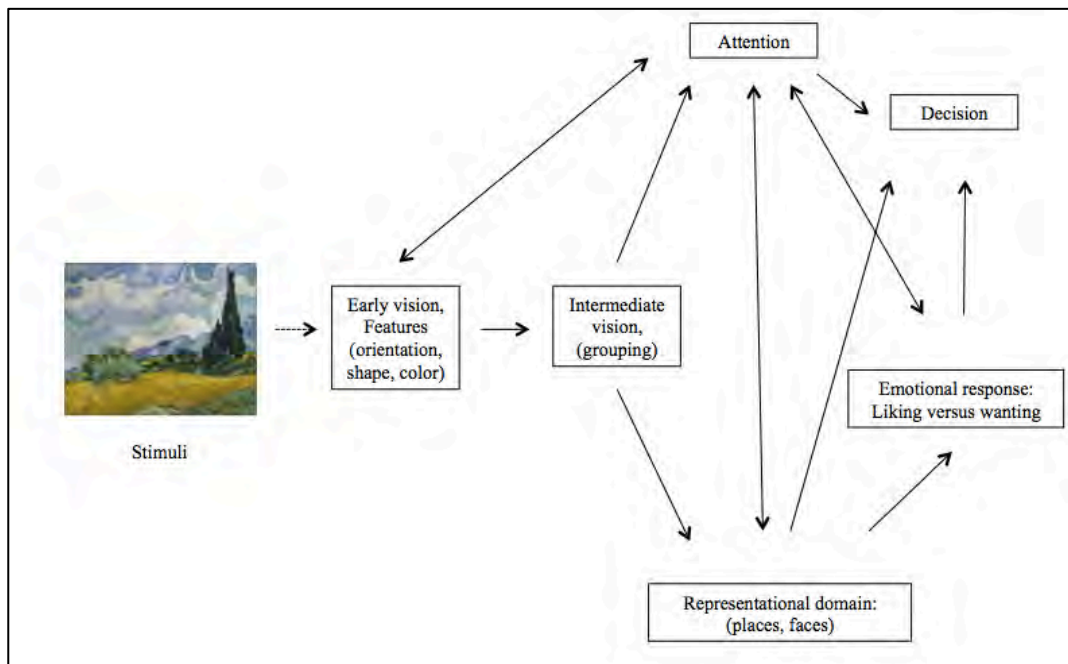
Source: Adapted from Chatterjee (2004, p.55)

Leader et al. (2004) created another model of aesthetic appreciation (figure 7) resulting from five stages of cognitive analysis: 1. Perceptual analyses (occipital visual processing), 2. Implicit memory integration (referring to familiarity and prototypically, of an artwork because of having seen it in previously), 3. Explicit classifications (referring to style and content, influenced by art-knowledge, personal taste), 4. Cognitive mastering (art

interpretation also associated with previous knowledge), and 5. Evaluation (cognitive state -understanding- and affective state -satisfaction). These elements are in a continuous affective evaluation during the entire experience. From this process two outcomes could result, aesthetic judgment and aesthetic emotion. Leader et al. (2004) also pointed out the influence of social interaction and the museum context.

Figure 7: Leader et al. (2004) Model of Aesthetic Experience
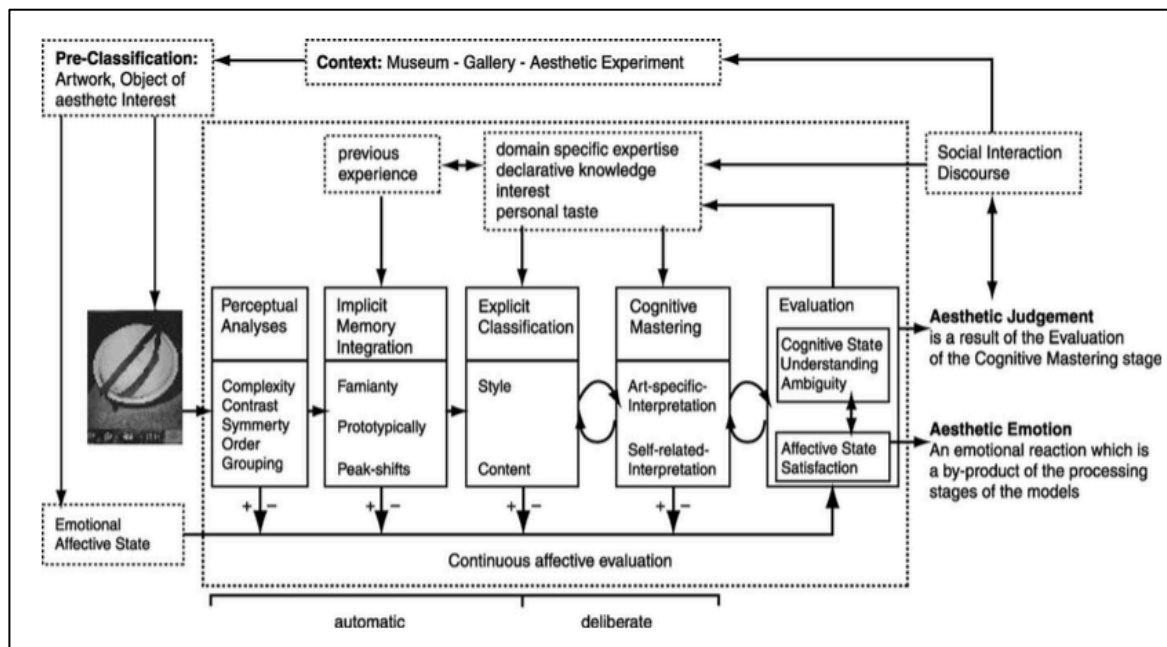
Source: Leder et al. (2004, p.492)

Vartanian and Nadal (2007) combined the two previous aesthetic experience models (figure 8) and saw that the artwork is the initial stimulus for both models. Also, both models confirmed a first stage based on visual perception and another stage of processing the visual information. Chatterjee (2004) presented the outcomes through attention while Leder et al. (2004) passed through an evaluation process that would guide the outcomes. Both models resulted in emotional and cognitive outcomes.

Figure 8: Combination of Two Aesthetic Experiences Models
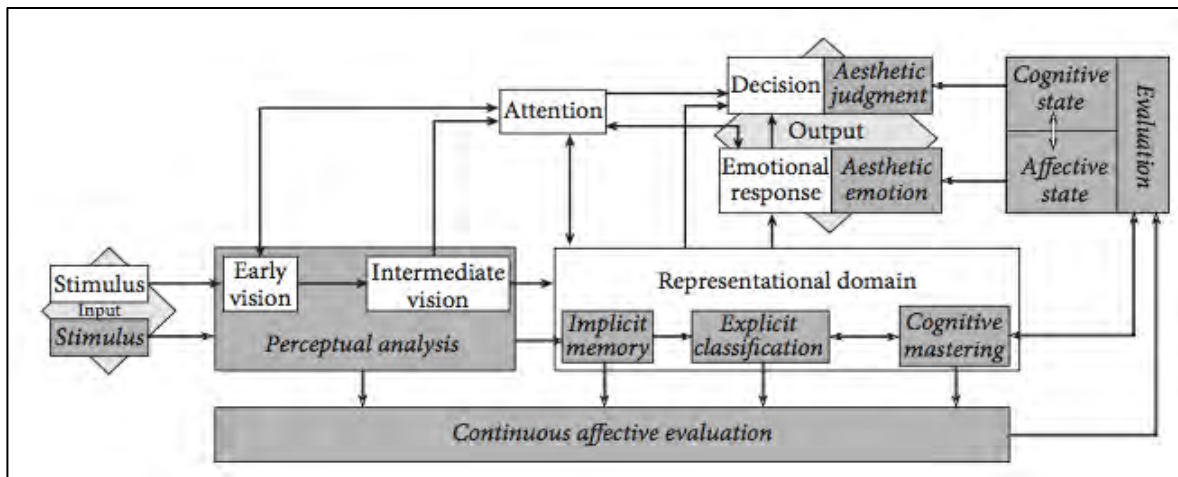
Tinio (2013) incorporated concepts of the first models and created the Mirror Model in which the author related the perception and the production process. If we follow figure 9 from the left side we can see that the aesthetic experience starts when the art making process finalizes. The relevance of this model is that not only Tinio is following Leder et al. (2004) model in terms of mental processes, but also that the author adds the parallel dimension of the artistic creation. As shown, the meaning making of the viewer in the aesthetic experience converges with the initialization in the art making process.

Figure 9: Tinio (2013) Mirror Model
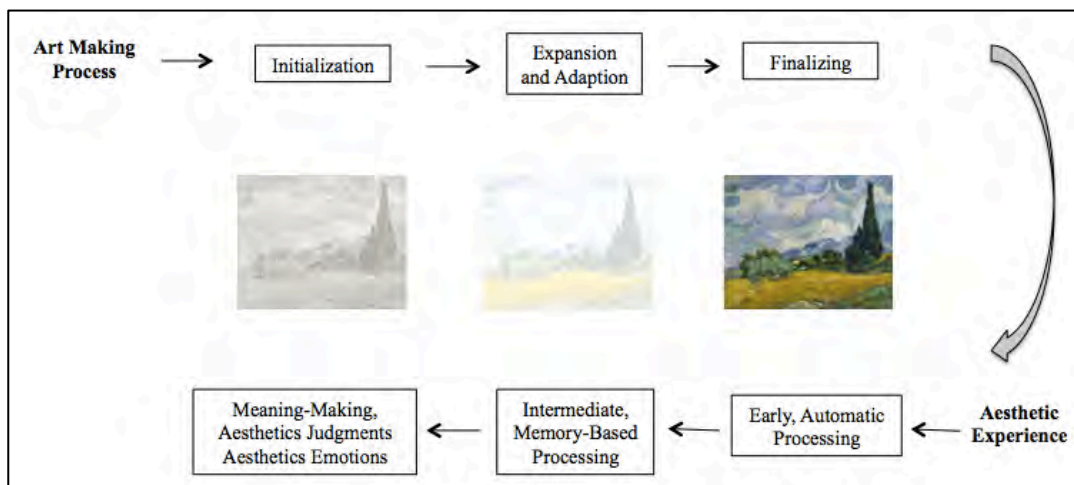
Smith (2014) included the viewer perception in the museum setting taking into consideration the success and failure of interactions and moving on to other artworks. In this model, besides the emotional and cognitive outcomes, the author added the personal reflection, the sense of mastery and the flow experience.

Figure 10: Smith (2014) The Museum Effect Model
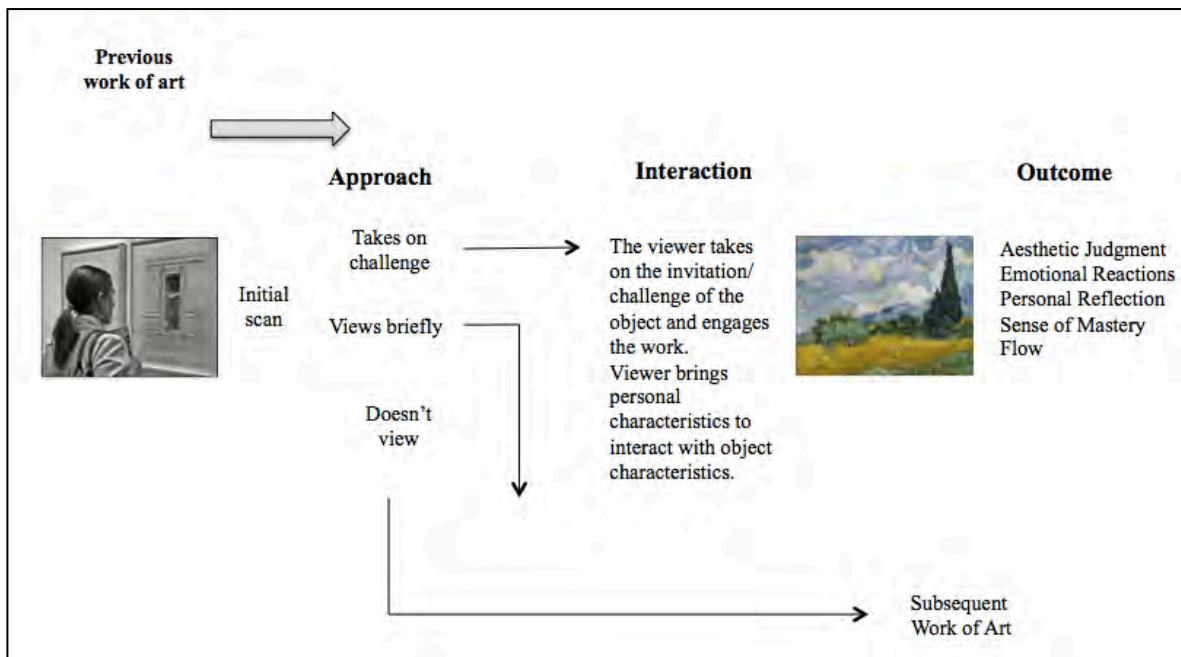
Reviewing the five presented models, the last two models could seem easier to follow if we consider the different arrows and multiple connections in Chatterjee and Leader et al.'s models. Almost all of them start with the artwork as stimulus; Tinio started with the first draft of an artwork. During the aesthetic experience each model showed different perceptual and cognitive processes but all of them ended up with final outcomes, which are normally represented by a decision, a transformation in the mind of the beholder. This means that looking at art involves different interactions that in all the commented models resulted in emotional and cognitive outcomes.

2.3.2. Neuroaesthetics and Neuropsychology of Art

Berlyne's (1971) interest resulted in a sub-discipline of neuroscience named **neuroaesthetics** (Cela-Conde et al., 2011; Chatterjee, 2010; Livingstone, 2002; Zeki, 1999). Since 1990 methods to analyze how the brain processes information have been used: functional magnetic resonance imaging (fMRI), magnetoencephalogram (MEG), transcranial magnetic stimulation (TMS), and transcranial direct current stimulation (tDSC). Moreover, psychophysiological measures like electrodermal activity (EDA), heart rate (HR), facial electromyography and pupillometry were also used (Leder et al., 2015). Eye-tracking techniques have been used to identify eye movements throughout artworks to study the regions most observed by subjects and record the movements in 'real time' (Locher, 2006; Massaro et al., 2012).

Another discipline that studies brain regions related to artistic production is **neuropsychology of art** (Bogousslavsky & Boller, 2005; Chatterjee, 2009, Zaidel, 2005). van Buren et al. (2013) studied two artists with Alzheimer disease (AD) and showed gradual changes in their paintings in terms of abstraction and symbolism. This was the result of a quantitative model that tested the Assessment of Art Attributes (AAA) studying six formal (depth, color temperature, color saturation, balance, stroke, and simplicity), and six conceptual features (depictive accuracy, abstractness, emotion, symbolism, realism, and animacy). Results showed that both artists' paintings were less realistic and less emotion was conveyed as the disease progressed. More studies of neuropsychology of art and perception are needed; quantitative studies and tests urge researchers to study the impact of artistic activities in subjects with neurodegenerative diseases.

To study the outcomes of aesthetic experiences it is key to explain common patterns in subjects' aesthetics responses. Considering the following categories would help

researchers to focus on the investigation of concrete subjects:

a. *Universal explanation.* This explanation might be studied by biological rules to understand the art information process that could be extended to a wide population. For instance, the previously commented neuroaesthetic studies (Cela-Conde et al., 2011; Chatterjee, 2010; Livingstone, 2002; Zeki, 1999)

b. *Group level features*. Dividing individuals by age differences. For instance, children's responses to art (Gardner, 1970; Nissel et al.*,* 2016; Winner, 1982).

c. *Individual level effects.* Every aesthetic experience is different, for individuals more focused on their personal connections and introspection an aesthetic *flow experience* will result (Csikszentmihalyi & Robinson, 1990). Also, in the individual level, how personality correlates with aesthetic experiences has been studied (Cleridou & Furnham, 2014; Rawlings, 2003). Certainly, personality traits would affect visitor response to artworks in liking or disliking a particular piece.

2.4. Art Appreciation

Museums are undertaking great efforts to engage visitors and facilitate their art appreciation but sometimes they are not achieving this goal. Therefore, museums should be interested in art appreciation studies that have been conducted.

2.4.1. Beauty and Art Preferences

The word 'beautiful' (referring to aspects of beauty) is the word most people used when describing that they liked an artwork (Augustin et al., 2012; Jacobsen et al., 2004). The '**beauty**' concept, what we consider beautiful and pleasant, has broadly been studied related to art appreciation (Changeux, 1994; Francès, 1979; Hernández, 1989; Lundy et al., 2010; Marty et al., 2003; UIB, 2003; Vigouroux, 1992). Following psychology schools of thought, psychophysical, cognitive, psychoanalytic, and existential-phenomenological

approaches, Funch (1997) described the four art appreciation types: the aesthetic pleasure, emotional appreciation, cognitive appreciation, and aesthetic fascination. The same author insisted in reconsidering what psychologists have learned about art appreciation and personality.

Child (1965), from a humanistic psychology point of view, found that art education and the subject's previous experience of looking at art -not only in galleries, but also in books- affected positively the ability of judging and considering artworks valuable. Eysenck (1983) found that individuals had **aesthetic sensitivity** to art. This was considered as an independent ability for art appreciation. Also, he demonstrated that there were positive correlations between aesthetic sensitivity and intelligence test scores while using Visual Aesthetic Sensitivity Test (VAST), which consists of a test with different pairs of artworks that were considered to be "good" and "wrong" (Fróis and Eysenk, 1995). Recently, there have been studies using the VAST test that found that aesthetic sensitivity correlated with intelligence, openness to aesthetics and divergent thinking (Myszkowski et al., 2014).

More recently, Cupchick and Gebotys (1990) studied aesthetic responses such as '**pleasure**' and '**interest**'; they showed European paintings to participants that were involved in social interaction. They asked them to judge paintings as being warm, simple/complex (pleasure variable) or meaningful and unfamiliar (interest). Results showed that people were more curious when artworks were more complex and they needed to look for knowledge and meaning behind the art. Pleasure emerged with positive associations and from the process of art interpretation itself. Concretely, the dimension of **complexity** was studied by Nadal et al. (2010) as the amount of 'elements' and their 'disorganization' in an artwork. This fact could also affect aesthetic preferences. Nadal et al. (2010) illustrated

that in artworks with more elements, beauty increased; whereas in more disordered pieces, the aesthetic appreciation decreased. With **better understanding** of an artwork, it is more probable that individuals' pleasure is augmented (Leder et al., 2004). Concerning contemporary art visualization, Leder et al. (2004) commented on **individuals' 'loops'** while processing the artwork visual information, when people are wondering about the meaning of art like 'a problem-solving' activity (Tyler, 1999). These loops can be considered and reconsidered several times. These reconsiderations can be pleasing for themselves, being a key factor for the aesthetic experience.

Other factors, such as the **context**, also matter. Being in a museum helped visitors like the artworks better (Tschacher et al., 2012). **Color** has also been studied and questioned as a key factor for aesthetic preferences (Martindale & Moore, 1998; Mather, 2014; Zeki, 1980) as well as **symmetry** that usually is been preferred versus non-symmetry (Tyler, 2002) and **familiarity** through repetition -'mere-exposure' to artworks- and being able to recognize them- (Kunst-Wilson & Zajonc, 1980; Leder, 2001). Also, **information** provided about an artwork affects art appreciation and understanding (Leder et al., 2006; Millis, 2001; Swami, 2013).

A **pleasure of generalization** also exists meaning that if an individual already has previous knowledge about a concrete style, new and unfamiliar artworks of the same style would be appreciated more (Gordon & Holyoak, 1983). Besides, successful style classification would be translated into a self-rewarding museum experience. Belke et al. (2006) studied the effect of specific, **style-related information** for liking abstract paintings and showed that this fact contributed to appreciating art if taking into consideration the affective state of the viewer and their art-knowledge. Furthermore, in a positive affective state, the aesthetic appreciation increased.

2.4.2. Art experts vs. Non-experts

Researchers have demonstrated that art-related knowledge is a factor that influences the aesthetic experience (Chatterjee, 2004; Fróis & Silva, 2014; Leder et al., 2004; Pihko et al., 2011; Walker et al., 2011). By recording eye movements of art trained visitors Cupchik and Gebotys (1988) showed that they were more focused on the background elements of the piece as well as the shapes and lines that conformed the artwork. However, non-art experts were more driven to individual objects in the paintings. Later, Winston and Cupchik (1992) studied on what visitors based their art preferences and found that people with lower art knowledge preferred the pieces were a positive feelings aroused. In contrast, visitors with more art knowledge based their choice on the piece properties. Another study (Rawlings, 2003) showed that non-experts preferred representational paintings rather than the abstract ones. These results allow in-depth definition of interactions people have with artworks. Smith and Smith (2006) created the concept of *aesthetic fluency*:

Aesthetic fluency is the knowledge base concerning art that facilitates

aesthetic experience in individuals. (Smith & Smith, 2006, p.47)

Aesthetic fluency increases while people are exposed to arts, not only visual arts, but to all kind of arts. Smith and Smith (2006) surveyed 400 visitors at the Met in New York and asked them to mark on a five-point scale how much they knew about different artists and art ideas (figure 11). Significant differences between age groups, frequency of museum visits and art history training resulted, with the frequency of visits having the strongest relationship. These results demonstrated that, besides art training, repeated exposure to artworks in museums is the factor that most influenced the art related knowledge.

Figure 11: Smith and Smith five-point scale

Please tell us how much you know
about the following artists and art ideas:

	0	1	2	3	4
Mary Cassatt					
Isamu Noguchi					
John Singer Sargent					
Alessandro Boticelli					
Gian Lorenzo Bernini					
Fauvism					
Egyptian Funerary Stelae					
Impressionism					
Chinese Scrolls					
Abstract Expressionism					

Please use the following scale:
   0 - I have never heard of this artist or terms
   1- I have heard of this but don't really know anything about it
   2- I have a vague idea of what this is
   3- I understand this artist or idea when it is discussed
   4- I can talk intelligently about this artist or idea in art

Source: Smith & Smith (2006)

Silvia (2007) related the aesthetic fluency with personality and found that it was associated with people opened to experiences. Also, Fróis and Silva (2014) studied artist and non-artist making meaning of different artworks and emphasized art training as an influence. Pol and Asensio (1997) did a novice and expert cross-cultural experimental design where they asked Spanish and Mexican student novice and art experts about Mexican and European artworks' artistic styles. Artist style is an important concept in art history. However, very little research has been done related to style identification and comprehension. Besides, cross-cultural studies are also lacking. Results showed that art style identification was very low and those who had art knowledge did better. When asked if they liked or disliked a piece, novices preferred pieces in which they could analyze its

content; whereas art experts preferred pieces based on their different techniques and styles. Surprisingly, no significant cross-cultural differences were found.

These findings show that art related knowledge would benefit the art museum experience in terms of presenting a better engagement with the art. But, other authors suggest certain types of art, like abstract art that could impact the viewer in a second, do not need as much art knowledge to be understood (Snapper et al., 2015). There is still a lot of work to be done in the study of art experts vs. non-experts in art museums while looking at different kinds of art (Tinio & Smith, 2014).

B. Specific Fundamentals

In previous sections the general framework of this research was described. In the following sections, specific fundamentals are provided for a seamless understanding of the work presented in the main body (three studies) of this dissertation.

2.5. Contemporary Art

Art museums must strive to engage a wide variety of audiences. When museums display familiar kinds of works, it is not difficult to engage visitors, as evidenced by the huge audiences that flock to "blockbuster" exhibits of impressionist painters. When it comes to contemporary art, the task of the museum is far more difficult. Art has been considered elitist since erudite people were the ones that had access to it; a 'high culture' and a 'popular culture' had been distinguished (Bourdieu, 1990; Dos Santos, 2009; Eco, 2010; Zallo, 2011). For the first time in our history art is accessible to everyone, art pieces can be reproduced and individuals can see them everywhere (Berger, 2012).

Contemporary art is art produced during our time taking into account that new forms of art emerged in the last century. For some art professionals contemporary art has abandoned the beauty concept in art (Danto, 1997) and a currently discussion of 'What is

art?' is palpable in our society (Danto, 2014; Dutton, 2008). In contemporary art the limit of what an individual could consider as a work of art is fragile.

> *To perceive, a beholder must create his own experience. And his creation must include relations comparable to those, which the original producer underwent. They are not the same in any literal sense. But with the perceiver, as with the artist, there must be an ordering of the elements of the whole that is in form, although not in details, the same of the process of organization the creator of the work consciously experienced. Without an act of recreation the object is not perceived as a work of art.* (Dewey, 1969, p. 54)

Dewey (1969) understood art as experience and revealed that to consider a piece a work of art individuals must do the effort to put themselves in artist's shoes to understand how the artist created the artwork. He invited people to explore the goals of the artists as well as the creation artistic process. More recently, Rancière (2011), a French philosopher, also considered artworks as experimental images.

> *The work of art has a history, a unique communication, a reason for being that might only be known to the artist. (…) The life histories of works of art are fascinating things in and of themselves.* (Smith, 2014, p. 96).

Conversely, contemporary art can also be rejected. For instance, Duchamp's *Fountain* (1917) shows the importance of the context is crucial, as an urinal in a toilet is not considered an artwork but an urinal placed in a museum and signed could be considered a work of art. When viewers are obsessed by the sense of the artworks (Heinich, 1996, 2001) they find reasons to reject contemporary art: 'it's expensive for what that is' (economical), 'what is this for' (functional), 'this is snob, elitist, *du parisianisme'* (civic), and 'this is illegal' (juridical). And finally, an ethical reason that contributes to indignation: 'a child

could have done that' (Hawley & Winner, 2011).

Because of new creation processes such as entering in a dark gallery to see a video, or being able to take a piece of cloth on the floor and rearrange it as a participatory and unfinished creative process of a contemporary artwork, contemporary art audiences are very difficult to study (Bourdieu & Darbel, 1966; Girel, 2004). For that reason, audiences that do not frequently visit contemporary art exhibitions must be further studied, *les publics et non-publics de l'art* (Girel, 2004).

Art that is not familiar had been questioned. Varnedoe (2006) confirmed a new language for art and its evolution. For instance, he questioned 'why abstract art?' The first question that he asked himself in front of an artwork was, under what circumstances it was made instead of who the artist was. Also, another key question was 'what feelings does a contemporary artwork evoke to me?'

Specifically, Minissale (2013) joined Contemporary Art and Psychology showing that although this is rare, both disciplines can converge. This author invited artists to be concerned with psychology because it is a field of study that could help them understand how people relate with objects and understand them. Furthermore, Minissale (2013) defined contemporary art as being thought-provocative and a type of art that makes individuals think, and emotions, sensations and feeling can emerge. She pointed out that looking at contemporary art is an opportunity to revise the world we live in and ourselves related to new knowledge. In this research we are interested in knowing how different visitors are responding to contemporary art.

2.6. Younger and Older Adults Visitors

Younger Adults Visitors

Younger adults are underrepresented in museums, a place where they still do not 'feel at home' (Mason & Mc Carthy, 2006). Although younger adults are 'active users of culture' (Howe & Strauss, 2006) art museums have to make significant efforts to attract millennials, as they are also called. When younger adults visit museums they tend to go within a group of friends and share ideas about artworks with the aim of socialization (Korn, 2008). Also, millennials like to share their museum experiences digitally in social networks like Facebook or Instagram (Weilenmann et al., 2013).

In an eye-tracking study, Savazzi et al. (2014) explored response to art in adolescence, a life period when individuals are experiencing psychological and physical changes. Paintings of a landscape and a human body were analyzed and results showed that younger adults were still influenced by bottom-up processes (color, graphic traits, contrast, etc.) and not yet into top-down processes (more intellectual cognitive tasks). Additionally, eye-movements confirmed that visual exploration of younger adults was attracted to the body image. This is relevant if we consider the importance of the body image individuals have in adolescence. This study would help art educators in museums realize new ways of engaging younger adults with art, for instance, multisensory activities instead of regular intellectual information given in guided tours. New initiatives such as Museum Hack (2016) are emerging. Museum Hack offers funny museum tours ('selfie' tours, performance and artwork gestures tours, etc.) in museums of New York, Washington and San Francisco. This is a new way of visiting a museum that young people seem to enjoy more than a regular visit. Museums should review the programs they are offering for younger adults, not only to attract them, but also maintain their visits.

Older Adults Visitors

In the context of growing concern about ageing populations and the prevalence of neurodegenerative diseases, taking part in cultural activities such as a visit to a museum can help promote elderly wellbeing. Generally, older adult visitors are retired people, with more time than younger adults, and need to socialize (Ertel et al., 2002; Kauppinen, 1988;) and develop their cognitive stimulation (Greenberg, 1987; Ohayon & Vecchierini, 2002).

> *The general paucity of research investigating all-adult groups, particularly older adults, represents a significant deficit in our understanding of the museum visitor experience and the learning that results from these experiences. (…) All-adult groups are becoming a more numerous and more important museum audience, with older adults representing a large source of potential new museum visitors.* (Falk & Dierking, 2013, p. 157)

Older adults are potential visitors of cultural institutions. Therefore, museums must adapt to this coming reality. Smiraglia (2015, 2016) identified five types of programs that museums are offering for older adults: reminiscence, art, object-oriented, storytelling, and lectures. Also, most of the older adult programs found in museums were dedicated to older adults with health problems, whether cognitive or physical, with dementia/Alzheimer's being the most recurrent. Thus, Smiraglia (2016) emphasized the need for more museum programs for healthy older adults. Moreover, socialization and improved mood were the most common outcomes of the studied programs. Kelly et al. (2002) argued that Australian museums are a leisure option for seniors being a place to volunteer and socialize. A museum visit is an opportunity for seniors to be in a community environment with other visitors instead of the usual private life at home or residences that could contribute to social isolation. Still, a key goal for museums is to serve the needs of older adults. For instance,

more seating and also seated activities are needed. As for museum programs, Kelly et al. (2002) suggested to offer guided tours and special tours in the morning time accompanied by a tea or lunch activity to stimulate a day out. Also, museums that have outdoor spaces could offer programs to encourage older adults to walk outside allowing them to combine physical exercise with the museum visit.

All these programs must be evaluated to explore older adults' museum visit benefits. However, the lack of staff in museums that know how to evaluate those programs and museum professionals being unlikely to go through gerontology literature to enhance their older adult programs makes it difficult to comply. Furthermore, evaluation is a key factor in Visitor Studies research as we comment below.

Visitor Studies

Research in the field of visitor studies has been conducted to study visitor behaviors in museums, science centers, zoos and aquariums.

> *Indeed, the people who walk through the door are self-selected not only into the museum they chose to visit but into the study in which they agreed to participate.* (Tinio & Smith, 2014, p.203).

Robinson (1928) was one of the first authors that studied the behavior of the museum visitor. As a matter of fact, he discovered the concept of 'museum fatigue', the moment when visitor behavior changes because the visitor starts to be tired of the museum experience. In the 1930s Melton (1935), influenced by behavioral psychology (stimulus-response relation), realized the power of having affective exhibits and gave importance to the design of the exhibit to control visitor behaviors.

Throughout the 1980s, the visitor-oriented approach was consolidated with studies including of family groups in science center (Diamond, 1986) and communication and

social relation in museums (McManus, 1988). This path of communication with visitors allowed museum staff to be more in contact with their visitors and start analyzing them through quantitative and qualitative methods up to visitor studies today (Miles, 1993; McManus, 1996). Concerning the relationship museums have with visitors Doering (1999) endorsed three approaches: when museums are focused on collections visitors would be considered 'strangers'; when museums would be responsible for their visitors those would be considered 'guests'; and when museums understand that visitors come with needs and expectations that are mandatory to meet, in this case, visitors would be considered 'clients'. This is a relevant reflection that museums have begun to take into consideration. Each museum needs to know and evaluate which approach they are using for their visitors in the institution. Doering (1999) stated that the most common approach to visitors in museums was the 'guests' approach. While I am writing this research I noticed that I am referring repeatedly to visitors' needs. Therefore, it is reasonable to say that currently museums tend to have a more 'client' approach. Moreover, taking into account the actual interest of visitors' participation and crow-sourced exhibitions (Simon, 2010), we could add another approach to the list, visitors as 'partners'.

From 1990 until now, research exploring informal learning on how people interpret objects in museums through their knowledge, interest, and attitudes is particularly relevant (Bitgood, 2011; EunJung, 2006; Falk et al., 1998; Falk & Dierking, 2000; Hein, 1998, 2006; Packer, 2008; Umiker-Sebeok, 1994). Still, there are stereotypes of art visitors' demographics (Davies, 1994; Schuster, 1995); for instance, more women in their forties and with high educational level are going to art museums. For that reason, and to know how to attract different audiences to the museum, audience research and evaluation is needed (Asensio & Pol, 2005; Dufresné-Tassé, 2002; Eidelman et al., 2007, 2012; Pérez,

2000). The term 'visitor studies' includes research as well as evaluation of museums and their audiences (Falk & Dierking 1992; Hooper- Greenhill, 1994, 2006; Loomis, 1987).

Currently, visitor studies in museums are integrated in education, exhibition planning, marketing and communication departments. The position of an 'evaluator' in a museum is not common in most museums -more common in United States and in large museums-, but still this position is rare. In the same vein, ADESTE (Audience DEveloper; Skills and Training in Europe) European Program (2016) is discussing the skills needed for an 'Audience Developer' position in cultural institutions. Following Tinio and Smith (2014) future research on visitor studies aim to explore the following topics:

1. **Visitors' satisfaction** that depends on the expectations visitors have and on the museum they visit (Mastandrea et al., 2007; Ojeda, 2012).

2. **Psychological benefits** of museum experiences (Packer, 2008; Packer & Bond, 2010). Packer (2010) related visits to museums with psychological wellbeing and also found that for some people museums are considered restorative places. Museum atmospherics in terms of how museum environment affects visitor experience have also been studied (Forrest, 2013).

3. **Relation with others and society**. Art makes as think about 'who we are', 'how we interact with others' and 'our place in society', the effect of the museum (Smith, 2014).

4. Introduction of **new technologies** in museums. There is a growing interest in knowing how new technologies could help visitors to be more engaged with art (Heath et al., 2005; Spasojevic & Kindberg, 2001; vom Lehn & Heath, 2005) and how to track visitor movements in museums digitally (Yoshimura et al., 2014).

2.7. Lab Setting

Research in PA field of study has usually been in lab settings. In a laboratory researchers can better control events that could be possible in a real environment. Thus, subjects' behavior in a lab could be different than in a real situation because they could see the lab as unrealistic. While looking at art in a computer in a lab setting individuals focused on only one stimulus –artworks reproductions in a computer screen- and this differs substantially from the real experience of the museum (Brieber et al., 2014; Locher et al., 1999). Hein (1998) asserted that 'naturalistic researchers' are the ones that choose the natural environment, were the action is normally performed, to exploit the setting's characteristics:

> *Naturalistic researchers see the rich environment and unanticipated events as a component of what they are studying, rather than as a limitation on the reliability of their endeavor.* (Hein, 1998, p.73).

2.8. Museum Setting

In 1963 Munro wrote that museums were not used for the purpose of investigation and even now a museum is still a rare place to conduct research studies:

> *The schools, museums, studios, and other places where art is taught provide an excellent testing-ground for psychological investigation in that field. At present, they are not much used for that purpose.* (Munro, 1963, p.280)

Field experiments conducted in real situations are difficult to perform since unpredictable events might happen. Therefore, the researcher would not have enough control of the study variables. However, research has been done in looking at artworks in museums (Smith & Smith, 2001, 2006; Tinio & Smith, 2014; Tröndle & Tschacher, 2012;

Tschacher et al., 2012). Recent studies have demonstrated that viewing art in a museum is a more positive experience than viewing art outside of a museum, in a laboratory (Brieber et al., 2014; Brieber et al., 2015a). Bitgood et al. (1990) and Harvey et al. (1998) studied visitors' immersion in museums. Moreover, Tschacher et al. (2012) confirmed that artworks are presented in the museum setting is relevant for visitor responses to art. Falk and Dierking (1992, 2013) introduced in the literature the museum visit studied as a whole experience.

Museum Experience

Falk and Direking (2013) endorsed that museum visits result from an intersection of the following contexts:

1. *Personal context*: every museum visitor is unique. Therefore, a visitor enters a gallery with previous life experiences, knowledge, expectations and motivations.

2. *Sociocultural context*: every museum visitor has a cultural background (language, economical status, country of origin, etc.). People might consider a museum visit valuable or not depending on their cultural background. Therefore, individuals' values could be in line with the cultural institution or not. Also, people visit a museum in a group of friends, in a family group with children, by pairs, or alone. Social interactions in the context of the museum would also affect the museum experience.

3. *Physical context*: every museum has a different context (architecture, design, objects on display, etc.). The building distribution, how objects are presented in the galleries and the general ambience are elements that would influence visitors.

The museum experience is not only considered as the experience a visitor has in a

museum setting, but also what visitors experience before, during and after a museum visit.

Before the museum experience

People visit museums with certain attitudes, interests, expectations and motivations. Falk and Dierking (2013) after observing and interviewing visitors in museums in the United Stated created the following categories (table 6) that related visit motivation with visitor's identity.

Table 6: Falk's identity-related visit motivations

Categories	Definition
Explorers	Visitors who are curiosity-driven with a generic interest in the content of the museum. They expect to find something that will grab their attention and fuel their curiosity and learning.
Facilitators	Visitors who are socially motivated. Their visit is primarily focused on enabling the learning and experience of others in their accompanying social group.
Professionals/Hobbyists	Visitors who feel a close tie between the museum content and their professional or hobbyist passions. Their visits are typically motivated by a desire to satisfy a specific content-related objective.
Experience Seekers	Visitors who are motivated to visit because they perceive the museum as an important destination. Their satisfaction primarily derives from the mere fact of having been there and done that.
Rechargers	Visitors who are primarily seeking a contemplative, spiritual, and/or restorative experience. They see the museum as a refuge from the work-a-day world or as a confirmation of their religious/spiritual beliefs.

Source: Falk & Dierking (2013, p.47-48)

As we have seen, different motivations move people to enter a museum. Therefore, museums need to have the capability to empathize with all of them and cover their needs. Moreover, the fact that a person was taken to a museum as a child (in family visits or school trips) has an impact on their adult museum visits (Ellenbogen, 2002; Ellenbogen et al., 2004; Falk & Dierking, 1997; McManus, 1993).

Mastandrea et al. (2007) compared visitors in a **traditional and in a contemporary art museum**: in the Borghese Museum in Rome and the Peggy Guggenheim Collection in Venice. They found significant differences in visitors' motivations and expectations. Concerning motivations, visitors wanted to visit the traditional art museum to be culturally enriched. Instead, visitors visiting the contemporary art museum wanted to visit it with the idea of experiencing beauty and the museum environment. As for the expectations, visitors in the Borghese Museum were willing to learn and look at new pieces while visitors in the Peggy Guggenheim Collection were willing to see artworks that they already knew (repeated the visit) and also said they were expecting to have enjoyable experience. Besides, visitors in the traditional art museum were more knowledgeable and visitors in the contemporary art museum were more emotional and oriented to pleasure. Demographic characteristics also differed; Guggenheim visitors had a higher educational level, they were more used to frequenting museums, and preferred this kind of modern art. Contrarily, Borghese visitors preferred to look at ancient art. In 2009, Mastandrea and colleagues did a similar study with other contemporary and traditional art museums and the findings supported the results of the 2007 study. Thus, people's motivations and expectations are related to the museums they visit.

During the museum experience

Visitors tend to satisfy their primary needs when entering a museum. This means that the goal normally is to visit one or many exhibitions but, before or after that, people would need to use museum services -e.g. toilets, museum restaurant, or take an outdoor walk (if there is an outdoor space at the museum)-. Also, what is important is the accessible design in terms of physical accessibility and educational concepts, the museum taking into consideration all visitors' needs, incorporating Universal Design (AAM, 2010).

Pitman and Hirzy (2010) observed 1500 visitors in Dallas Museum of Art to see how they engaged with art during their museum experiences and they created the following typology of museum visitors:

Table 7: Pitman and Hirzy's typology of museum visitors

Categories	Definition
Observers	- Lower art knowledge. - First time visitors. Less engaged and less comfortable with their art experience. - Require basic and clear information about the artwork.
Participants	- Some interest and art knowledge. - Personal connection with art through other creative activities like music, dance, etc. - Assistance is needed in order to understand -the artworks.
Independents	- Strong background in the arts. - Emotional connection and close looking. - Comfortable with the art experience, less guidance to interpret the art.
Enthusiasts	- Strong art knowledge, amateurs or artists. - Very engaged with the artworks. - Interested in the techniques and materials the artist used to create the artwork.

Source: Adapted from Pitman & Hirzy (2010)

Pitman and Hirzy (2010) confirmed that different categories showed different degrees of comfort in the museum (e.g. 'enthusiasts' visitors were the most emotional and the more comfortable in the museum environment). Museums should not underestimate the typologies of museum visitors since they contribute to learning and meaning making in the museum experience. These typologies could help museum educators in planning activities to engage different types of visitors with art.

After the museum experience

After the museum experience visitors may remember the experience at least during the very same day, and hopefully the experience will result in learning outcomes. Rarely visitors are asked to complete a questionnaire at the museum exit door. Therefore, audience research is needed to know about museum audiences and attend visitor and non-visitor needs.

2.9. Labels

Labels are placards or information on the walls of the museum near a piece. Labels are intended to guide viewers towards greater understanding, to help them find meaning in the works, and to help them appreciate and enjoy the museum experience (Serrell, 1983, 1996; Serrell et al., 2013). Labels tend to be relatively short (max. 75 words) and include interpretations, pictures and open questions for people to think about and make their own meanings.

Research about visitor motivation for reading labels has shown that people do read labels (McManus, 1990; Screven, 1992) and that the titles and information help them in understanding and appreciating the artworks (Borun & Miller, 1980; Larsen, 2002; Leder et al., 2006; Millis, 2001; Russell & Milne, 1997). When a label accompanied a painting, the visitors' enjoyment increased (Temme, 1992). In Temme's cross-cultural study in the Netherlands and United States, visitors preferred the longer versions of labels. Nonetheless, a negative correlation between the amount of information and the aesthetic appreciation resulted. When more information was given the viewing time did not increase. For that reason, the author stated that the time spent viewing an artwork also influenced the aesthetic appreciation.

Visitors need time to read the labels and understand their tone, format, syntax and vocabulary (Poli, 2010). Sometimes labels have difficult vocabulary words or phrases that are not easy to understand, thus not legible for all (Wolf & Smith, 1993). Museums should take into consideration adding "Easy reading" labels adapted to all visitors. For example, Duclos et al. (2010) demonstrated the advantage of labels adapted for children but still broader audiences -e.g. people with disabilities- have to be attended.

2.10. Conversations

Conversations are social interactions between people. With conversations visitors exchange opinions and construct their museum experiences. Studies showing that construction of meaning is enhanced by visitor interaction in museums were conducted (Brooks et al., 2005; Falk & Dierking, 2000; Hein, 1998, 2006; Leake, 2012; Mayer, 2005, 2007; Roberson, 2011).

In science and history museums Leinhardt and Knutson (2004) analyzed the content of visitor conversations. In this case, visitors shared the goal of trying to understand the works they were looking at by discussing. They identified the following five categories of conversation: list, personal synthesis, analysis, synthesis, and explanation. The study concluded that, by talking, visitors constructed and remembered the meaning of the objects they saw. What was remembered was learned. Also in a science museum, Zimmerman et al. (2010) analyzed conversations in families. From these conversations, seven categories of talk were created: perceptual, biological fact, connecting and analyzing, affective and aesthetic response, reading exhibit labels and texts aloud, exhibit clarification, and finally, ideas about the nature of science. The conclusions were that families made sense of biological exhibits using their previous knowledge in science.

In art museums the social dimension of conversations has been very rarely investigated (Lankford, 2002). In Germany, Tröndle et al. (2012) demonstrated that conversation and visitors' companions influence the aesthetic experience in terms of enjoying an art museum visit. After interviewing 24 art-visitors in Paris, Debenedetti (2003) showed that there are two motives for visiting an art museum with a companion: sociability, a social museum experience, and self-actualization, a personal museum experience.

More concretely, very little research has been done about paired conversations between visitors in art museums (Kim, 2011). However, works of art could entail intriguing social interactions in art galleries (Barrett, 2003; Mayer, 2007; Tröndle et al., 2012). Keller et al. (2004) introduced different questions (figure 12) to encourage conversations between graduate students in a visit to John and Mable Ringling Museum of Art, in Florida. These authors proposed the following four kinds of questions: about the artwork, the context, taking into account different viewpoints for interpretations, and connections among artworks. Later, Villeneuve and Love (2007) added two other questions: personal meaning or metacognition and connections across subjects.

These questions will fit in our conversation analyses. Also, we followed the directions Korn (1992) used:

> *You can talk about anything that comes into your mind. There are no right or wrong things to say- we want to know what our visitors think about when they look at it (piece).* (Korn, 1992, p.182)

Figure 12: Art-Based Inquiry: Questioning Format
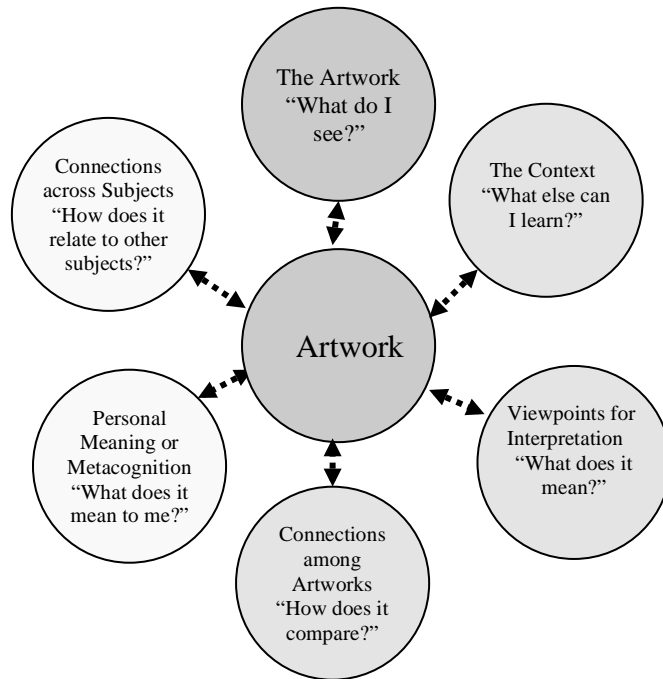
Source: Villeneuve & Love (2007, p.3)

2.11. Understanding, Liking and Enjoying Artworks

The goal of this research is to study the phenomena of understanding, liking and enjoying artworks. Munro (1963) when talking about specialized research in PA and art appreciation was referring to them:

> *The phenomena of appreciation: how people perceive, **understand,** and otherwise **respond to works of art**; how they use, **enjoy** and judge them.* (Munro, 1963, p.268).

Since these are ambiguous and widely used terms we would give definitions for each of them.

Understanding

To understand an artwork means to gain information about it and discover the meaning behind it. For instance, what the artist was trying to express. Pekarik and Schreiber (2012) conducted different studies in nine museums about the expectations of visitors before a museum visit and their satisfying experiences after the museum visit. In this study, 47% of visitors stated that experiences that were more satisfying were the ones related to information and understanding of the artworks.

From a learning perspective Hein (1998) reasoned that we needed to make connections between the 'known' -what we already know-, and the 'new' -for instance, in a museum this new element could be the piece we are looking at in a first visit-. The learning outcome would depend on the visitor disposition and capability to learn (Lankford, 2002).

> *Every so often it is claimed that a good picture needs to be understood as it is, without any additional explanation. Nothing can be further from the truth. On the contrary, every picture be it historical, mythological, religious or of any other type, needs to be complemented by knowledge that can't be obtained from the picture itself, in order not only to understand the picture, but also to appreciate fully its value and beauty.* (Fechner, 1876, p.140, Leder translation, in Tinio and Smith, 2014, p. 131)

Liking

To like an artwork means to appreciate it, to find it beautiful and to connect with it in a positive way. In Pekarik and Schreiber (2012) study, 34% of visitors stated that 'beauty', meaning the fact of being moved by the art beauty, was a satisfying museum experience. Art appreciation disputes the object identification, if the art has been done well or poorly, and if it is appropriate or inappropriate to a concrete context.

Smith (2014) started his definition of 'museum effect' with a conversation he had with his son (14 years old) in the exit door of an exhibition at the Met about Jusepe de Ribera:

How did you like the exhibition?

Exhibition was good. But they should have had a different title.

What would you have named it?

'Bad Days in the Lives of the Saints' and one other thing, Dad.

Yeah?

Those little chubby flying guys.

Yeah.

I don't like them.

(Smith, 2014, p. 67)

Enjoyment

To enjoy an artwork means to enjoy the moment of looking at it and to engage with the art. Packer (2006) described 'Learning for fun' experiences. These experiences included: a sense of discovery/fascination, appeal to multiple senses, appearance of effortlessness, and the availability of choice.

> *There is a need for further research on both the process and outcomes of learning for fun... What features of the learning environment facilitate deeper approaches to learning?... [If there are] visitors who have no particular learning agenda but who can be drawn into a learning experience that is both enjoyable and in many cases productive, then it is important that the conditions that facilitate such an experience be understood and provided.* (Packer, 2006, p.341)

We depart from the idea that if you understand an artwork -in terms of how it was created and knowing about the artist intends with help of your previous knowledge- you could better like it. And if you like the artwork you could better enjoy it.

General fundamentals were given to frame this dissertation and specific fundamentals were introduced because they form the basis of the work presented: study 1, 2, and 3. Plan and objectives of these studies are outlined below.

3. Research Objectives

3.1. Plan

Table 8 shows the characteristics of the three studies of this research. Our plan is to go from a micro to a macro perspective meaning that we start with a defined sample and we end with a wide sample of the general museum audience. Next, participants were tested in two different settings: lab and museum. The instruments we used were questionnaires, recorded conversations, focus groups, and field notes. As evidenced in table 8, quantitative and qualitative analyses were performed. Study 2 is an extension of study 1. Because in focus groups participants were comparing contemporary with traditional art, we decided to do a last study comparing visitors in a contemporary and in a more traditional art gallery.

Table 8: Plan

	Study 1	**Study 2**	**Study 3**
Definition	Response to Contemporary Art in a Lab versus in a Museum	Focus Group about Museum Experience	Contemporary Art Appreciation in a Contemporary Art and in a Traditional Art Gallery at the MFA
Sample	Defined – convenience sample (Younger adults = BC students, Older adults = HILR members)	Defined – convenience sample (Younger adults = BC students, Older adults = HILR members)	Non defined – targeted sample (Younger adults = museum general audience Older adults = museum general audience)
Place	Lab and Museum	Museum	Museum
Number of participants	79	34	160
Data	79 questionnaires lab & 8 recorded conversations lab 79 questionnaires museum & 8 recorded conversations museum	4 recorded focus groups museum 4 field notes focus groups museum	80 questionnaires at Contemporary Art Gallery & 80 questionnaires at Traditional Art Gallery

3.2. Objectives and Hypothesis

The main **research question** is: Are there significant differences between younger and older adults' appreciation of contemporary art in various contexts?

Then our **general objective** is: to study contemporary art appreciation in younger and older adults.

Herewith find attached **specific objectives and hypothesis** for each study:

Study 1: Objective 1 and Hypothesis1

Objective 1: Determine the perceived effect of labels and conversation in art appreciation while looking at contemporary artworks in a lab and in a museum setting.

Hypothesis 1: Labels and conversations will contribute to understanding, liking and enjoyment of the artworks more in younger than older adults.

Study 2: Objective 2 and Hypothesis 2

Objective 2: Analyze younger and older adults' interpretations of contemporary artworks in a group discussion after the museum experience.

Research question 2: Does the museum setting -also, labels and conversations at the museum- contribute to appreciating the art better?

Study 3: Objective 3 and Hypothesis 3

Objective 3: Determine the level of contemporary art appreciation in younger and older adults -visitors from the general audience of the museum- after visiting a contemporary and a traditional art gallery.

Hypothesis 3: Visitors in the contemporary art gallery will appreciate contemporary art more than visitors in a traditional art gallery.

4. Research Ethics

4.1. IRB Document

The project has been revised and accepted by the Institutional Review Board (IRB) in the Office for Research Protections (ORP) at Boston College. The researcher did the "Protecting Human Research Participants" and "Social and Behavioral Responsible Conduct of Research" training certificates. The IRB document included an application, a summary of the project, the two training certificates and the consent forms used in each study. The consent documents were useful in order to demonstrate the consent of the subject participation. The IRB document also included the recruitment documents that were used by the investigator as well as the support letters of each institution (Harvard Institute for Learning and Retirement and Museum of Fine Arts, Boston).

4.2. Informed Consent Procedure

Information about the study was provided in the consent forms and the researcher performed the informed consent procedure. A BC experienced faculty member trained the researcher in the performance of informed consent. Participants had the opportunity to ask questions if they did not understand the instructions and consent forms were signed before starting the study. A copy of the signed consent forms was given to participants and the investigator retained another copy.

4.3. Confidentiality

Participants completed the questionnaire on a laptop and at the museum. Data were coded by participant number and stored in a locked file cabinet in the Arts and Mind Lab at BC. Hard copies of the questionnaire were also stored in the locked file cabinet after the participants' names had been removed. A coded list with names and numbers was stored and only the analyst and advisors had access to this site.

4.4. Potential Research Risks to Participants

The only risk of our studies is the possibility of boredom or not enjoying viewing of the art pieces. To minimize that feeling the researcher monitored adverse effects on participants and participants were told that they could withdraw from the study at any time. All of the measures were designed to be stimulating and fun.

4.5. Potential Research Benefits to Participants

All participants were likely to enjoy and learn from the experience of looking at art pieces. Study 1 had two sessions, session 1 took 30 minutes of viewing the images on a laptop and then, session 2, took 2 hours: going to the museum, visiting the four contemporary works of art, and completing the questionnaire. In Study 1 undergraduates received course credit for participation and got the ticket expenses to the museum covered. Credits were given in proportion to the hours of participation in the research study. For older adults it was a different socialization experience. This should be a meaningful and educational experience. Study 2, participation in a focus group after Study 1, took 30 minutes. Study 3, asking visitors from the general audience at the MFA, took 15 minutes.

Attached, the three research studies.

5. Research Studies

5.1. Study 1: Response to Contemporary Art Viewed in a Lab vs. Museum Setting: Perceived Benefits of Labels and Conversation

5.1.1. Introduction

In this study we want to observe the perceived benefits of having the label information and having a conversation with another person about four artworks. We will analyze responses younger and older adults have to contemporary art viewed first in a lab setting, viewing the artworks in a computer and then, viewing the artworks on display in the Contemporary Art Gallery at the Museum of Fine Arts, Boston - real experience of the museum-. We begin from the following questions:

- Are **labels** helpful for understanding, liking and enjoying contemporary artworks?

- Is having a **conversation** with another person about the artworks helpful to understand, like and enjoy contemporary art?

5.1.2. Methods

Recruitment Procedure

We recruited younger adults in person and on-line through SONA SYSTEM, a BC intranet to recruit participants for research studies (appendix 9.2.1). In that intranet students were able to see the ongoing research studies at BC and could subscribe to the ones that they were more interested in. As for older adults, we recruited participants in person and send them e-mail. In person, the researcher went to different HILR classes. First, we contacted the teachers by e-mail, and then went to the following classes to present the study:

BC class
Tuesday, April 22, 2014 at 1:30pm at room McGuinn 121 BC
Class: Introduction to Psychology as a Social Science

HILR classes
Tuesday, September 24, 2013 at 10am at room 325 HILR
Class: The Photographer's Eye: Design, Color, and Composition in Photography

Wednesday, October 9, 2013 at 11am at room 323 HILR
Class: Pictures of Nothing: Abstract Art Since Jackson Pollock

Thursday, November 7, 2013 at 10am at room 223 HILR
Class: Understanding Meaning in the Visual Arts and Literature

Thursday, November 7, 2013 at 1pm at room 323 HILR
Class: The Barnes Foundation, Philadelphia: The Art and the Collector

BC students in "Introduction to Psychology as a Social Science" course are required to participate in psychology research. For that reason, we chose that class to encourage students to participate. The researcher entered the room at the beginning of the class and explained the research study. A list (appendix 9.2.1) was given to the teacher and passed to students. At the end of the class, we collected the e-mail list with BC students willing to participate. Afterwards, we contacted them on-line with meeting dates for the first part of the study, the lab setting. In the lab we agreed on a date for the second part of the study, the museum setting.

At the beginning of the 'art related' HILR classes we explained the study and asked for participants to collaborate. A list (appendix 9.2.1) was given to the teacher and passed to the members. At the end of the class, we collected the e-mail list with HILR members willing to participate. Afterwards, we contacted them on-line with meeting dates for the first part of the study, the lab setting. In the lab we agreed on a date for the second part of the study, the museum setting.

Unexpectedly, two of the HILR art classes' teachers joined the study. Teachers at HILR are also HILR members and they can attend other courses. They are HILR members

that, taking advantage of their professional experience, give a class on the topic in which they are experts to the rest of the members. Every semester teachers and courses switch so that HILR teachers play the role of teacher and member indistinctly.

We did a close follow-up of each participant being in contact with them by e-mail during all their participation. Moreover, viewing participants twice, in a lab and museum setting, fostered close relationships with them.

Participants

A total of 79 adults participated: 40 younger adults (mean age 18.9 years, 18 females, 22 males) and 39 older adults (mean age 75.6 years, 29 females, 10 males). Younger adults were undergraduates at BC, a university in the northeastern part of the United States and older adults were HILR members, an institute that offer courses for retired professionals at Harvard University. Some participants were friends and enrolled together. Concerning their art-knowledge, in the younger group participant 125 was Major in Art History and in the older adult group there were one Art Teacher (206) -also teacher at HILR-, two Architects (236/239) -239 also being teacher at HILR-, and one Sculptor (220).

Materials and Procedure

Attached are the images of the four contemporary artworks with their corresponding labels used for the study [1] that were also on display in the Contemporary Art Gallery at MFA.

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[1] MFA on-line collection:
1. *Wing*, by Linda Benglis http://www.mfa.org/collections/object/wing-549919,
2. *Black River* by El Anatsui http://www.mfa.org/collections/object/black-river-541626,
3. *Skulldiver III*, by Cecily Brown http://www.mfa.org/collections/object/skulldiver-iii-flightmask-496402
4. *Endlessly Repeating Twentieth Century Modernism*, by Josiah McElheny
http://www.mfa.org/collections/object/endlessly-repeating-twentieth-century-modernism-503178.

Artworks and Labels

Figure 13: Artwork 1- *Wing*, by Linda Benglis

Lynda Benglis
American, born in 1941
Lives in Santa Fe, New Mexico
Ahmadabad, India and New York
Wing, 1970 (cast in 2009)
Cast aluminum

Label - Wing, by Linda Benglis

Painting or sculpture? Benglis defied convention by "painting" monumental sculptures,

explaining, "they're painterly, yet they're dimensional… I do think of myself as a painter."

For pieces like Wing, Benglis poured liquid polyurethane that hardened, freezing a gesture.

She later cast the pieces in solid aluminum to parody the hefty, often geometric metal works

popular among male artists in the late 1960s.

Figure 14: Artwork 2 - *Black River*, by El Anatsui

El Anatsui
Ghanaian, born in 1944
Lives in Nsukka, Nigeria
Black River, 2009
Aluminum bottle labels, bottle caps, and copper wire

Label - Black River, by El Anatsui

El Anatsui worked with a team of assistants to assemble discarded liquor-bottle caps and wrappers into a metallic tapestry. When pinned to the wall, its rolling hills and valleys recall a topographical map. At center, a black river – it is oil? people? water? alcohol?- seems to seep across a border. Liquor wrappers with names like "Dark Sailor" and "Black Gold" hint at Africa's long history of slavery and colonialism, as well as today's conflicts over natural resources, especially oil. The patterns made by some of the wrappers at lower right resemble traditional Ghanaian kente weavings.

Figure 15: Artwork 3 - *Skulldiver III* (*Flightmask*), Cecily Brown

Cecily Brown
English, born in 1969
Lives in New York
Skulldiver III (Flightmask), 2006
Oil on linen

Label - Skulldiver III (Flightmask)

Brown believes in painting for painting's sake, and often makes works that are almost

completely abstract. She says: "I've always wanted to be able to convey figurative imagery

in a kind of shorthand, to get it across in as direct a way as possible." Even from a

distance, this image barely holds together. The picture seems to be of a splayed body, seen

in some sort of fuzzy memory. The puzzling title reinforces the mystery. What's it all about?

Figure 16: Artwork 4 - *Endlessly Repeating Twentieth-Century Modernism*, J. Mc Elheny

Josiah McElheny
American, born in 1966
Lives in New York
Endlessly Repeating Twentieth-Century Modernism, 2007
Blown mirrored glass, mirrors, metal, wood, and electric lighting

Label - Endlessly Repeating Twentieth-Century Modernism, Josiah McElheny

McElheny hand-blew the dozens of glass vessels in this perfectly machined, mirrored box, basing them on 20th-century designs. Their glinting reflections recede in an infinitely repeating pattern. The work is inspired by an enclosed and completely reflective world of pure form imagined by architect Buckminster Fuller and sculptor Isamu Noguchi in 1929. By crafting a version of their idea, McElheny reveals what a world purged of human presence and individuality looks like. Though brimming with beautiful objects, it is a place apart, devoid of life.

Artworks were selected in collaboration with the Head of Planning and Evaluation at the MFA for being:

- **on display for a long time**. The Head of Planning and Evaluation confirmed that the four of them would be on display during one academic year. This was important in order to organize the visits to the museum during the 2013-2014 academic year.

- **on-line at MFA website**. http://www.mfa.org/collections/contemporary-art, the online photographs were used for the artwork computer visualization in the lab setting.

- **very recent**. The four artworks were from the last decade. We wanted the artworks to be recent because we wanted participants to engage with contemporary works of art whose artists are still alive and, accordingly, consider contemporary artists' expressions and intentions.

- **two from female artists and the other two from male artists.** We wanted to consider gender equality for the study.

- **two from American artists and the other two from an artist from Ghana (El Anatsui) and the other from a British artist (Cecily Brown).** We wanted to include artists of different origins for the study.

Labels were equivalent in terms of explanation and vocabulary level. Also, two of them had photographs for further explanation. At the MFA the Curator and the Head of Interpretation discuss and work together to write the labels. Their intent is to make labels helpful for visitors to connect with art. Normally labels consist of one paragraph, with content that aims to engage and to be clear, focused and thought provoking.

Participants were tested in two settings: Session 1 was held in a Lab and Session 2 at the MFA. In each session they first viewed two artworks without labels and without the opportunity to discuss their responses with anyone else. They then viewed two other artworks with labels and with the opportunity to discuss their responses with others.

Participants were divided into two groups of 19-20 each (appendices 9.2.5 and 9.2.6). In both settings, Group 1 viewed artworks 1-2 without labels/discussion and 3-4 with labels/discussion; Group 2 viewed artworks 1-2 with labels/discussion and 3-4 without labels/discussion. In the museum settings, we could not remove labels. Therefore, we asked participants to ignore the labels for the first two artworks that they viewed. To avoid an effect of order, we alternated the artworks (figure 17) so that two were shown first to Group 1, and the other two were shown first to Group 2, in both settings.

Figure 17: Artwork order
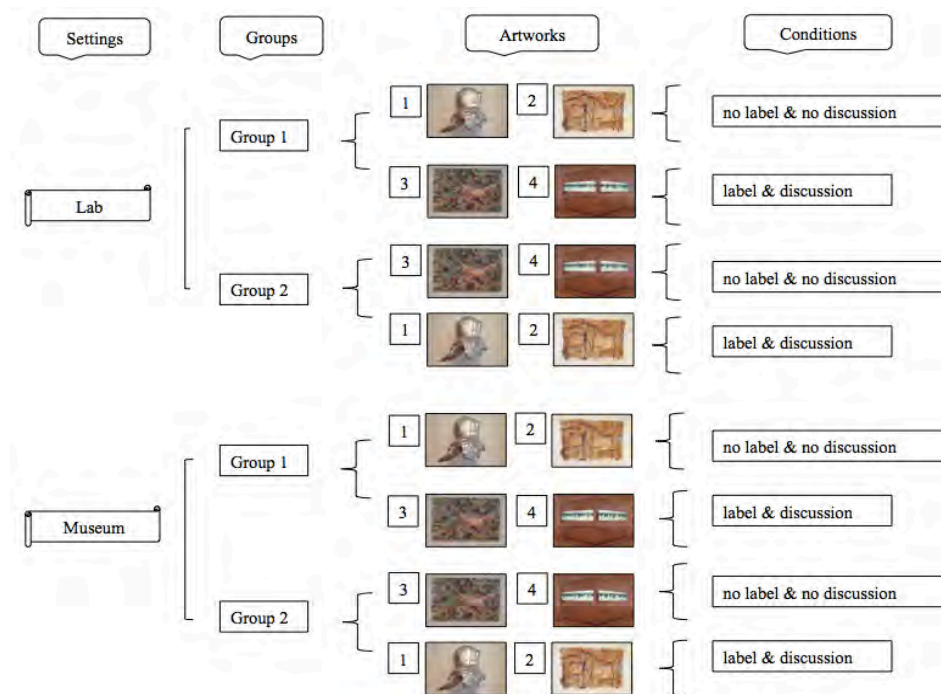
Session 1 - Lab

Younger adults participated by pairs in Session 1 in a university psychology laboratory testing room and viewed the works on a 13 inch computer screen with 1440 x 900 resolution. Also by pairs, older adults participated in this session in a classroom (pretty much like a lab) where they took adult education classes and used the same 13 inch computer screen with 1440 x 900 resolution. The researcher used two laptops, one where participants looked at the artworks and a second one that was offered to participants should they want to complete the questionnaire digitally. Usually older adults chose to complete the paper questionnaire and younger adults the digital questionnaire. The protocol elaborated for Session 1 is showed below:

Session 1 – Computer Protocol

(*The researcher introduces herself saying*)

Hi! My name is Andrea and I am conducting a research study about response to contemporary art viewed in a lab vs. museum setting. For this activity I would need your consent, so please take your time to read this consent form and sign it, thanks. If you have any questions, please let me know, thank you.

(*The researcher gives a pen and a consent form -appendix 9.2.2- to each participant*)

Thank you for your signature, one document is for you and the other one is for me.

(*The researcher introduces the study procedure saying*)

This study has two parts; the first part will be conducted in pairs today here in this lab/room and consists in looking at four contemporary artworks on a laptop. For the second part we will go in small groups to the Contemporary Art Section of the Museum of Fine Arts, Boston where the same works of art are on display.

(*The researcher explains the first part of the study- laptop activity*)

We will start with the first part. You will be looking at two firsts pieces on the laptop in silence during one minute each. Then, I will ask you to look at piece number three and four and you will be able to have information about them and discuss with your partner about your impressions. Please remember that there is no

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a good or a bad answer, the idea is to discuss about the artwork, you can express whatever it comes to your mind. At the end you will have to complete a short questionnaire about the computer experience. Overall the activity will take 30 minutes. Do you have any questions? Thank you.

(*The researcher gives some time to answer participants' questions if any*)

We can start. Please look attentively and in silence during one minute to the first artwork on the laptop screen. I will be counting the minutes; so don't worry about the time.

(*The researcher stays in participant's backside counting the minute -with a stopwatch- and after one minute the researcher says*)

Ok, the first minute is over. We can proceed and look at the second artwork again in silence, thank you.

(*After one minute the researcher says*)

Ok, now you can see the third artwork and discuss with your partner.

(*After one minute the researcher says*)

Now, you can start your conversation. Thank you.

(*The researcher starts audio-recording the discussion while taking notes*)

(*After 5-10minutes the researcher says*)

Ok, great discussion, thank you. You can go and look at the last artwork, the fourth one.

(*After one minute the researcher says*)

Now, you can start your conversation. Thank you.

(*The researcher starts audio-recording the discussion while taking notes*)

(*After 5-10 minutes the researcher says*)

Great, thank you very much for these discussions. Now, we will proceed to fulfill the questionnaire. [Paper option: the researcher gives the paper questionnaires to participants. Digital option: Please you (participant 1) can do your questionnaire on this laptop and you (participant 2) can take this other laptop, thank you.]

Please notice that in the first part of the questionnaire (questions 1 to 6) we ask you about some general information and the answers are already given, you only have to

mark your choice. In the second part, you will find two open-ended questions (questions 7 and 8). We ask you about your understanding, liking and enjoyment of the artworks. Therefore, you will have to write down your opinion. If you have any questions, please let me know. If you are ready, you can start. Thank you.

(*The researcher attends participants' questions and waits until participants finish to complete the questionnaires, then the researcher says*)
Did you finish?

(*And then the participant says*)

Yes.

(*Then the researcher verifies that every question in the questionnaire is responded, if something is missing the researcher asks for a response. At the end the researcher says*)

Thank you very much for your participation. I will be sending you an e-mail regarding our visit to the museum. See you then, thank you. Have a good day!

Session 2 - MFA

Session 2 was conducted in the Contemporary Art Gallery 259 at the MFA in small groups of four to six participants at a time for both age groups. These sessions were held on Wednesday afternoons from 4 to 9 pm when museum entrance was free. No more than one month passed between Session 1 and Session 2. The protocol elaborated for Session 2 is showed below:

Session 2 - Museum Protocol

(*The researcher introduces herself to the first participants that arrive at the MFA with an ice-break sentence*)

Hi! I am Andrea, how are you? Was it difficult to get to the museum today? We are waiting for a group of 4-6 participants. While waiting if you want you can seat here in this sofas museum entrance until the rest of the group arrive. For this activity I would also need your consent, so please take your time to read this consent form and sign it, thanks. If you have any questions, please let me know, thank you.

(*The researcher gives a pen and a consent form -appendix 9.2.2- to each participant*)

Thank you for your signature, one document is for you and the other one is for me.

(*The researcher gives the MFA ticket to each participant*)

Please hold your ticket until we get into the museum, thank you.

(*After entering the museum the researcher shows to participants were they could leave their bags and coats and waits for the group*)

Now that we are ready, we can go to the Contemporary Art Gallery were we will do the second part of the study.

(*The researcher guides participants thorough the museum and while walking to the Contemporary Art gallery the researcher says*)

As you will probably remember, the study has two parts; you already did the first part in the lab and consisted in looking at four contemporary artworks on a laptop. For the second part, today we will visit the Contemporary Art Section of the museum where the same artworks are on display.

(*The researcher explains the second part of the study- museum activity*)

We are now at the contemporary art gallery entrance. Please take into consideration that we are in a museum so be careful with the artworks. I remind you that you are not allowed to touch any of the objects in this gallery. And please, I will really appreciate if you try not to disturb other visitors while doing the experimental study. Thank you very much.

As we did in the laptop activity, you will be looking at the two firsts pieces in silence and without reading the label information during one minute each. Then, I will ask you to look at piece number three and four and you will be able to read the information on the label and discuss with your partner about your impressions. Please remember that there is no a good or a bad answer, the idea is to discuss about the artwork, you can express whatever it comes to your mind. At the end you will have to complete a short questionnaire about the museum experience. Overall the activity will take 30 minutes. Do you have any questions? Thank you.

(*The researcher gives some time to answer participants' questions if any*)

(*The researcher enters with the group of participants in Gallery 259*)

We can start. Please look attentively during one minute to the first artwork in silence and ignoring the label. I will be counting the minutes; so don't worry about the time.

(*The researcher stays in front of the artwork label counting the minutes -with a stopwatch- and after one minute the researcher says*)

Ok, the first minute is over, so we can go to the second artwork that is at the end of the gallery. Please follow me, thank you.

(*The researcher guides the group of participants to the end of the gallery*)

Now we are in front of the second artwork. We can proceed and look at the second artwork in silence and ignoring the label, thank you.

 (*The researcher stays in front of the artwork label counting the minutes -with a stopwatch- and after one minute the researcher says*)

Ok, the second minute is over. Here behind is the third artwork that we will be exploring. So, now you can look at the third artwork, you can read the label and discuss with your partner.

(*After one minute the researcher says*)

Now, you can start your conversation. Thank you.

(*The researcher starts audio-recording the discussion while taking notes*)

(*After 5-10 minutes the researcher says*)

Ok, great discussion, thank you. Now in your back you will find our fourth artwork.

(*The researcher turns around and waits until all participants arrive in front of the fourth artwork*)

Now you can look at the last artwork, read the label and discuss.

(*After one minute the researcher says*)

Now, you can start your conversation. Thank you.

(*The researcher starts audio-recording the discussion while taking notes*)

(*After 5-10 minutes the researcher says*)

Great, thank you very much for these discussions. Now, we will proceed to fulfill the questionnaire. We will go to a quiet place in the museum. Please follow me.

(*The researcher guides the group of participants to the rotunda sofa area of the museum and says*)

Now I will give you the questionnaire you will have to complete. I already have the information of the first part of the questionnaire, so please go to questions number 7 and 8 and you will find two open-ended questions. On those questions we ask you

about your understanding, liking and enjoyment of the artworks. Therefore, you will have to write down your opinion. If you have any questions please let me know. If you are ready you can start, thank you.

(*The researcher attends participants' questions and waits until participants finish to complete the questionnaires, then the researcher says*)

Did you finish?

(*And then the participant says*)

Yes.

(*Then the researcher verifies that every question in the questionnaire is responded, if something is missing the researcher asks for a response. At the end the researcher says*)

Thank you very much for your participation.

(*Information below for younger adults participants only*)

As you know, this research study covers your travel expenses to the museum.

(*The researcher gives a pen and an invoice -appendix 9.2.4- concerning travel expenses to each participant*)

Thank you for your signature, one document is for you and the other one is for me. Please have 4 dollars for your travel expenses, thank you.

(*The researcher gives 4 dollars to each participant*)

If you would like to participate in a group discussion, please wait here because we will soon start the group discussion, thank you.

Data collection

Data were collected **during** (audio-recorded conversations/field notes) and **after** (questionnaires) the laptop and the museum experience. We combined different data collection methods to have a broader understanding of the phenomena we were studying. Data collection lasted from September 2013 to April 2014.

Questionnaires

After completing both sessions participants were asked to complete the same questionnaire in appendix 9.2.3. The questionnaire was created in collaboration with the Head of Planning and Evaluation at the MFA and, of course, it was revised and discussed with professors. Before distributing the questionnaire to the sample of the study we did a small pilot testing with 8 adults (4 younger and 4 older adults) in a lab and at the MFA. We observed that other type of questionnaires (figure 18) were already used in other studies such as the 'art experience questionnaire' created by Chatterjee et al. (2010):

Figure 18: Art experience questionnaire

Questions 1 to 6 of the questionnaire found in appendix 9.2.3 aimed at collecting background information: age, highest educational degree, frequency of museum visits, arts background (e.g. whether they had played an instrument, taken drawing dance or theater classes), and, on a 5- point scale, liking for contemporary art. Following Falk and Dierking

(2013) we wanted to discover if our participants were: infrequent museum visitors (if they had not visited a museum during the last year), frequent visitors (1-4 visits to a museum per year), or very frequent (5-10), and we added a really competent category of visitors (visiting 10 or more museums per year). Additionally, we wanted to know about participants' arts background because we studied that education in arts is a key factor in order to understand the artworks (Chatterjee, 2004; Fróis & Silva, 2014; Leder et al., 2004; Pihko et al., 2011; Walker et al., 2011).

In **questions 7 and 8** participants were asked to consider three open-ended questions about the effect of labels and the effect of discussion. They were asked how much labels affected their understanding, liking and enjoyment of the artworks. They also were asked how much being able to talk to others affected their understanding, liking, and enjoyment of the artworks. In the museum setting participants only completed questions 7 and 8 in the questionnaire (appendix 9.2.3) because we already had participants' information concerning questions 1 to 6 from their lab questionnaires. It took 5-10 minutes for participants to complete the questionnaire.

We asked about labels and discussion to study the influence of having information about an artwork (Serrell, 1996, 2013) and being able to discuss with another person about the artworks (Tröndle et al., 2012). Our dependent variables were understanding (Parsons, 1987; Hein, 1998, 2006) liking (Leder et al., 2004), and enjoying (Packer, 2006) the artworks.

Paired Conversations

Paired conversations of about 10-15 minutes between participants were allowed and **audio-recorded** in the lab and in the museum setting. Video recording was not considered for being intrusive and because only verbal information was needed. The good acoustics of

the lab/room permitted clear understanding and transcription. However, conversations in the museum were sometimes difficult to transcribe because of the environmental noise. Besides, some conversations were recorded for a few minutes preventing us from doing a complete analysis. For that reason, we chose to analyze conversations that were well recorded and in which the sound enabled us to hear and understand the complete information. Low quality recordings were dismissed since understanding was not possible. In all transcripts we checked the time information and the artworks participants were looking at.

Field Notes

Notes were taken in the field by the researcher after direct observation of participants (Patton, 2002). These notes helped in describing interactions of participants and drawing their contributions to the study. Following Bogdan and Biklen (2003) we compiled descriptive and reflective notes. **Descriptive notes** were focused on *portraits of the subject*, information about physical appearance of the subjects to remember them, *reconstruction of dialogue,* relevant quotes or paraphrases of some of the subjects, *description of physical setting* sketched about the lab and museum setting, *accounts of particular events*, which participants were involved in the action, *depiction of activities*, activities and behaviors that were significant, and *the observer's behavior*; as researchers we are part of the instrument of the data collection, so it is important to also take into consideration our behavior. **Reflective notes** consisted of: *reflections on analysis*, we started to consider the themes that were emerging in our data, *reflections on method*, we took notes about the logistic problems we were facing on the field, *reflections on ethical dilemmas and conflicts*, we took into consideration our thoughts and participants responsibility during all the data collection process, *reflections on the observer's frame of*

mind, we validate our thoughts based on what was happening on the field and *points of clarification*, notes were taken to clarify confusing issues on the field. Merriam (2009) adds that reflective comments are suitable to remember the researcher's impressions, reactions and feelings while collecting the data for the study. This is essential for qualitative research.

Data Analysis

We analyzed quantitatively and qualitatively the following data: 79 questionnaires and 8 recorded conversations that were collected in the lab setting and 79 questionnaires and 8 other recorded conversations that were collected in the museum setting.

Table 9: Data Analysis Study 1

	Session 1 (Lab-Computer)		Session 2 (Museum-MFA)	
Data	79 Questionnaires	8 Recorded Conversations	79 Questionnaires	8 Recorded Conversations
Analysis	Quantitative and qualitative	Qualitative	Quantitative and qualitative	Qualitative

Analysis of Questionnaires

Due to properties of the sample, not following a normal distribution, non-parametric analyses were performed to look for group differences in SPSS Version 22 Program. Mann-Whitney U analyses were performed for scale variables, in questions 1/2/4/5/6 (appendix 9.2.3), and Crosstabs Chi-Squares analyses were performed for the rest of variables: highest educational degree attained, gender and in questions 3/7/8 (appendix 9.2.3).

Mann-Whitney U tables showed the Ranks and the Tests Statistics. As for Crosstabs, in the contingency tables we had the Observed Count (the number of participants that indicated that labels hurt, did not help or helped) and the Expected Count (the number of participants that we expected to observe if there was no association). The observed count was different from the expected. The contingency table analysis tested whether the

observed counts were significantly different from the expected counts. The Adjusted Residual (beyond 1.96) helped to know which were the significant cells. The Chi-Square Test determined if the observed count was different enough for the association to be significant. The Symmetric Measures told us how strong the association was. To see the magnitude of this association, indicators were delimited between 0 and 1. The closer the value to 1, the stronger the association was. Moreover, when comparing two variables we looked at Phi; whereas when comparing more than two variables we looked at Cramer's V.

In **question 3** we decided to analyze if participants had ever taken drawing classes and compared it to other artistic activities. We chose to analyze an art pursuit like 'drawing classes' because it is the artistic activity most related to visual arts, our field of study. As for **questions 7 and 8**, given the concrete responses of participants, these open-ended questions were quantitatively analyzed (figure 19) in terms of whether participants felt that labels and the opportunity to discuss hurt (-1), made no difference (0), or helped (+1). The entire response was coded as one of theses three options.

Figure 19: Analysis of questions 7 and 8

Analysis of Conversations

As mentioned earlier, participants discussed their responses to the third and fourth artworks they viewed, which were presented with labels. These conversations involved only two participants and took place in settings, lab and museum.

Table 10: Participants and recorded conversations

	Computer Conversations' number/ Participants' number	Museum Conversations' number/ Participants' number	Artwork order
Younger Adults	1: 123-124	9: 123-124	Group 1
	2: 125-128	10: 125-128	Group 1
	3: 133-134	11: 133-134	Group 2
	4: 137-138	12: 137-138	Group 2
Older Adults	5: 228-209	13: 228-209	Group 1
	6: 223-222	14: 223-222	Group 1
	7: 230-231	15: 230-231	Group 2
	8: 236-232	16: 236-232	Group 2

Conversations were transcribed following the technique in Rapley (2008), entered into Atlas.ti Version 1.0.1. (67) – US (a qualitative analysis software program) and coded and categorized (Gibbs, 2007; Merriam, 2009). Qualitative literature was revised (Glaser & Strauss, 1967; Patton, 2002; Strauss & Corbin, 1990).

The process for analyzing participants' quotes (figure 20) was the following:

1. The researcher took concepts from literature: understanding (Parsons, 1987; Hein, 1998, 2006), liking (Leder et al., 2004) and enjoyment (Packer, 2006), the variables of the study.

2. The researcher allowed *codes* -words that represent a theme found in the data- to emerge from the data

3. The researcher created *subcategories* -words that represent the general idea of different codes- from the emerged codes.

4. The researcher assigned subcategories to *categories* -words that represent the top of the idea related to the different subcategories-.

Figure 20: Qualitative analysis process
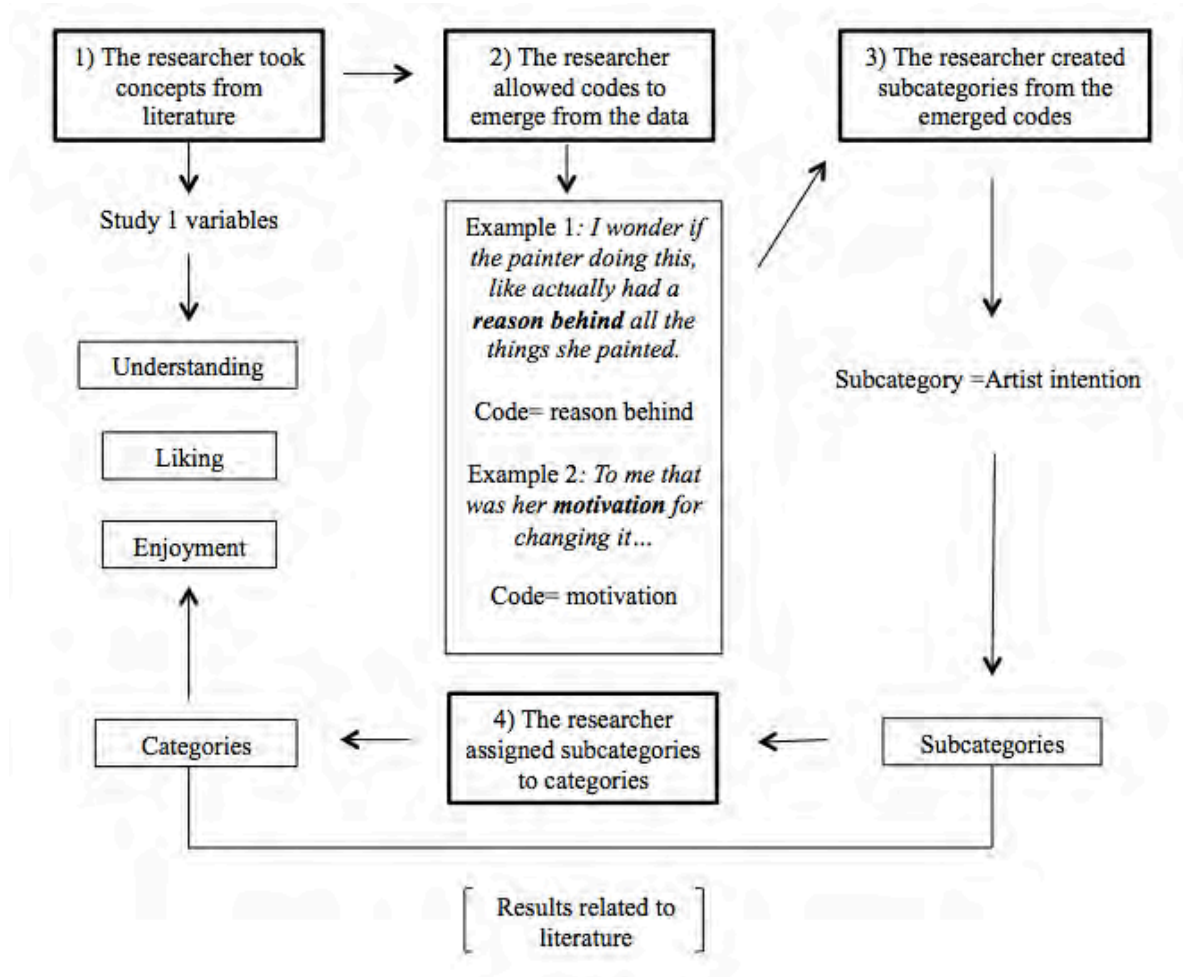
In this example, the emerged codes were 'reason behind' and 'motivation' that were referring to the intention of the artist. For that reason, we created a subcategory named 'artist intention'. We considered that wanting to know about the artist intention was more related to the concept of understanding art rather than liking or enjoying it. Thus, the subcategory 'artist intention' was assigned to category *understanding*.

That being said, other subcategories were created 'artistic process' and 'previous art knowledge' that were also assigned to category *understanding*. Instead, when participants

were referring to liking or disliking artworks (subcategory 'appreciation') and including their feelings (subcategory 'emotion'), these subcategories were assigned as category *liking*. Besides, when participants were referring to the title of the artwork we created a subcategory named 'title'. This subcategory was also assigned to category *liking* because we think that the name of the artwork could affect art appreciation. Finally, we thought that participants describing the artworks and sharing their curiosities and connections to their daily lives could enhance the enjoyment of artworks. For that reason, we included the subcategories 'curiosity', 'description' and 'personal connection' as part of the category *enjoyment*. In table 11 a definition of each category is shown accompanied by an example to clarify each attributed meaning.

After these analyses were conducted, we identified subcategories that most appeared in each conversation. Following Kim (2011) by analyzing subcategories frequency of appearance we wanted to show the themes that most emerged from the data. Thus, not because of more frequent subcategories appearing this means that the category is more important. But we found a way to organize all the data and to observe how participants were referring to understanding, liking and enjoying the art. Next, we also organized the most common subcategories by age and setting in order to explore if the most common themes were the same in the lab and in the museum setting. To provide an accurate analysis, data organization and analysis were discussed and revised by two qualitative researchers. Following Morrow (2005) trustworthiness in qualitative research refers to adequacy of data and interpretation. The researcher was immersed in the data, created an analytic framework that allowed for making meaning, and findings were complemented by participant's quotes.

Table 11: Category Definitions Conversations

Categories	Subcategories	Definition	Example
Understanding	Artist intention	Participants referring to the aim of doing the artwork and what were the artists thinking while doing it.	*I wonder if the painter doing this, like actually **had a reason behind all the things she painted**.* (Participant 130)
	Artistic process	Participants referring to how the artwork was made, thinking about the possible materials the artist used to create it.	*I don't know if this has been **done while lying** on the ground.* (Participant 125)
	Previous knowledge	Participants referring to other artists or kinds of art or other previous museum experiences.	*There is **an art movement** like that and is called **Dadaism**.* (Participant 128)
Liking	Appreciation	Participants referring to things they found beautiful and pleasant about the artwork.	*Another thing **that really fascinates me** is the fact that the whole box is here.* (Participant 128)
	Emotion	When participants expressed their feelings and emotions in relation to the artworks.	*I kind of see these flowing **that make me feel more relax.*** (Participant 137)
	Title	Participants referring to the title of the artworks. Connection with what it is written on the label.	*I don't see a mask; **here (in the title) it says something** about "Flight Mask".* (Participant 209)
Enjoyment	Curiosity	When participants wanted to know more about the artwork and expressed their curiosity.	*Every aspect is reflecting. **I am curious by that choice.*** (Participant 128)
	Description	When participants talked about the details, their meanings and interpretations of the artworks.	*It's **elephant like** because of its **color** and massive **size.*** (Participant 136)
	Personal connection	When participant makes a connection to a daily life activity in relation to the artwork.	*I would conceive something like this, **like sitting in a hair salon.*** (Participant 128)

5.1.3. Results

Questionnaires Results

The results of the questionnaires will be explained as follows: first part of the questionnaire (from question 1 to 6) and then, second part of the questionnaire (from question 7 to 8). Herewith, we present a summary of the significant results.

Table 12: Significant Variables from questions 1 to 6

Question Number	Variables	Test	Result by Age Group
0	Education	Chi-Square	Sig (x^2(3df)=75.097, p=0.000)
0	Gender	Chi-Square	Sig (x^2(1df)=7.063, p=0.008)
1	Times Museum	U-Mann	Sig (U=195.5, p= 0.000)
2	Visit CA	U-Mann	Sig (U=394.5, p= 0.000)
3	Drawing	Chi-Square	No Sig (x^2(1df)=2.902, p=0.088)
3.1	Drawing other	Chi-Square	No Sig (x^2(1df)=0.321, p=0.571)
4	Background Arts	U-Mann	No Sig (U=674.5, p= 0.287)
5	Practicing	U-Mann	No Sig (U=732.5, p= 0.618)
6	Like CA	U-Mann	No Sig (U=740.0, p= 0.675)

Table 13: Significant Variables from questions 7 to 8

Question Number	Variables	Test	Result by Age Group
7.1 (Lab)	UnderstandCLQ (Understand Computer Label Question)	Chi-Square	No Sig (x^2(2df)=2.938, p=0.230)
8.1 (Lab)	UnderstandCDQ (Understand Computer Discussion Question)	Chi-Square	Sig (x^2(2df)=6.174, p=0.046)
7.1 (Museum)	UnderstandMLQ (Understand Museum Label Question)	Chi-Square	No Sig (x^2(2df)=3.337, p=0.189)
8.1 (Museum)	UnderstandMDQ (Understand Museum Discussion Question)	Chi-Square	No Sig (x^2(1df)=0.002, p=0.966)
7.2 (Lab)	LikeCLQ (Like Computer Label Question)	Chi-Square	No Sig (x^2(2df)=4.219, p=0.121)

8.2 (Lab)	LikeCDQ (Like Computer Discussion Question)	Chi-Square	No Sig (x^2(1df)=0.009, p=0.926)
7.2 (Museum)	LikeMLQ (Like Museum Label Question)	Chi-Square	Sig (x^2(2df)=33.385, p=0.000)
8.2 (Museum)	LikeMDQ (Like Museum Discussion Question)	Chi-Square	Sig (x^2(1df)=38.363, p=0.000)
7.3 (Lab)	EnjoyCLQ (Enjoy Computer Label Question)	Chi-Square	No Sig (x^2(2df)=2.302, p=0.316)
8.3 (Lab)	EnjoyCDQ (Enjoy Computer Discussion Question)	Chi-Square	No Sig (x^2(2df)=1.336, p=0.513)
7.3 (Museum)	EnjoyMLQ (Enjoy Museum Label Question)	Chi-Square	No Sig (x^2(2df)=0.008, p=0.996)
8.3 (Museum)	EnjoyMDQ (Enjoy Museum Discussion Question)	Chi-Square	No Sig (x^2(2df)=0.78, p=0.962)

First part of the questionnaire – questions 1 to 6

As shown in figure 21 the **highest educational degree attained** for younger adults was High School. Older adults were a highly educated group with the 48 % of them having post-graduate qualifications. Therefore, we consider as significant results with a threshold p < 0.01 concerning the educational level. Pearson Chi-Square tests is significant x^2(3df)=75.097, p=0.000. Overall, the highest education levels ranged from a high school degree (52%), a BA (12%), an MA (24%), and Ph.D. (12%).

Figure 21: Highest educational degree attained by group of participants
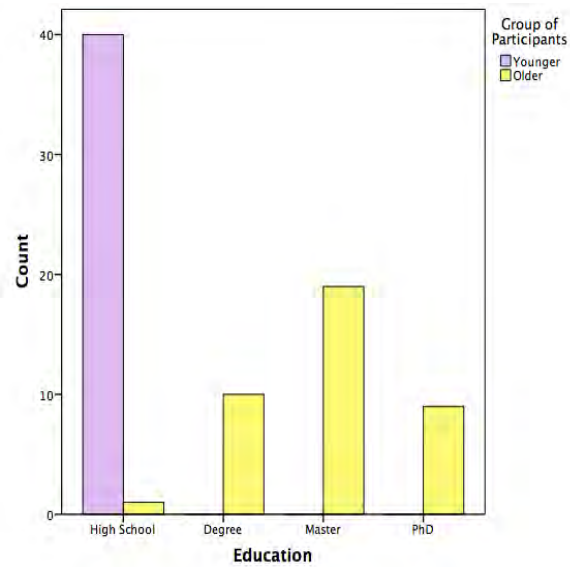
Table 14: Education * Group of Participants Crosstabulation

			Younger	Older	Total
Education	High School	Count	**40**	1	41
		Expected Count	20.8	20.2	41.0
		Adjusted Residual	**8.7**	-8.7	
	Degree	Count	0	**10**	10
		Expected Count	5.1	4.9	10.0
		Adjusted Residual	-3.4	**3.4**	
	Master	Count	0	**19**	19
		Expected Count	9.6	9.4	19.0
		Adjusted Residual	-5.1	**5.1**	
	PhD	Count	0	**9**	9
		Expected Count	4.6	4.4	9.0
		Adjusted Residual	-3.2	**3.2**	
Total		Count	40	39	79
		Expected Count	40.0	39.0	79.0

In terms of **gender**, Pearson Chi-Square tests is significant x^2 (1df) =7.063, p=0.008. As showed below in figure 22, younger adult group was more equivalent. However, in the older adult group there were more females.

Figure 22: Gender by group of participants
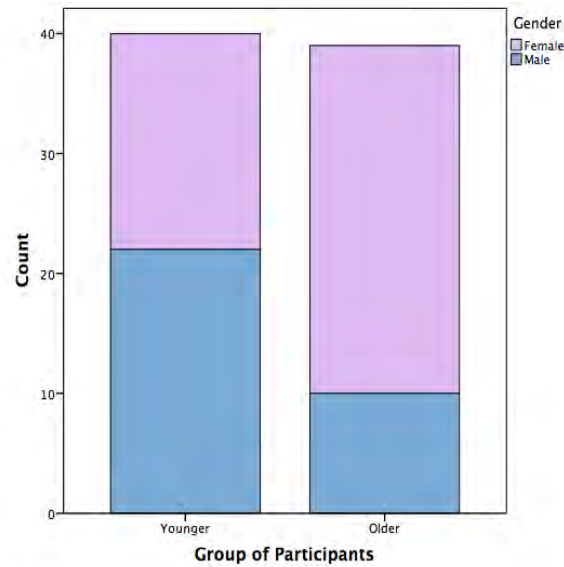
Table 15: Gender * Group of Participants Crosstabulation

			Younger	Older	Total
Gender	Female	Count	18	**29**	47
		Expected Count	23.8	23.2	47.0
		Adjusted Residual	-2.7	**2.7**	
	Male	Count	**22**	10	32
		Expected Count	16.2	15.8	32.0
		Adjusted Residual	**2.7**	-2.7	
Total		Count	40	39	79
		Expected Count	40.0	39.0	79.0

Concerning the **times participants visited a museum during the last year** (figure 23), older adults were used to visiting more museums than did younger adults.

Figure 23: Times Museum visits by group of participants
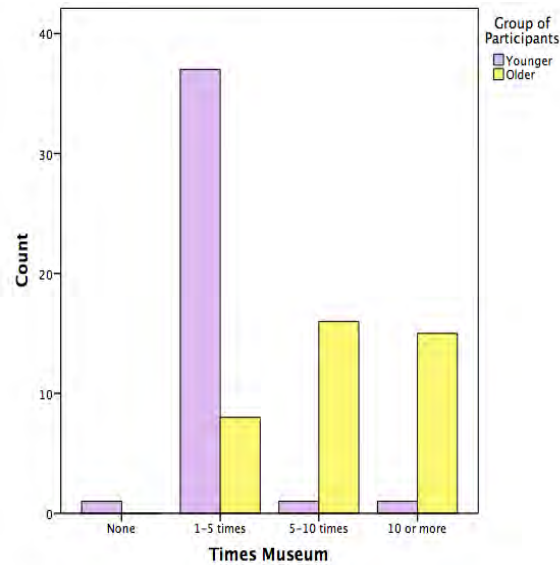
A Mann-Whitney test indicated that during the last year older adults (Mean=3.18 and SD= 0.756) visited a museum more frequently than younger adults (Mean=2.05 and SD= 0.389) did so U= 195.5, p < 0.001. Therefore, there is a significant difference between younger and older adults in the times they visited a museum during the last year.

As for **visiting an exhibition of Contemporary Art** during the last year, we can see in figure 24 that older adults also visited more this type of art.

Figure 24: Contemporary Art exhibition visits by group of participants
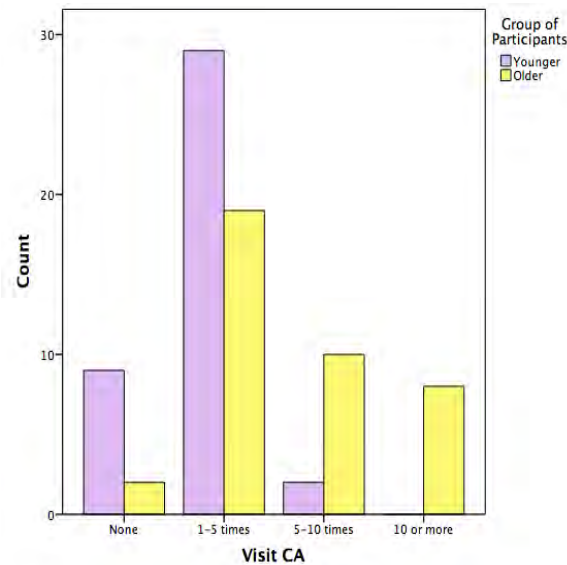
A Mann-Whitney test indicated that contemporary art visits were greater for older (Mean=2.62 and SD=0.877) than for younger (Mean= 1.83 and SD=0.501) adults U= 394.5, $p < 0.001$. Thus, there is a significant difference between younger and older adults in visiting an exhibition of Contemporary Art during last year.

There were **no significant results** for variables: 'drawing', 'drawing other', perception of 'arts' background', 'practicing' visual arts and 'like contemporary art'. As showed in figure 25 and 26, the majority of participants practiced during their lives some kind of artistic activities such as **drawing**. Besides, they also practiced other kind of artistic activities like ceramics, photography, singing, etc.

Figure 25: Draw by group of participants   **Figure 26**: Draw other by group of participants
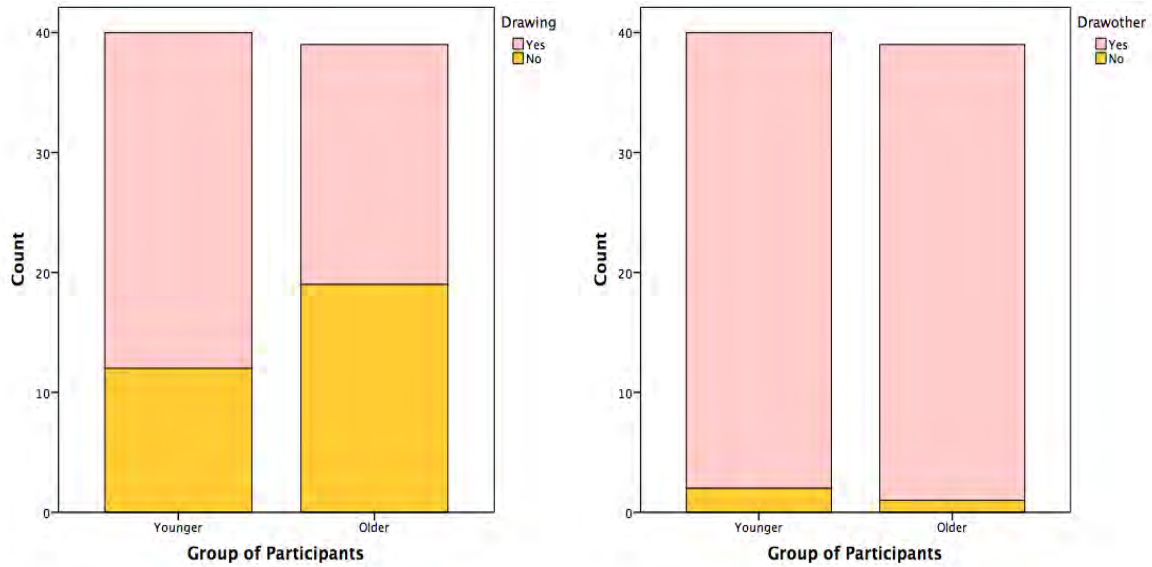
Figure 27 confirms that the majority of participants do not agree with having a

background in the arts.

Figure 27: Background art by group of participants
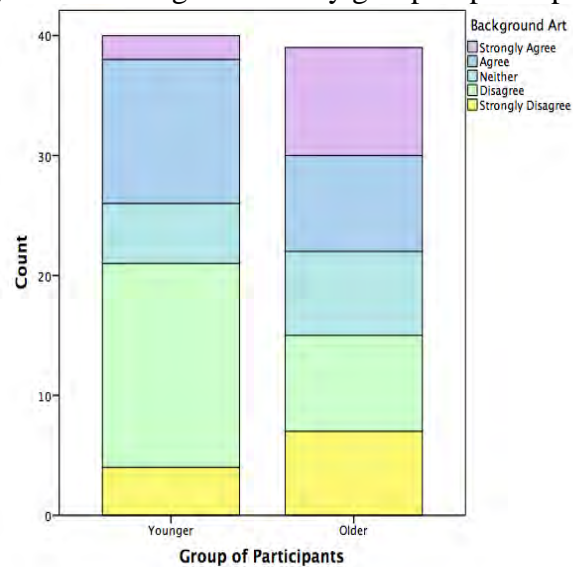
Also, the majority of participants disagree with the fact that they were **practicing visual arts** either professionally of by hobby (figure 28). Younger and older adults **liked contemporary art** (figure 29); younger adults agreed with liking it more strongly.

Figure 28: Practicing visual arts by group of participants
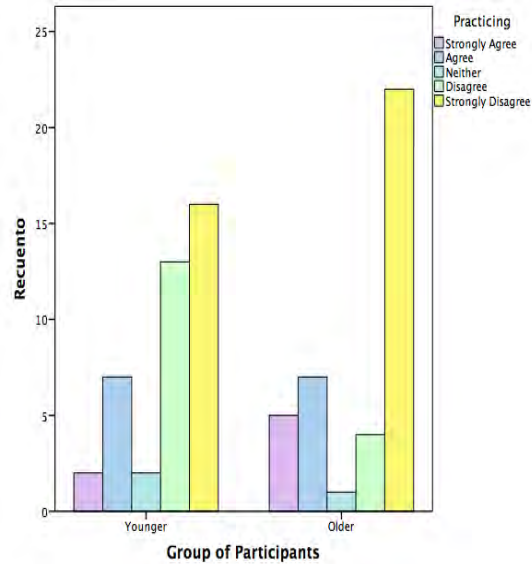
Figure 29: Like Contemporary art by group of participants
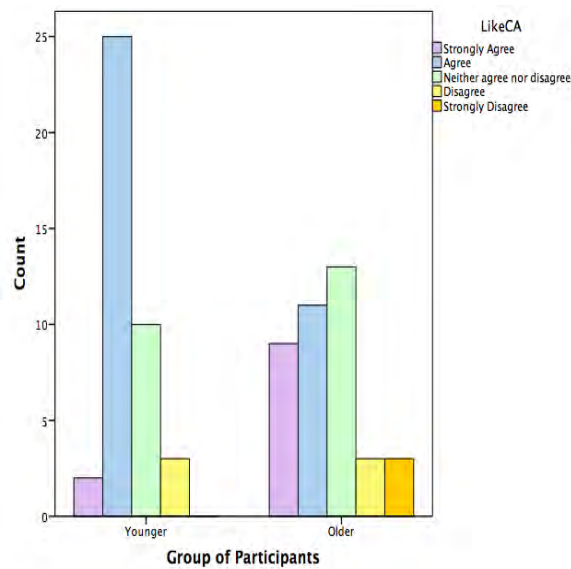
Second part of the questionnaire – questions 7 and 8

Perceived Effects of Labels

Table 16 presents the mean scores in response to the three questions (7.1/7.2/7.3 – appendices 9.2.3) about the effects of labels.

Table 16: Mean Scores (Standard Deviations) for Labels Questions

Question	Age Group	N	Lab	Museum
Understanding	Younger	40	0.55 (0.78)	0.85 (0.42)
	Older	39	0.35 (0.81)	0.69 (0.52)
Liking	Younger	40	0.25 (0.63)	0.82 (0.44)
	Older	39	0.12 (0.46)	0.23 (0.42)
Enjoyment	Younger	40	0.50 (0.71)	0.60 (0.54)
	Older	39	0.38 (0.67)	0.58 (0.54)

Note. Scores ranged from -1 (label hurt) to +1 (labels helped).

Understanding. There were **no significant differences** between younger and older adults in having the labels to understand the artworks in both settings (lab and museum). Therefore, in the lab and in the museum both groups found that labels were helpful in order to understand the artworks.

Liking. There were **significant differences** between younger and older adults in having the **labels** on **liking** the artworks in the **museum setting**. In this case, Pearson Chi-Square tests is significant x^2 (2df) = 33.385 (p < 0.001). As shown in figure 30 the younger group believed that labels were more helpful and contributed more strongly to liking the artworks than did the older group. In the younger adult group only one participant thought that labels hurt.

Figure 30: Differences in Liking - Museum Label Questions
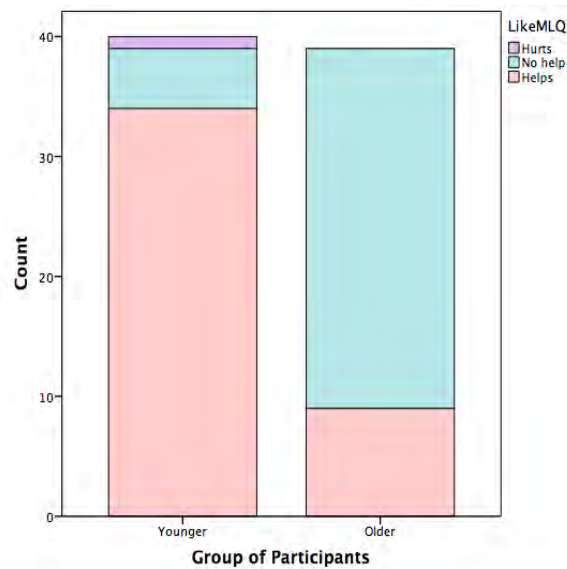
In the table below, cells "No help-Older" and "Helps-Younger", are the ones were the adjusted residual is z >1.96 and that means that the results are statistically significant.

Table 17: Like MLQ * Group of Participants Crosstabulation

			Younger	Older	Total
Like MLQ	Hurts	Count	1	0	1
		Expected Count	.5	.5	1.0
		Adjusted Residual	1.0	-1.0	
	No help	Count	5	**30**	35
		Expected Count	17.7	17.3	35.0
		Adjusted Residual	-5.8	**5.8**	
	Helps	Count	**34**	9	43
		Expected Count	21.8	21.2	43.0
		Adjusted Residual	**5.5**	-5.5	
Total		Count	40	39	79
		Expected Count	40.0	39.0	79.0

There is evidence to support the claim that younger adults are more likely than older adults to say that labels in the museum setting are helpful.

Below are sample **responses** from the **younger** group articulating the positive effect of **labels** on **liking** the artworks in the **museum setting**:

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I liked the artworks with the presence of labels better because the labels also told me what *materials* went into the artworks and that interested me because I liked knowing what everything was made out of. (Participant 112)

I liked the works with labels more because I got to have a more full experience of the *story behind the works*, which contributed to my liking them more because of the meaning behind them. (Participant 113)

The *absence of the labels*, especially in the first art piece (abstract painting) caused me to *particularly dislike the art much more*. (Participant 138)

In contrast, below are sample **responses** from the **older** group articulating the unimportance of **labels** for **liking** the artworks in the **museum setting**:

*As for as liking the work, **the labels often do not change my initial reaction**. The label might cause me to be more admiring of the skill or idea (creating of the artist).* (Participant 206)

*As far as liking the sculpture, **it doesn't matter to me whether it was labeled or not**. It is an aesthetic experience.* (Participant 209)

*Not at all. **Might even be better without labels** as I find it annoying when an artist names a work and I think it's something else.* (Participant 226)

Enjoyment. There were **no significant differences** between younger and older adults in terms of having the labels on enjoying the artworks in the lab and in the museum setting. Hence, in both settings, both groups found that labels were helpful in order to enjoy the artworks.

Perceived Effects of Discussion

Table 18 presents the mean scores in response to the three questions (8.1/8.2/8.3 – appendix 9.2.3) about the effects of discussions.

Table 18: Mean Scores (Standard Deviations) for Discussion Questions

Question	Age group	N	Lab	Museum
Understanding	Younger	40	0.90 (0.37)	0.87 (0.33)
	Older	39	0.76 (0.42)	0.87 (0.33)
Liking	Younger	40	0.40 (0.49)	0.87 (0.33)
	Older	39	0.41 (0.49)	0.17 (0.38)
Enjoyment	Younger	40	0.75 (0.49)	0.80 (0.46)
	Older	39	0.84 (0.36)	0.82 (0.81)

Note. Scores ranged from -1 (labels hurt) to +1 (labels helped).

Understanding. There were **significant differences** between younger and older adults response to whether having a **conversation** helped them to **understand** the artworks in the **lab setting**. As shown in figure 31 the younger group believed that discussion was more helpful and contributed more strongly to understanding the artworks than did the older group. In the younger adult group only one participant thought that discussion hurt and two that it was not helpful. Pearson Chi-Square tests is significant x^2 (2df) = 6.174 (p = 0.046). We can see that the p value is almost not significant meaning that the difference is minimal.

Figure 31: Differences in Understanding - Computer Discussion Questions
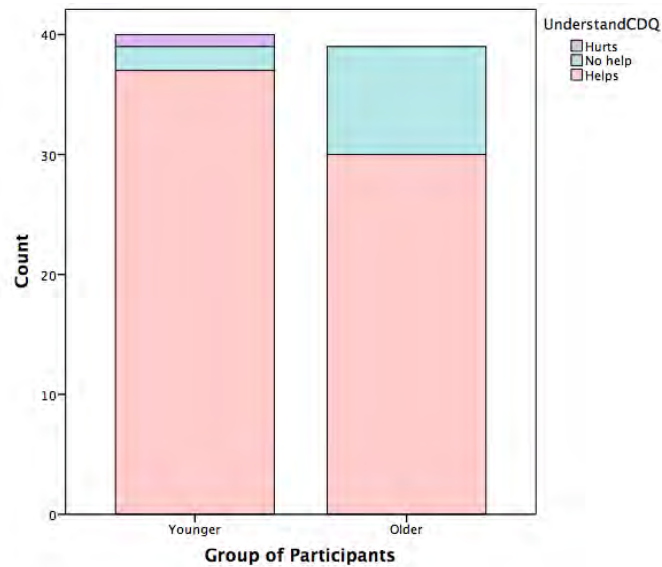
In the table below, cell "No help-Older" is the one were the adjusted residual is z >1.96 and that means that the results are statistically significant. As can be seen, in cell "Helps-Younger" z=1.9 showing the minimal difference.

Table 19: Understand CDQ * Group of Participants Crosstabulation

			Younger	Older	Total
Understand CDQ	Hurts	Count	1	0	1
		Expected Count	.5	.5	1.0
		Adjusted Residual	1.0	-1.0	
	No help	Count	2	**9**	11
		Expected Count	5.6	5.4	11.0
		Adjusted Residual	-2.3	**2.3**	
	Helps	Count	37	30	67
		Expected Count	33.9	33.1	67.0
		Adjusted Residual	1.9	-1.9	
Total		Count	40	39	79
		Expected Count	40.0	39.0	79.0

Below are sample responses from the **younger** group articulating the positive effect of **conversation** for **understanding** the artworks in the **lab setting**:

*Viewing the art silently was less **helpful to my understanding** of the works of art. I was very confused as to how I was supposed to interpret the artwork and didn't know if my ideas made sense.* (Participant 101)

***Talking definitely helped me understand,** as if I had no clue what the piece was, asking a question and then deciding together what we thought it was, was much better than struggling.* (Participant 114)

***Being able to discuss the works of art vocally helps reinforce the conclusions** I was able to reach on my own and I value the opinions of others in the same way. Often, a second perspective can provide something that I may have either overlooked.* (Participant 125)

In contrast, below are sample responses from the **older** group stating that the **conversation** did not make much difference to their **understanding** of the artworks in the **lab setting**:

*I **didn't get much more understanding** by listening to my partner.* (Participant 226)

*Talking with a partner opened up more potential for interpretation of the works. **Whether it improved my understanding is less clear**. One problem is that the notion of "understanding" the work of visual art is so indeterminate.* (Participant 229)

*The discussion did **not touch on the 'meaning'** of any particular piece.* (Participant 236)

Liking. There were **significant differences** between younger and older adults perceptions of whether having a **conversation** influenced whether they **liked** the artworks in the **museum setting**. Pearson Chi-Square tests is significant x^2 (1df) = 38.363 (p < 0.001). Figure 32 shows that the younger group believed that discussion was more helpful and contributed more strongly to liking than did the older group. In this case, none of the participants indicated the option that discussion hurt.

Figure 32: Differences in Liking - Museum Discussion Questions
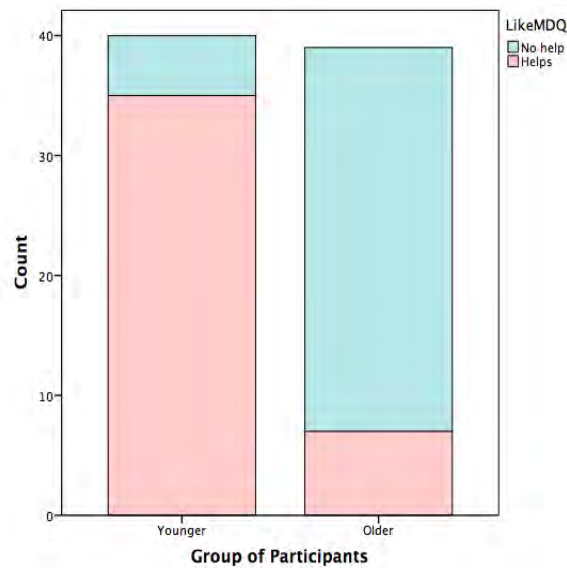
Table 20:Like MDQ * Group of Participants Crosstabulation

			Younger	Older	Total
Like MDQ	No help	Count	5	**32**	37
		Expected Count	18.7	18.3	37.0
		Adjusted Residual	-6.2	**6.2**	
	Helps	Count	**35**	7	42
		Expected Count	21.3	20.7	42.0
		Adjusted Residual	**6.2**	-6.2	
Total		Count	40	39	79
		Expected Count	40.0	39.0	79.0

Below are sample responses from the **younger** group articulating the positive effect of **conversation** for **liking** the artworks in the **museum setting**:

*Looking at work in a group **made me like the work more** because the group gave input on elements that I didn't even notice. Some of the partners and elements made me see the work differently and like it more.* (Participant 106)

*Talking about the art **gave me the chance to express** how I felt about the art. So by talking, I realized whether **I had strong feelings about the art** or I was not impressed.* (Participant 116)

***My liking of each piece increased with more discussion** because I could appreciate things about the works I hadn't before. My liking increased more notably for the pieces I didn't like at the start.* (Participant 136)

In contrast, below are sample responses from the **older** group stating that the **conversation** did not make much difference for **liking** the artworks in the **museum setting**:

*I like what I like and **other opinions rarely influenced** my perceptions.* (Participant 224)

***Talking about it didn't change my liking** or disliking.* (Participant 230)

*No, **my impression first, held, even after discussion**. Almost immediately I liked or disliked the art.* (Participant 235)

Enjoyment. There were **no significant differences** between younger and older adults in having a conversation to enjoy the artworks in the lab and in the museum setting. Consequently, in both settings, both groups found that conversation was helpful in order to enjoy the artworks.

Conversations Results

Figure 33 shows the categories ordered by frequency out of the total amount of analyzed conversations; *Liking* (Total= 49%), *Understanding* (Total= 27%), and *Enjoyment* (Total= 21%). The most common subcategory was *Appreciation*: participants most often referred to the works as pleasing and likeable. We were surprised at this finding given that the contemporary works we chose are not prototypically 'beautiful' and might have been expected to provoke puzzlement. Indeed, after 'appreciation', 'artistic process' and 'title' where the subcategories that most commonly emerged from the data.

Figure 33: Subcategories by Frequency
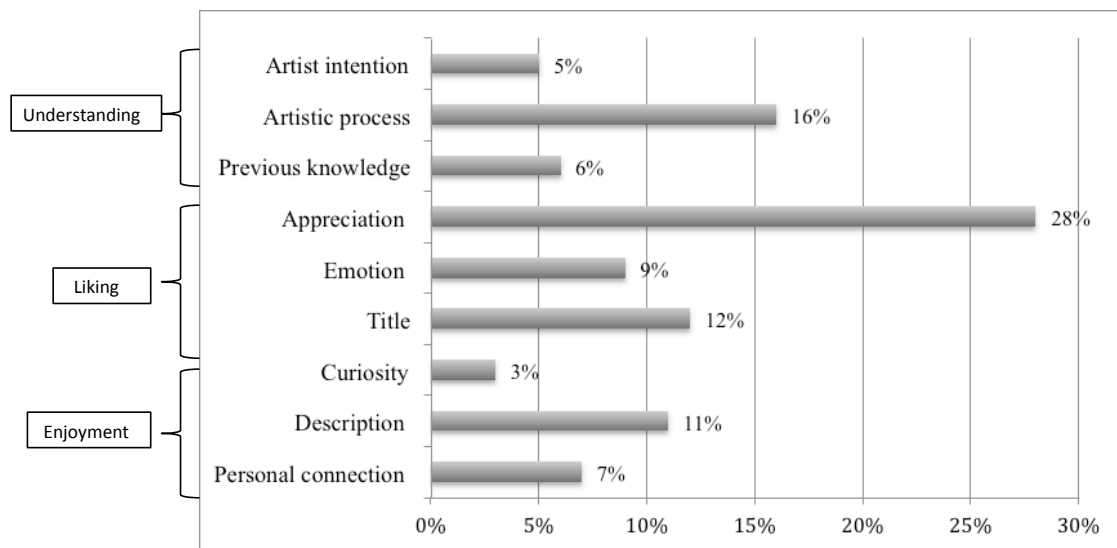
Below we list examples of each subcategory. In each quote, words in bold represent the reason for the assigned subcategory, and at the end of each quote the age group, participant number, setting, conversation number, and artwork are listed.

<u>Appreciation (28%)</u>

Participants in conversation 3 argued that they liked *Wing* because of the layering and the texture. They were talking about their sensations, which influenced their liking of the artwork.

> *Participant 134:* **I like the layering.**
>
> *Participant 133: Yeah, it looks like it is still dripping or wet which it's kind of interesting to me.* **I like the texture***.*
>
> (Younger adults, Participants 133 and 134, Computer conversation 3, *Wing*).

Also, participants liked *Black River* after reading the label, which explains the story behind the artwork, and this helped them to make meaning. Besides, participants appreciate the artwork because of the recycled innovative elements used to create it.

> **I like this one better because there is an actual story that can make sense***. You are not still in the abstract or contemporary or what have you...* **I like that it is recycle stuff** *I think the recycle thing is really* **cool.**
>
> (Younger adult, Participant 133, Computer conversation 3, *Black River*)
>
> **I like the colors***, you know, she mixes them all together, it is something I have never seen before.* (Younger adult, Participant 123, Computer conversation 1, *Skulldiver III*)

Finally, expressions like 'beautiful' to express art appreciation were commonly used by participants.

> **It's very beautiful***; can you imagine all this hand-blown?*
>
> (Older adult, Participant 209, Museum conversation 13, *Endlessly*)

This example overlaps with the following subcategory 'artistic process' referring to the fact that it must have been difficult to create the artwork, *Endlessly Repeating Twentieth-Century Modernism.* Also, the participant was emphasizing how difficult it must have been to hand-blow the different reflective objects inside the box.

<u>Artistic process (16%)</u>

While looking at *Endlessly Repeating Twentieth-Century Modernism* doubts emerged between participants about how did the artist create the piece.

*This is cool. A mirror there, a mirror here, and that's it. I think this is probably one-side mirror. **I don't know how he did it.***

(Younger adult, Participant 124, Museum conversation 9, *Endlessly*)

*I love that every aspect of it it's mirrored. This, I am pretty sure **was covered by silver** or something like that.*

(Younger adult, Participant 128, Museum conversation 10, *Endlessly*)

For participant 232 it was not new that an artwork could be made not only by the principal artist but also with assistants' help. Furthermore, participants illustrated that in the case of *Black River*, the artwork it is not completed until the work is hanged at the museum. Indeed, museum staff helped create the final piece.

*So, **this isn't a single artist producing a work**, this is somebody with an idea who takes it to a point and then a lot of other people –as is often the case, I mean, you know as Judy Chicago or whomever- studio assistants work to not complete it because it is not complete until it is hanged. Because now you have got museum staff that are helping to create the work of art.*

(Older adult, Participant 232, Computer conversation 7, *Black River*)

In conversation 16 participants commented on the artistic process to attain the silver color of the piece. Also, participant 231 realized that the color was changing.

*Participant 231: **It's clever how she did all the silver**, it shimmers, it reflects, it's not one color at all, the color changes if you move back. Participant 230: It's like futurist.*

(Older adult, Participant 230 and 231, Museum conversation 16, *Wing*)

Other participants were more interested in the final piece.

*My reaction will be, **I don't care how they did it**. I am more interested in the END visual*

result...

(Older adult, Participant 223, Computer conversation 6, *Endlessly*)

Title (12%)

The example below confirms that sometimes participants liked the title and made

them think about the artworks.

*Participant 134: **I like the title of it.***

*Participant 133: **It's interesting, because it makes you think**. Wait, does it look like a*

wing? Where is the wing? Why is it called Wing?

(Younger adults, Participants 133- 134, Computer conversation 3, *Wing*)

Also, the title influenced participants' perceptions. For instance, in conversation 8:

Participant 231: It looks like a bird...

*Participant 230: It is **called Wing**, so it's must be something about flying or birds...*

(Older adults, Participants 230 and 231, Computer conversation 8, *Wing*)

Conversely, sometimes the title was confusing and no sense. Concretely, for

Skulldiver III the title made participants think and talk about it.

Participant 228: They say something us Skulldiver...

*Participant 209: These **are supposed to be skulls**? Do you think that's the concept?*

(Older adults, Participants 209 and 228, Computer conversation 5, *Skulldiver III*)

*Participant 222: I am just saying... you are saying this being under the water... but **if we***

***didn't have the title** would you have said this is an underwater scene?*

*Participant 223: Yes because **the title for me doesn't mean anything**. I am reacting to it*

directly as I see it. And I see it as underwater... and beautiful colors...

(Older adults, Participant 222 and 223, Computer conversation 6, *Skulldiver III*)

Description (11%)

While describing the artworks participants realized the following:

*The **more you look the more you see**, you know.*

(Older adults, Participants 230, Computer conversation 8, *Black River*)

Participants enjoyed describing *Skulldiver III*:

*Participant 128: **I see faces all over.** I am seeing three at least; here that one, another one, and here around this area it looks like a nose.*

*Participant 125: My thoughts are that this is the big head and these are the spread legs. I don't know. One thing relates to another. But **I definitely did not see that last time** [on the laptop-lab setting]. It is like a dream, some kind of fuzzy image maybe because of some kind of alcohol drinking that inhibits you to see things clearly.*

(Younger adults, Participants 125 and 128, Museum conversation 10, *Skulldiver III*)

Description was based on the colors and finding them pleasing:

*Participant 209: But is the use of color to me that is very interesting. The **greens and blues and how they follow around**, and the pinks and brown colors, and how they take your eye around that picture **so that you end up following the entire piece**.*

Participant 228: It should be a disturbing picture, but it really isn't to me because the colors are softer around. So this is a contemporary art, an abstract art. Unless is some sort of ecstasy's, born with nature.

(Older adults, Participants 209 and 228, Museum conversation 13, *Skulldiver III*)

Participants were comparing artworks and sometimes they were being very critical:

*Participant 236: I found the **colors pleasing** as opposed to the abstract painting were I thought the colors were terrible.*

*Participant 232: These are **colors of royalty made out of trash.***

(Older adults, Participants 236 and 232, Museum conversation 15, *Black River*)

<u>Emotion (9%)</u>

It is interesting to see that in front the computer participants felt the following:

*Interesting piece. **It's the quietness of it**. I saw the truly glass...*

(Older adult, Participant 222, Computer conversation 6, *Endlessly*)

Also, participants were referring to more mystical qualities like being organic and pure.

***My feeling is that** it has a sort of an **organic**… it's below my senses, it's under the ocean; it's on the ocean floor.*

(Older adult, Participant 223, Computer conversation 6, *Skulldiver III*)

*To me is **pure**, um… it's I don't know (pause 2sec) Why does it feel so sophisticated to me?*

(Younger adult, Participant 125, Computer conversation 2, *Endlessly*)

Also, participant 125 in the museum setting was referring to the overall artwork characteristics suggesting a feeling of dream like state.

*I think that contributes to this fact that it seems that you are falling, in some kind of **dream state**. It **feels** a constant **world of emotion**.*

(Younger adult, Participant 125, Museum conversation 10, *Skulldiver III*)

Certainly, both younger and older adults had the temptations of touching the artworks, this reveals the emotional feeling of really wanting to feel the artwork and its texture.

*Is just aesthetically pleasing, you want to **reach out** and **touch it**!*

(Older adult, Participant 230, Museum conversation 16, *Black River*)

*Participant 134: I wonder if we could **touch it** when we will be there.*

Participant 133: Probably not... (Laugh)

(Younger adult, Participant 133 and 134, Computer conversation 3, *Wing*)

<u>Personal connection (7%)</u>

For younger adults the connection to their daily life was referring to a class. Interestingly, participant 124 related *Endlessly Repeating Twentieth-Century Modernism* to a chemistry lab because he was studying chemistry.

*To me it kind **remembers when I do lab chemistry**… so it's kind of cool.*

(Younger adult, Participant 124, Computer conversation 1, *Endlessly*)

Also, Participant 123 used daily examples to clarify and try to understand the same artwork.

*You know like in some **restaurants in the bathrooms**, in the glasses, you cannot see into it.*

(Younger adult, Participant 123, Museum conversation 9, *Endlessly*)

Additionally, Participant 125 related his interpretation to his actual hipster culture.

*In general it refers to the fragility of human society and how everything can be unique. (…) Like you see with this **hipster culture**, you know, where everybody wants to be an individual but by wanting to be an individual you are being the same as everybody else that wants to be an individual.*

(Younger adult, Participant 125, Museum conversation 10, *Endlessly*)

In contrast, older adults related the artworks to their lives wondering if they could have them in their houses or not.

*It's amazing! **If I could afford it I would buy one of this**. (Laughs)*

(Older adult, Participant 228, Museum conversation 13, *Endlessly)*

*I wouldn't mind **having that in my house**. (Laugh)*

(Older adult, Participant 230, Computer conversation 8, *Black River*)

*But in general **I can't say I will like to have it in a house**. (Laughs)*

(Older adult, Participant 231, Computer conversation 8, *Wing*)

<u>Previous Knowledge (6%)</u>

In conversation 10 participants were friends; participant 125 was a major in Art History and participant 128 was studying Psychology. For that matter, participant 125 referred to his previous knowledge about abstract art and Kandinsky.

*But at the same time it is interesting that it says that her works are almost completely abstract because I don't think that this is completely abstract. **I am comparing it in my head to like Kandinsky pieces** which are completely abstract in most cases and their titles are like given as "Composition number 4" or something, you know, which takes away any kind of pretext of like "a person".*

(Younger adult, Participant 125, Computer conversation 2, *Skulldiver III*)

He also commented on the colors and specific parts of the paintings. In this case, the upper corner was related to a Dali painting.

*The coloring of it in the upper corner, **it reminds me the sky of a Dali painting**, not anything in particular, something that you could see in a surrealism landscape, I don't think this is intentional but is conveyed.*

(Younger adult, Participant 125, Museum conversation 10, *Skulldiver III*)

Additionally, he was also referring to Koons.

*Ok, **one of the most interesting things I heard in class**. My critical art teacher, he said he never understood Jeff Koons, until he saw one of his pieces in the museum (I forget which one was). If you are not familiar with Koons, he does a lot of art with aluminum and they look like balloon animals, so this particular one was like a bonny. And my teacher said; why is this art? What makes this so special? He was setting there critiquing this thing and then he sudden saw that he was reflected in it and it was almost like this little animal talking back at him and reflecting all this comments, asking him and criticizing him the same way. These are also all reflecting but you cannot put yourself in it. It's removed from*

you; it is excluding you from its reflection, almost consciously. So, are we watching them,

or are they watching us?

(Younger adult, Participant 125, Museum conversation 10, *Endlessly*)

Results show that this participant related the museum experience with another similar museum experience that a teacher had told him about. Also, this participant compared two different kinds of artworks and artists (Mc Elenhy and Koons) that play with reflections, mirrors and glass. Besides, participant 125 pointed out key questions like 'why is this art' and 'what makes this so special' that are themes that are included in our field of study. Finally, concentrated on *Endlessly, the* participant realized that he could not see himself on the piece and suggested a question 'are we watching them, or are they watching us?' considering objects as human beings that could also look at us. This fact described an interesting way to be engaged with an artwork in an art museum.

Moreover, participant 236 –architect, with art knowledge- knew about the artist El Anatsui before he saw his works before in other museums and stated they are unmistakable.

*Because **I have seen maybe five of his pieces in various places** and they are all consistent,*

I mean it is no doubt when you see them who did them.

(Older adult, Participant 236, Computer conversation 7, *Black River*)

Also, participant 222 observed that the abstract expressionists could have influenced *Skulldiver III*. This demonstrated her previous knowledge of this kind of art.

*I think the **abstract expressionist influenced her**... She is on her forties'; she lives in New*

York, so I mean I would see a definite influence there…

(Older adult, Participant 222, Computer conversation 6, *Skulldiver III*)

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<u>Artist intention (5%)</u>

As for *Wing*, participants were referring to the artist intention based on what they read on the label that creating an aluminum sculpture is usually only done by men.

__Because she is a female artist__ and she is spreading her wings?

(Younger adult, Participant 134, Computer conversation 3, *Wing*)

Well the thing that hit me is that she made it later aluminum as a response to all __male artists__ that she made a much heavy and larger piece. So that immediately biased my understanding and __purpose__ of this piece. I had no clue as to what it was, how about you?

(Older adult, Participant 231, Computer conversation 8, *Wing*)

I think it was a sculpture originally but in response to a show sculpture made exclusively by male artist she change it. To me that was her __motivation__ for changing it...

(Older adult, Participant 230, Computer conversation 8, *Wing*)

Participant 133 did not understand artist intention and did not consider *Wing* as art.

I am not into it, because __I can't tell a purpose__, from like the she way she do it, it seems she poured staff over staff and ok, let's name it something that is called art. It is just not appealing to me.

(Younger adult, Participant 133, Computer conversation 3, *Wing*)

Participants were referring to artwork color and shapes to justify the artist intention.

There is no green, which is also interesting. It is very, very, very yellowy which kind of gives not a live nature feel, which you will expect around the river. __So, I don't think it is just a river__...

(Younger adult, Participant 133, Computer conversation 3, *Black River*)

It certainly mimics the complexity of human mind. I sort of see parts of faces, and I am __not sure if it is actually intentional__, I mean, maybe.

(Younger adult, Participant 128, Museum conversation 10, *Skulldiver III*)

Curiosity (3%)

In this case, participants were curious to know what the title meant generally and also what the title meant for the artist to better enjoy the piece.

Participant 133: **I also want to know WHAT the BLACK RIVER actually is**, *or* **WHAT that means to him** *[to the artist].*

Participant 134: Right.

Participant 133: Because I think it is obviously a different think and it is the title. So, I want to know.

(Younger adults, Participants 133 and 134, Computer conversation 3, *Black River*)

In participants' quotes emerged the fact that they preferred to see the artworks in the museum than in the lab setting:

I would really love to see it, though. It must be quite big... How **large** *it is? Can you* **walk** *around it?*

(Older adult, Participant 222, Computer conversation 6, *Endlessly*)

Participant 133: Here **in the museum you can look at it from different angles**, *I like the* **shadow.** *It tells us the* **size** *of the actual piece.*

Participant 134: I think I just find it **more aesthetically pleasing in person**; *I didn't like it on the laptop.*

(Younger adults, Participants 133 and 134, Museum conversation 11, *Wing*)

Figure 34: Scheme of Categories Conversations

See Acronym for meaning of YAC/YAM/OAC/OAM

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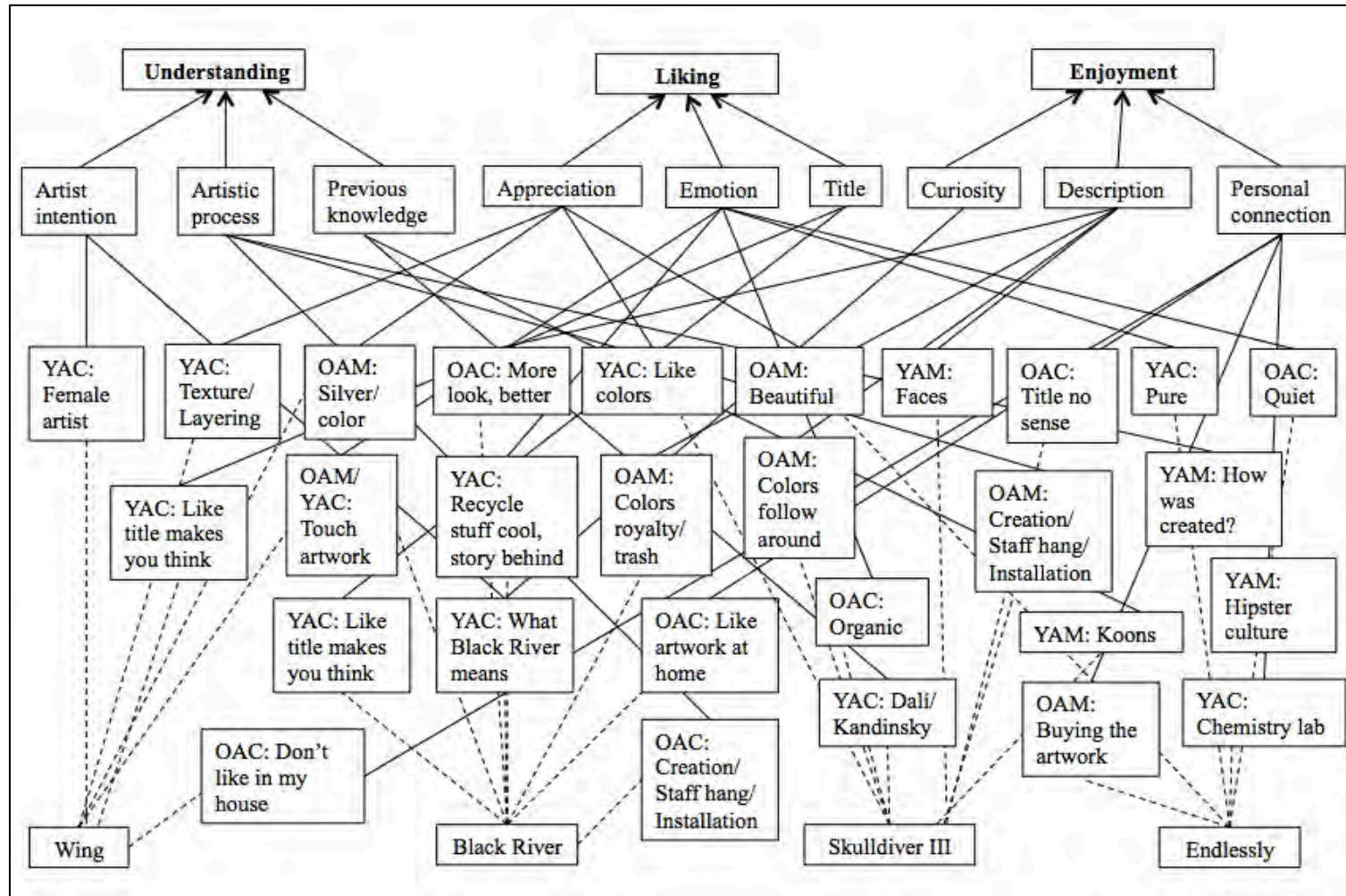
In table 21 the most common subcategories are listed by age and setting. As can be seen, *Appreciation* is the most common subcategory by age and setting.

Comments about the *Artistic process* as well as *Description* of the artworks were used in a similar way by age and setting. Also, being engaged with the artworks -*Personal connection*- for both age groups was not different across the lab and the museum setting.

The percentage of *Title* quotes decreased from the lab to the museum setting, meaning that for the lab setting both younger and older adults were referring more to the title of the artworks in their conversations and in the museum setting few participants made references to the titles.

The emotional effect –*Emotion*- of the artwork was mentioned less in the museum setting than in the lab setting. Moreover, older adults are using their *Previous knowledge*, what they know about art or other artists, more in the lab setting, and younger adults are doing so in the museum setting.

The *Artist intention* as well as the *Curiosity* subcategories emerged more in the lab setting than in the museum setting.

Table 21: Most Common Subcategories by Age and Setting

	% Quotes	**Lab**	**Museum**
Older	>15%	Appreciation (11%)	Appreciation (6.4%)
		Artistic process (9.1%)	
		Title (7.3%)	
	>5%	Emotion (4.5%)	Description (2.7%)
		Description (2.7%)	Artistic process (1.8%)
		Previous knowledge (2.7%)	Personal connection (1.8%)
		Personal connection (1.8%)	
	>1%	Artist intention (0.9%)	Emotion (0.9%)
		Curiosity (0.9%)	Previous knowledge (0.9%)
			Title (0.9%)
	0%		Artist intention (0%)
			Curiosity (0%)
Younger	>15%	Appreciation (5.5%)	
	>5%	Title (3.6%)	Appreciation (4.5%)
		Artist intention (3.6%)	Description (4.5%)
		Artistic process (2.7%)	Artistic process (1.8%)
		Emotion (2.7%)	Personal connection (1.8%)
		Description (1.8%)	Previous knowledge (1.8%)
		Personal connection (1.8%)	
		Curiosity (1.8%)	
	>1%	Previous knowledge (0.9%)	Emotion (0.9%)
	0%		Artist intention (0%)
			Curiosity (0%)
			Title (0%)

5.1.4. Discussion

Following objective 1 formulated in part 3.2. **Determine the perceived effect of labels and conversation in art appreciation while looking at contemporary artworks in a lab and in a museum setting**, we confirmed age differences in perceived benefits of labels and conversations while looking at contemporary artworks in a lab and in a museum setting. Differences were related to visitors' characteristics such as participants' experience looking at art, art knowledge as well as to whether they were frequent museum visitors. These results are in line with previous art appreciation research studies (Cupchick & Gebotys, 1990; Leder et al., 2004; Marty et al., 2003; Smith & Smith, 2006). Next, we will discuss the following elements of the study; sample, art-experts, participants' motivations, effect of labels and conversations, experiment design, the variables 'understanding', 'liking', and 'enjoyment', our role as researchers, and differences between the lab and museum setting.

The **sample** was evidently different in its life experience level but both age groups tended to do artistic activities such as drawing and other than drawing like photography or singing. However, participants indicated they did not have a background in the arts. This fact could be because we asked them if they have ever done an artistic activity and that could have been long ago, currently not continuing with that activity. Also, participants indicated that they were not practicing visual arts. As for visiting an art museum, older adults were more museumgoers than younger adults and also visited more contemporary art exhibits. As studied, the frequency of museum visits influences in art appreciation (Smith & Smith, 2006).

In the sample we considered five participants to be **art-experts**. Those participants were familiar with visual art and had art knowledge; they studied Art History and

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Architecture. We noticed that young participant 125 with knowledge in art was relating the contemporary artworks with non-contemporary artists such as Dali or Kandinsky. The Koons observation demonstrated that attending art history classes helped participant 125 to have more tools to make meaning, understand, and be engaged with the artwork he was looking at in the museum (Leder et al., 2004; Pihko et al., 2011; Walker et al., 2011). Also, the older adult art-experts knew and had seen before in the museum at least one of the four artworks of the study. Thus, they were familiar with contemporary art.

In the same vein, **motivations** between participants differ; younger adults' participation was interpreted as a different and fun academic activity, they participated in the study to gain academic credits. This means that some might be interested in art but others not. Also, the covered one-hour travel expenses (4$) to go from BC campus to the MFA helped in their participation. Instead, older adults were interested in art and in learning about art since they voluntarily attended HILR art classes. This group participated in the study to gain a social and different experience with other HILR members. We have to take into account that participants' different motivations may have had a critical connection to the depth of their responses.

In this study, participants indicated that **label** information contributed to liking the four viewed artworks (Leder et al., 2006; Millis, 2001; Swami, 2013), and labels helped them to like the artworks more in the museum setting. This fact supports that the kind of information a visitor receives at the museum influences their liking of artworks. We observed that the labels of the artworks we chose were not easy to read, at least for undergraduates (Wolf & Smith, 1993). Vocabulary was not plain and open questions like 'what is all about?' -in *Wing* label- were suggested for free interpretation. This sometimes

could be confusing for younger adults that preferred to have more guided information about the artwork. However, participants manifested that, in general, labels were interesting.

In their **conversations** participants were referring more to liking than to understanding or enjoying the artworks. Following Villeneuve and Love (2007) participants were talking about the artwork, the context, viewpoints for interpretation, connection about artworks, and also, about personal meaning. For instance, participant 124 related *Endlessly Repeating Twenieth-Century Modernism* to a chemistry lab and mentioned it reminded him about his chemistry classes. In this study co-constructing meaning in a conversation helped younger participants, more than older adults, in liking the art in the museum setting (Tschacher et al., 2012). Also, mild statistical significance existed for conversations helping in understanding the artworks in the lab setting. Overall, conversations were reported as enhancing participants' enjoyment (Tröndle et al., 2012). For some participants, it was a little bit difficult to start a conversation just because they were asked to discuss, sometimes not really having interest in doing so. Also, knowing that their conversation will be recorded was a little bit intrusive for some participants. This affective state, considered in Belke et al. (2006), may have influenced participants' responses.

The **experiment design** was logistically difficult; we had to follow the artwork order in the lab and in the museum setting. Undoubtedly, we had to be very well organized to follow the order among participants, artworks and settings. As for the time, we asked visitors to look at each artwork for 1 minute because we wanted to challenge them to stay more than the average person stays in front of a painting in a museum, 27 seconds (Smith & Smith, 2001). Following Korn (1992) we asked participants to think about what came to their mind without thinking if their opinion was a good or a bad answer, letting them free on their interpretations.

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Concerning the variables '**understanding**', '**liking**' and '**enjoyment'**, we noticed that participants were sometimes confused about the concept 'understanding an artwork' and found this concept undetermined. Similar reactions were observed with concepts of 'being engaged with art' or 'meaning making' as Serrell et al. (2013) had investigated. As for liking, participants were commenting on liking the artworks better in the museum setting. Surprisingly, there were no effects of setting on enjoyment. According to what Packer (2006) studied about 'learning for fun', in both settings, both groups found that labels and conversation were helpful to enjoy the artworks.

Our role as researcher in terms of collecting data implied spending a lot of time in the 'field' in intense contact with participants and also time alone transcribing and analyzing the data (Merriam, 2009). Thus, this included us taking part in the data collection. Following Morrow (2005) to understand participants' construction of meaning, their context (highly educated people in Boston) and culture (American) was considered. We also have to take into account the researcher being from Barcelona in Europe. This is a relevant factor because the study was conducted in US but analyzed with the mind of an European researcher. We think this could enrich the different points of view from both the researcher and professionals working in the field of museums and PA in Boston.

We combined quantitative and qualitative data because we understand they are complementary and could consolidate the results of the study. While doing the qualitative analysis we observed that subcategories could overlap in the same quote, meaning that in one quote we could assign more than two subcategories. For instance, participant 232 was talking about the artistic process of some artist having assistants that helped them created an artwork and named Judy Chicago doing the same. In this case, two subcategories 'artistic process' and 'previous knowledge' were assigned to the same quote.

Analyses of participants' quotes were consistent with art appreciation studies in the literature as quotes that more frequently emerged were art appreciation (liking and disliking an artwork) and artist intention (the influence of the creation process on liking or disliking an artwork), and those are recurrent themes in empirical aesthetics studies as presented in Tinio and Smith (2014) handbook of PA. As shown in **appreciation** quotes participants described the artworks with the word 'beautiful'. This can be linked to the studies of Agustin et al. (2012) and Jacobsen et al. (2004). Also color (Zeki, 1980; Martindale & Moore, 1998; Mather, 2014) and familiarity (Kunst-Wilson & Zajonc, 1980; Leder, 2001) determined participants' preferences. Also, following Cupchick and Gebotys (1990), participant 133 liked *Black River* because she found a story behind the artwork that helped her to make meaning and appreciate it more. We can also talk about a pleasure of generalization (Gordon & Holyoak, 1983) when participant 236 talked about *Black River* knowing already about the artist El Anatsui and his types of artworks. He had previous art knowledge (was considered art-expert in the study) and was able to refer to it, being a self-rewarding moment for this participant. Furthermore, just as Nadal et al. (2010) found the dimension of complexity is a key factor, these participants reported beauty more frequently in artworks with more elements, such as *Black River* with multiple small bottle caps, and *Endlessly Repeating Twenieth-Century Modernism* with multiple rows of hand-blown bottles.

Following Dewey (1969) some participants demonstrated that they were thinking about how the artist did the artwork, the **artist intent**. This is relevant because participants were relating their perceptions with the production process like Tino's (2013) model showed. Also, participants were referring to **titles** of the artworks, and sometimes those were not clear and confusing and did not help them making meaning (Serrell et al., 2013).

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Differences between the **lab and museum setting** were observed. In the real setting younger adults felt they required guidance. In contrast, older adults needed the labels and the conversation less in the museum setting. We can imagine that from their life experience older adults had already ideas formed about the art and thought they did not need more information to like an artwork. As older adults were more exposed to art in their previous museum visits, their *aesthetic fluency* increased (Smith & Smith, 2006) and this fact allowed them not to be dependent on labels. Surprisingly, taking into account that socialization was one of older adults' motivations to participate, they did not indicate that conversation helped their liking of the objects but did indicate it enhanced their artwork understanding and enjoyment.

Participants were appreciating the artworks, talking about the artistic process and their personal connections and describing the artworks both in the lab and in the museum setting. Surprisingly, younger adults interpreted the artwork relating it to they daily life, for instance, their hipster culture. Instead, older adults were joking about the possibility to have the artwork at home. They considered this possibility because they are interested in art and perhaps they are used to buying art; younger adults did not made this connection.

Also, participants were referring to the title of the artwork more in the lab than in the museum setting. That could be because in the lab setting participants could be more focused on reading the labels they had in front of them. Because we asked them to read the labels it is logical that participants were referring to the title and its influence. In the museum setting, participants could be distracted by other artworks, they had to make the effort to go in front of the label and read it, or they could also be captured by the beauty of the real artwork that they were visualizing. To our surprise, participants talked more about their feelings and previous knowledge in the lab setting. Museums could take that fact into

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consideration for their on-line collection and digital tools. Also, participants were talking about the intention of the artist and their personal curiosities more in the lab setting. This could be because participants wanted to know more about the artworks before seeing the artworks for real in the museum.

5.1.5. Conclusion

The benefits of reading artworks' labels and having a conversation with another person about four contemporary works of art were studied in a lab and in a museum setting. Differences between settings emerged in younger (BC students) and older (HILR members) adult responses to contemporary art. We studied a highly educated sample in which older adults visited more museums than younger adults. Consequently, they also visited more contemporary art exhibitions. Moreover, both groups liked contemporary art.

On one hand, the perceived **effects of labels** showed that: for **understanding**, in the lab and in the museum both groups found that labels were helpful in order to understand the artworks; for **liking**, the younger group believed that labels were more helpful and contributed more strongly to liking the artworks than did the older group in the museum setting; and for artwork **enjoyment**, in both settings, both groups found that labels were helpful in order to enjoy the artworks.

On the other hand, the perceived **effects of conversations** showed that: for **understanding**, the younger group believed that conversation was more helpful and contributed more strongly to understanding the artworks than did the older group in the lab setting; for **liking**, the younger group believed that conversation was more helpful and contributed more strongly to liking than did the older group in the museum setting; and for artwork **enjoyment**, in both settings, both groups found that conversation was helpful in order to enjoy the artworks.

In participants' **recorded conversations** themes that most emerged were: appreciation, artistic process and title reference. Thus, participants liked the artworks and were wondering about the creation process and the influence of the title. To conclude, artworks were better appreciated in the museum than in the lab setting.

5.2. Study 2: Perception of Contemporary Art in Younger and Older Adults: A Focus Group Study

5.2.1. Introduction

In this study we analyze younger and older adults' interpretations of contemporary art shared in a group discussion after doing the experimental Study 1. Therefore, Study 2 is an extension of Study 1. As a reminder, in Study 1 we asked participants to write their opinions individually about how labels and conversations affected their understanding, liking and enjoyment of four contemporary artworks in a lab and museum setting. In this second study, after the museum experience, we gave participants a space where they could collectively share their opinions and comment on their feelings. We begin from the following questions:

- Did participants find differences between having the opportunity to **read the labels** or not?

- Did participants find differences between having the opportunity to **interact with others** or not?

- Did participants find the experimental visit different than **other previous visits** to other museums?

- Did participants find their understanding, liking and enjoyment of artworks was better in the **museum context**?

5.2.2. Methods

Recruitment Procedure

Participants were BC student and HILR member volunteers who participated in the previous study (Study 1). Therefore, the recruitment procedure was the same. We recruited

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younger adults in person and on-line through SONA SYSTEM (appendix 9.3.1). As for older adults, we recruited participants in person at HILR and sent them e-mail.

Participants

A total of 34 adults (from the Study 1 sample) participated: 18 younger adults (mean age 19 years, 7 females, 11 males) and 16 older adults (mean age 75, 12 females, 4 males). Younger participants were undergraduates at BC who received course credit for participation and got the ticket expenses to the museum covered. Their highest educational degree was high school. Older participants were members at HILR who enjoyed a different social activity at the museum. The highest education levels were a BA (35 %), an MA (53%), and Ph.D. (12 %). In addition, two participants had previous art knowledge; participant 206 held a Bachelor of Fine Arts and is currently an art teacher at HILR and participant 220 is a sculptor. Also, 6 older adults were MFA members.

Material and Procedure

Eight focus groups were conducted in groups of four to six participants five minutes after the museum visit, Session 2 - MFA activity in Study 1 (appendix 9.3.4).

Participants that did Session 1-Lab activity in Study 1 in pairs agreed on a day to go to the museum together for Session 2-MFA activity in Study 1. Thus, participants, with the same partner, did both the lab and the museum experience. This allowed us to compare data from the same participants in the lab and the museum setting. For that reason, groups of four or six participants were created for group discussion. That means that participants, at least, knew one participant (his/her partner) in the focus group because they did the lab and museum experience (Study 1) together. For instance, participant 123-124 did conversation 1 (lab setting) and 9 (museum setting) in Study 1 and participated together in focus group 2

in Study 2. Table 22 shows the characteristics of the younger and older adults' focus groups.

Table 22: Focus Groups Characteristics

FG number	Age Group	Number of participants	Participant number	Artwork order
FG 1	Younger	4	105	Group 1
			106	Group 1
			107	Group 1
			108	Group1
FG 2	Younger	4	123	Group 1
			124	Group 1
			129	Group 1
			130	Group 1
FG 3	Younger	4	132	Group 2
			133	Group 2
			134	Group 2
			136	Group 2
FG 4	Younger	6	131	Group 2
			135	Group 2
			137	Group 2
			138	Group 2
			139	Group 2
			140	Group 2
FG 5	Older	4	203	Group 1
			204	Group 1
			205	Group 1
			206	Group 1
FG 6	Older	4	220	Group 1
			221	Group 1
			226	Group 1
			227	Group 1
FG 7	Older	4	208	Group 2
			211	Group 2
			214	Group 2
			218	Group 2
FG 8	Older	4	212	Group 2
			213	Group 2
			215	Group 2
			216	Group 2

The protocol for the focus group is shown below:

Focus Group Protocol

(*The researcher stays in the rotunda sofa area of the museum with participants that want to participate in the group discussion after the Museum Activity – Study 1*)

Thank you for waiting, please take a seat and feel comfortable. For this activity I would also need your consent, so please take your time to read this consent form and sign it, thanks. If you have any questions, please let me know, thank you.

(*The researcher gives a pen and a consent form -appendix 9.3.2- to each participant*)

Thank you for your signature, one document is for you and the other one is for me.

(*The researcher takes a seat closing the participants' circle*)

Today in the museum you were looking at four pieces of contemporary art. Please let me remember, you looked at the first two pieces in silent during one minute each. Afterwards, you looked at pieces three and four and you were able to discuss with your partner about your impressions. Now the idea is to share your thoughts and opinions with the rest of the group.

(*The researcher leaves the recorder in the center of the table so as everyone could be heard*)

Now I will start recording this group conversation.

(*The researcher introduces the focus group questions -appendix 9.3.3-*)

[Group discussion]

(*The researcher observes and takes notes of participants' reactions*)

(*At the end of the group discussion activity the researcher says*)

Ok, great discussion! Thank you very much for your participation. If you want to exit the museum the exit door is just downstairs. Have a good day.

Data collection

Data were collected **during** (recorded group discussions and notes were taken) and **after** the focus groups (field notes).

Focus Group

Group discussions took place in the rotunda sofa area in the museum, a quiet place where groups could discuss without disturbing other visitors. Focus groups lasted 30 minutes. Younger adult focus groups were audio recorded. Audio recordings from older adults were corrupted and could not be recovered. However, the lower pace of their conversations allowed seamless note-taking by hand.

Field Notes

After each focus group we wrote down our reflections in field notes (Creswell, 2007). Reflective and descriptive field notes were compiled (Bodgan & Biklen, 2003) to remember what happened in each group discussion. Also, transcripts of what older adults were saying in their groups' discussions were collected.

Data Analysis

The researcher did a qualitative analysis considering the following descriptive information: focus group discussions and field note descriptions.

Table 23: Data Analysis Study 2

	Focus Group
Data	4 recorded focus group (Younger adults) 4 field notes focus group (Older adults)
Analysis	Qualitative

Analysis of Focus Groups

Following the methodology of Kidd & Parshall (2000), Kitzinger (1995), and Morgan (1998), we first identified the themes that we wanted participants to discuss. The researcher was in charged of asking questions (appendix 9.3.3), moderating and recording the discussion.

The younger participant focus groups were recorded and transcribed following the technique in Rapley (2008), entered into Atlas.ti (a qualitative analysis software program) and coded and categorized (Gibbs, 2007; Merriam, 2009). Instead of having preliminary established codes, we chose to allow codes to emerge from the data (Glaser & Strauss, 1967). Codes were revised and new codes added following the comparative analysis technique (Miles & Huberman, 1994). As for the older participant focus groups, the researcher compiled all the field notes taken in the museum and organized the data by themes for further analysis.

Focus group data underwent a double analysis. First, participants' quotes were analyzed in consonance with focus group questions about the effects of labels and conversations, and how the experimental museum visit (Study 1) was different from other previous visits they did in other museums. Then, we analyzed participants' quotes, relating them to categories and subcategories in Study 1. Results were compared with another researcher for data validation. Again, in table 24 we add a summary of categories and subcategories previously defined in Study 1.

Table 24: Category and Subcategories Study 1

Categories	Subcategories
Understanding	Artist intention
	Artistic process
	Previous knowledge
Liking	Appreciation
	Emotion
	Title
Enjoyment	Curiosity
	Description
	Personal connection

5.2.3. Results

Results are shown following focus group questions and then an analysis of the emergent categories relating them to categories and subcategories in Study 1 is presented.

1-What are the main differences you found between having the opportunity to read the labels or not?

In the younger focus groups, participants stated that labels were helpful for a better understanding of the pieces.

> *I felt that **label were helpful for this kind of art** because I feel that this kind of art is so up to interpretation... that most of the point of viewing it is more your own experience of it and what you think of it and then you can go back and see oh, **this is what the artist was thinking**, and see, oh we thought the same thing or there were a little bit different, but I feel that is more about your experience initially and that is what is fun about contemporary art.* FG 3 (Younger adults)

Some of the older adults in the focus groups also were commenting on finding labels useful:

> *Labels were much more enriching, **helped me to pay more attention**.* FG 5 (Older adults)

To argue why labels were useful a younger adult commented labels are different between different types of art, contemporary and traditional art.

> *I think with classical art the label is going to say who it is or something but it's not going to affect to your understanding of it, or the meaning of it for you. Whereas with contemporary art if you don't understand or you don't like it and then you **read the labels** you say, ok, I suppose this is abstract **and means this**, then you can go back to it and **be more satisfied with that meaning** and not come to your own conclusion.* FG 3 (Younger adults)

As shown in these quotes, without labels younger adults were lost; they commented they would have appreciated having some explanation about the artwork *Wing*.

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*It was weird (Wing), not being able to talk about it and not seeing the label, **my imagination-gone nuts**, it looks to a lot of things. It was really interesting, you could look at it in just so many different ways.* FG 1 (Younger adults)

*I think it would be better if I had a label on the first one (Wing). I was looking at it and my mind was trying to see something that wasn't even there, so it would have been **helpful if someone could tell me something about it**.* FG 4 (Younger adults)

Two younger adults confirmed that labels were a starting point in order to understand the art:

*Yes, definitely with the labels you can compare and contrast what you are thinking. You at least have that **point to start thinking** and interpret the art.* FG 2 (Younger adults)

*For me, the **labels were like a starting point**. From there it just gave me a bases to try to find a meaning in it. (…). So I think I need a starting point to get started or I am kind of lost.* FG 4 (Younger adults)

For younger adults labels were helpful to understand the artworks:

*Personally **I definitely could understand it more**, for the first two (Wing and Black River) I was thinking, "I have no idea of what that is?" so I don' t know if I like this. So, I think it definitely helps.* FG 2 (Younger adults)

For younger adults labels helped them appreciate the art better:

*I think it depends on the kind of art, like with the Black River **I wouldn't have never appreciate it as much if I didn't know what it was about**.* FG 4 (Younger adults)

Older adults did not found labels so helpful:

*Labels are **very simple**; I like more the ones in silence.*

*Some of the labels were **distracting**.*

*For me labels **made no difference**. The title Wind did not help me.*

*For me the **first impression counts** and I did not like the Wing.* FG 7(Older adults)

*I really **don't read labels**. I like not to be distracted on reading.*

*Labels are **too long**.* FG 8 (Older adults)

2- What are the main differences you found between having the opportunity to interact with others or not?

Younger adults found discussion helpful; one participant stated that sharing their opinions and saying out loud their thoughts gave them better comprehension of the artwork:

*The fact that I have to talk makes me jump my made conclusions about the art itself and force to **form comprehensive sentences** that **makes me understand** what I am thinking.* FG 4 (Younger adults)

*Just anything that made you more engaged with the piece, really **open up myself to other possibilities to the art**, talking to other people, sharing different experience, and being able to have a different perspective of it open up more possibilities...* FG 3 (Younger adults)

Participants agreed on finding different interpretations for the same artworks.

*I like talking about it and seeing what other people think, I think that is the coolest think, and seeing that **there are so many different ideas** from the way you are looking at it.* FG 1 (Younger adults)

Also, younger participants needed to have someone to talk to about the artwork to feel confident and see that they were responding the same way the group did.

*It made me much **more confident** to talk to others and see that **I was on the same track**.* FG2 (Younger adults)

Some adults also found discussion helpful:

*For me our discussion was an extension of the label. And **for the ones that we did not have the label I felt I need it to discuss them**.* FG 6 (Older adults)

*I was so **amaze how difference we reacted.***

*More **enrichment** having the opportunity to talk* FG 7 (Older adults)

Other older adults found that discussions were not helpful:

 *Both silence and talking are important, **sometimes talking is disruptive***. FG 7 (Older adults)

*If you come with a friend that knows more than you about art it is interesting. If not, **sometimes you need to go away and be separated from her***. FG 8 (Older adults)

3- What is the difference between this visitor experience and the other visits you did previously in other museums?

Participants commented other museum experiences they had were different from the experimental one. Older adults were referring to museum visits accompanied by family members. Only a younger adult commented on a previous family visit.

*I **hate going** with my **family***. FG 7 (Older adults)

*I **like going with my wife**, she had more insight and we are both interested.* FG 7 (Older adults)

*Usually I will just **kind of go for one piece to another** without really observing. And plus, my little brother and **mum and dad don't like contemporary art** so it was a different experience for me.* FG3 (Younger adults)

Younger adults stated that they are not used to going to museums and if they go it is with friends or in a school trip:

*I **don't usually go to the museums** but I like going to them, I wish I could go often. I like going the contemporary art section and just see what is there, because there is always something weird, you never know what you will expect. It is always **better to go with friends and family** because then you have something to talk about it, or just to complain about, if you don't get it... (Laughs).* FG 1 (Younger adults)

*When I go with **friends**, I don't normally go to museums and specially contemporary art because it is visually appealing like the glass one (Endlessly) it was very creative with the*

mirrors, and the other the abstract painting (Skulldiver III) for me it was very appealing, I mean, you don't really understand what it is but I just liked it. (Laughs). FG 1 (Younger adults)

*Usually I go **with school** and we don't spend so much time on it. I think more time help you enjoy the experience more.* FG 3 (Younger adults)

For one of the younger adults that was used to going alone to museums the experimental museum experience was an unusually social experience:

*One thing is that we had specifically things to look at, so it's not just going around. The other two times I have been to the museum this year it was **just by myself**. So now, being able to discuss it and share what we thought, I like to be able to talk about it more, better than just look at it, say ok and move on to the next one.* FG 3 (Younger adults)

One younger adult participant emphasized the time spent in front of the artworks; she was very surprised to find that one minute was too long:

*For me one thing it was interesting is thinking about, being in the museum, even though we **only spend one minute on each thing that felt a long time**, and that is not a very long time to spend observing one piece of art that some artist has put so much time into. I think that was a wired realization, thinking I probably spend maybe 30 seconds on each piece in the museum and that's not a very long time. And **in a minute, I was able to form a little bit more of an opinion about it**. But I got **uncomfortable**, I was just thinking, "ok, let's move, let's go!" and that's not a very long time at all. So, I think that was interesting to me, just looking at one piece for even one minute it felts really a long time.* FG 3 (Younger adults)

Older adults were used to spending more time with an audio guide:

*I am used to go with headphones, with **audio guide**.* FG 8 (Older adults)

Figure 35 shows a summary of the results related to the focus group questions.

Figure 35: Scheme of Categories - Focus Group Questions

Labels	**Conversations**	**Other museum experience**

Labels

- YAM: Artist thoughts
- YAM/OAM: Labels useful
- YAM: Helpful to know about art
- OAM: Labels to get info/technology
- YAM: More satisfied with labels info
- OAM: Labels = made no difference simple
- YAM: Without labels my imagination gone-nuts
- OAM: Labels = too long/distracting
- YAM: Labels = starting point
- OAM: First impression counts
- YAM: Labels = art better understanding
- YAM: Labels = art better appreciation

Conversations

- YAM: Comprehensive sentences= better understanding
- OAM: No label, then I needed to discuss
- YAM: Open up other possibilities to the art
- OAM: Enriching, helping to pay attention
- YAM: Different ideas an interpretations of the same artwork
- OAM: Amaze different reactions/ Enriching
- YAM: More confident on the same track of the group
- OAM: Sometimes disruptive
- OAM: You need to go away
- OAM: I don't like to talk to others

Other museum experience

- YAM: My family don't like CA
- OAM: Hate going with family
- OAM: Like going with wife
- YAM: Don't usually go to museums
- YAM: When I go to museums, I go with friends
- OAM: Used to take the audio-guide
- YAM: Just by myself
- YAM: With school
- YAM: Time spent 1 min = too much

See Acronym for meaning of YAC/YAM/OAC/OAM

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Following categories in Study 1 we found the next results:

<u>Category Understanding</u>

<u>Artist intention</u>

Younger adults argued that even without understanding the artist intent a participant was able to like *Endlessly*:

> *I really liked that one (Endlessly). I really didn't know what the meaning was but it made me think about infinity and eternity.* ***I don't know what the artist was trying to say*** *but I* ***liked it****. I also like last one (Wing) because I think it was really unique the way that she did it.* FG 3 (Younger adults)

<u>Artistic process</u>

A younger adult was very interested in the artistic process of *Black River*:

> *For me, I liked the bottles cap material ones (Black River), for me it was the most interesting about in terms of the material and the construction in forming the meaning. And probably if you could talk to the author about "why he chose to make the river black?" or "Out of black gold whisky?" I think that as a black person it is very interesting for him to do. I think that is what it intrigues me the most,* ***the connection*** *between the actual material and what it* ***was constructed from the material****, the picture, and then the meaning, that was really interesting to me.* FG 3 (Younger adults)

<u>Previous knowledge</u>

Older adult participant 220 (considered an art expert) already knew about the artwork Endlessly:

> ***I already knew about that one*** *(Endlessly).* FG 6 (Older adult)

Category Liking

<u>Appreciation</u>

All participants agreed that viewing the artworks in the museum was better than in the lab activity.

*I think this is very interesting and **pretty cool**, just to see what we looked at a couple of days ago (on a laptop) and see the **difference of what we thought** it was and what it actually is (in the museum).* FG 4 (Younger Adult)

*On the computer I felt I was only a viewer and here in the museum **I felt I take part of the artwork.*** FG 6 (Older adult, 220)

*It was interesting; I saw it **so different from the computer screen**. It was **much better** in the museum.* FG 7 (Older Adults)

Being able to observe different details and look at the artwork from different angles in the museum was very much appreciated:

*I prefer going to the museum than just see it on the laptop, you can **walk around** the sculpture and **see it in all different angles**, specially the first one (Wing).* FG 1 (Younger adults)

*I like to see **much more details** here in the museum, like in the abstract painting (Skulldiver III), I was able to see so many more individual parts, it was **cool**!* FG 1 (Younger adults)

*Yes, better appreciation of the detail being there physically**, texture, size, more in depth**.* FG 7 (Older Adults)

*I think it's **cool to see the difference between seeing something on the screen** than in the museum. As big as that painting is it was overwhelming, looking at in on the laptop screen doesn't really do a justice.* FG 4 (Younger adults)

*The painting (Skulldiver III) for me it was **clearer in the museum than in the laptop**. And **bigger** than I thought!* FG 8 (Older Adults)

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Two younger adults commented that they preferred traditional art compared to contemporary art:

> I probably don't actually really like contemporary art that much as opposed to others, **like I prefer the renaissance**, Rembrandt sort of paintings that they are more straightforward and **they don't require so many clarifications**. FG 1 (Younger adults)

> I was at the Institute of Contemporary Art not to long ago it was definitely some things that I didn't like… Sometimes contemporary art can be **a little too pretentious for my taste**… FG 1 (Younger adults)

Also, two younger adults were commenting that they liked contemporary art because they could express their opinions about it freely:

> Like is **really different from looking at a painting with George Washington** on it, because everyone will **think about the same context**. In contemporary art because it is abstract everyone has a different opinion and because we had the chance to talk about it, it **draws many ideas**, some of them I don't even know about. So **that's what I like of contemporary art**. FG 1 (Younger adults)

Also this participant enjoyed contemporary art even without having art knowledge related to this type of art:

> I like to go to museums, I have **almost no experience of contemporary art** but I think it was **cool**. FG 1 (Younger adults)

Emotion

Two younger adults were referring to going to museums to relax, meaning that the museum environment helped them to be calmed:

> As far as the fines arts go; I think the purpose of the museum is more to take you back. You see the space is so open; it's easier **to walk around and relax**. FG 4 (Younger adults)

*Personally when I go to museums I just **like to zone out go to the museum yard** and not to think that much, **just get relaxed** when I go to museums.* FG 2 (Younger adults)

<u>Title</u>

An older adult participant was referring to the title and stated that he preferred titles instead of seeing the usual 'untitled' title in contemporary artworks:

*I really don't like when they put "Untitled" I prefer to have **titles and to get the technical information** about the piece.* FG 5 (Older adults)

<u>Category Enjoyment</u>

<u>Curiosity</u>

Some participants confirmed that they wanted to read the labels that they were asked not to read. Even some older adult participants agreed to back to the gallery after the groups' discussion activity, since they were very curious to know the information on the label:

*The first one (Wing with no labels) it looked like lava and **I was very tempted to look at the label. (Laughs).** FG 2 (Younger adults)*

*I still don't know the label of the painting and **I would love to go and check it now.*** FG 7 (Older adults)

Concretely, this younger participant stated that besides reading the non-permitted label, he would have loved to talk about it.

*On that one (Wing) I had no idea of what that was. (Laughs). **I wish we could have talked about it**, to know what it was. I thought it was a sort of hand... **I would have liked to read the label**.* FG 1 (Younger adults)

*What do you think about **the ones that we did not discuss it?*** FG 6 (Older adults)

<u>Description</u>

Younger and older participants enjoyed looking at artwork details at the MFA:

*I liked the Skulldiver III painting because I liked how it all flows together, all the colors very pretty colors and it was less rigid. Also looking at to someone's thoughts, and then I found the painting it was even more **cool looking at so many things in it, animals and many faces.*** FG 2 (Younger adults)

*With this one (Wing) I was uncomfortable, it seems it was **almost falling apart.***

*It seemed **flowing** to me. I like it!* FG 8 (Older adults)

*As for the tapestry one (Black River) it felt to me like a map, like looking at **Google mapping.***

*The first one it was animal like, it seemed to me like an **elephant or a horse.***

*In the abstract painting I saw a **woman**.* FG 6 (Older adults)

<u>Personal Connection</u>

Discussion flowed and participants started talking about the artworks they liked the most. This is not a question that we directly asked. In FG 2 one of the participants asked the other ones "which one did you prefer?" and they started to discuss which artwork was the most pleasant for them and why.

*I like the second one too, the tapestry (Black River) because **I like working with my hands**, so it was really nice and pleasing to me.* FG 2 (Younger adults)

*Bottle one it was a meditated piece. I loved the color grey-blue of the glass. If I could afford it **I would love to have it at home**.* FG 7 (Older Adults)

Figure 36 shows a summary of these results following categories in Study 1.

Figure 36: Scheme of Categories - Study 2

See Acronym for meaning of YAC/YAM/OAC/OAM

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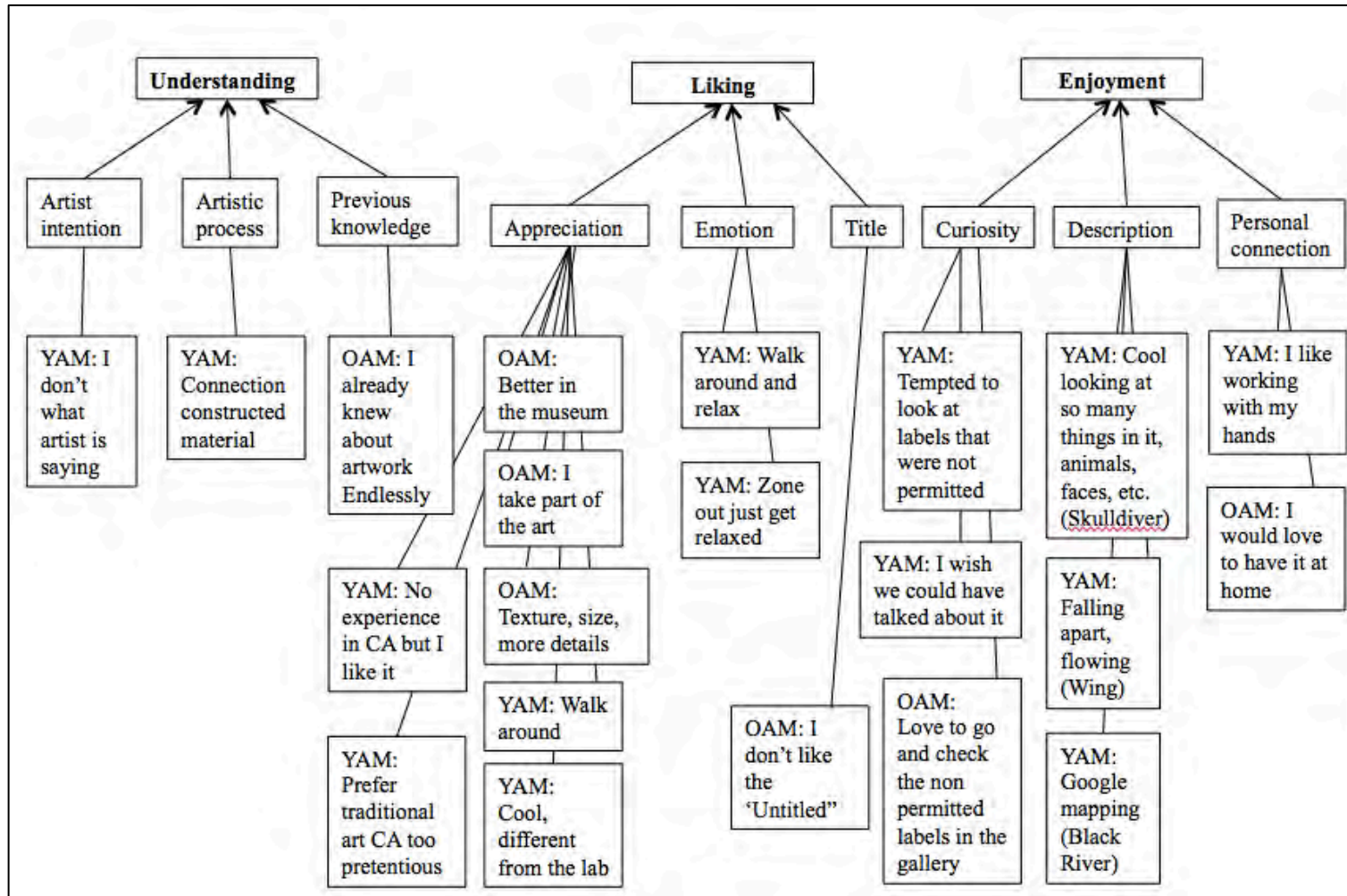
5.2.4. Discussion

Following objective 2 formulated in part 3.2. **Analyze younger and older adults'
interpretations of contemporary artworks in a group discussion after the museum
experience**, results showed that the museum context contributed to the appreciation of the
art. Group discussions of younger adults confirmed labels and conversations in the museum
to be a starting point to understand and appreciate art, although for older adults these were
not as helpful. These results confirm the results found in Study 1. Next, we will discuss the
following themes of the study: perceived effect of labels and conversations, other museum
experiences, the museum context, the variables 'understanding', 'liking' and 'enjoyment',
time, and group dynamics.

Referring to the first focus group question, about the main differences participants
found between having the opportunity to read the **labels** or not, younger adults felt that
labels were more helpful than older adults. Some younger adults commented that without
labels for contemporary art, they felt lost. Therefore, labels were a starting point for
younger participants that still needed guidance for understanding this type of art (Savazzi
et al. 2014). We can suspect that younger adults need help to rationalize the art they are
looking at. They prefer labels that orient them instead of labels that could make them think
more freely. Also, label information helped them in appreciating the art better (Tschacher et
al. 2012). In contrast, older adults did not found labels so helpful. This could be because of
their cultural experience (Kauppinen, 1988). They already have a life experience that helps
them relate different kind of arts with what they are seeing or they may simply like this
type of art for its aesthetics, so they do not need the labels that they consider to be simple
and distracting (focus groups 7 and 8).

As for **conversations** younger adults stated that talking to another person gave them a better understanding of the artworks, and expressing their thoughts out loud helped them to have a better comprehension of the artwork (focus group 4). It is relevant that a younger participant needed to have someone to talk about contemporary art to feel confident (focus group 2). In this case, participants had the need to verify that they were responding the same way the group did. This needs further reflection. First, for younger adults it is very important to be part of a group and share the same thoughts (Korn, 2008). Second, in terms of art appreciation this means that these participants thought there are good and bad ways to interpret art. Also, this means that younger adults still need academics or other authoritative sources to see if they are correctly interpreting an artwork. Moreover, younger participants are not contemplating the possibility of confusion or getting it wrong, as they feel a need to compare opinions with a group to see if they are on a good path. Are there good or bad answers in art interpretation and appreciation? This arouses the debate on how students are being educated in arts (Winner et al., 2013) and the importance of promoting critical thinking (Tishman & Palmer, 2006).

When participants were relating the museum experience with **other museum experiences** they confirmed that older adults tend to visit with family members and younger adults, if they visit a museum, go more often with friends (Korn, 2008). The experimental conditions of the study made them feel different than in other museum visits, for instance, an older adult commented that she is used to taking audio guides and a younger adult stated that he felt it was a good social experience.

A relevant result is the importance of the **museum context**; all participants confirmed that viewing the artworks in the museum was better than on a computer in a lab/room. Also, art was better appreciated in the museum. These findings are in line with

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Tschacher et al.'s (2012) study on the influence of how artworks are presented in a museum on viewers' responses. In the same vein, following Brieber et al. (2014), viewing artworks in a museum was seen to be a more positive experience than viewing them outside this setting. Being in the museum setting implies having a 'museum experience' (Falk & Dierking, 2013) and that means that not only the artworks but the environment, the exhibition design, museum services, and the overall museum atmospherics (Forrest, 2013) would influence visitors' positive or negative museum experience.

Variables **'understanding', 'liking'** and **'enjoyment'** were related to categories and subcategories in Study 1. Results showed that for *understanding,* participants were talking about the 'artist intention', the 'artistic process' and 'previous knowledge'. In focus group 3 one participant commented that even without knowing what the artist was trying to express in *Endlessly Repeating Twentieth-Century Modernism*, she liked the artwork.

Concerning *liking,* participants' 'appreciation' was better in the museum when being able to observe the different angles, texture, and size of the artwork (focus group 1 and 7). Also, participants were comparing contemporary to traditional art when discussing their preferences. This was relevant because instead of commenting why they liked or disliked contemporary art it was easier for them to compare it with a more accessible art, traditional art. In the subcategory 'emotion' two younger participants confirmed that they usually go to art museums to relax and have a restorative experience (Falk & Dierking, 2013, Packer & Bond, 2010). In the subcategory 'title' only one older adult was commenting on the fact that untitled works are more commonly found in contemporary art.

As for *enjoyment*, with this study 'curiosity' was demonstrated by participants when some of them stated that they wanted to read labels they were not allowed to read. Therefore, the study conditions made them increase their curiosity to read labels they were

not permitted to read. In the museum, participants were able to look at artworks' details and enjoyed their 'description'. For instance, in focus group 2 younger adults enjoyed looking at *Skulldiver III* and noticed different things in it such as animals, faces and other objects and shapes. In focus group 6 an older adult commented that *Black River* felt like a map, a Google mapping. Relating to the subcategory 'personal connection' in focus group 2 a younger adult explained that he liked to work with his hands and for that reason liked *Black River*. Also, in focus group 7 an older adult was thinking about having *Endlessly Repeating Twenieth-Century Modernism* at home.

Our role as researcher was to revisit the data we had in Study 1 and perform a focus group and a further qualitative analysis. In this case, data were analyzed qualitatively. Conducting focus groups in the ordinary setting of the museum was a challenge. First, a few participants started to get tired after the museum experiment. Therefore, we had to encourage them to do a last effort. Second, conducting focus groups implied a learning process for the researcher in terms of preparing the focus group questions, learning how to guide a group discussion and conducting it in the real scenario of the museum. Third, after the focus group the researcher needed to write down group discussions' reflections in field notes. Finally, the process of transcribing and analyzing the focus groups was slow and meticulous.

Regarding the **time** spent viewing the artworks, we have to point out that one participant was commenting in focus group 3 that she felt uncomfortable with the experimental condition of looking at an artwork for one minute (Smith & Smith, 2006). Following Roberts (2003) she was aware of the requirement of slowing down and was not able to do so because she wanted to move on to the next artwork. Interestingly, she was

thinking about the artist and that it takes a long time to create a piece of art, and, as visitors, we spend a very little amount of our time looking at it.

As for the **group dynamics**, at the beginning younger adults were talking one after the other. Therefore, it was difficult to have a good discussion. With older adults it was easier because they talked one after the other not following the same order, just jumping in the discussion naturally when they were more interested. Also, they shared their opinions' calmly, which made notes taking much easier. Younger as well as older adult participants contributed and asked questions to the group. For instance, younger adults tended to rank the artworks and compare them. In this way, someone suggested in FG 2, one by one, to explain the reason why they preferred their favorite artwork.

As an additional note, at the end of the younger adults' group discussions we asked them if they felt that new technologies, such as iPads, are needed in art museums. The researcher was also working on a separate project on how to introduce new technologies in art museums and felt it would be interesting to ask young people about it. Unexpectedly, the majority of them stated that they did not want more screens in museums. They considered screens to be distracting, meaning that they would pay much more attention to the screen than to the real artwork hanging in the museum. They also preferred to observe the brushes instead of the pixels. It seems that younger adults were fed up with technologies and considered the museum as a place without technology where they could enjoy traditional and antique pieces. Also, they do not feel that this kind of art needs new technology to be understood. To see that younger adults feel that art still needs to be in museums and that they want to go and visit the real artwork instead of looking at it on-line is an optimistic reflection for museums. They want to go to museums to explore and self-discover new things but they still need guidance with contemporary art.

5.2.5. Conclusion

Eight focus groups, four with younger adult participants and four with older adult participants were performed after the museum experience in Study 1.

Focus groups of younger adults confirmed that labels and conversations helped them to better understand and like contemporary art. They commented that sometimes in front of this type of art they can get lost, and the label is a good starting point to guide their thoughts. It is relevant to observe that younger adults felt that needed to have their thoughts directed to a good interpretation of contemporary art, the labels or a more knowledgeable companion, as if there were good and bad interpretations for this type of art. When asked about the difference between this museum experience and previous visits in art museums, younger adults confirmed visiting sometimes with school trips and family, but more often with friends. Also, one young adult found one minute looking at an artwork was too much.

Focus groups of older adults indicated that they did not need labels and conversations as much as younger adults. They consider contemporary art being free and up to interpretation, and they were not so dependent on what the group thought. When asked about the difference between this museum experience and previous visits in art museums, older adults confirmed visiting with family members and liking other type of visits like audio-guided tours.

In all focus groups participants agreed that as for art appreciation, viewing the artworks in the museum was better than in the lab setting, and these results revealed the importance of the museum context.

5.3. Study 3: Contemporary Art Appreciation in a Contemporary and a Traditional Art Gallery at Museum of Fine Arts, Boston.

5.3.1. Introduction

In this study we want to explore contemporary art appreciation in younger and older adult visitors in a Contemporary Art and in a Traditional Art Gallery at the MFA. After observing in Study 2 that participants were comparing contemporary art with traditional art we thought it could be interesting to survey people in these two galleries. We begin from the following questions:

- In what ways are **visitors** of **Contemporary** and **Traditional Art** Galleries **different**?

- Does the **gallery you are in**, either contemporary or traditional, relate to visitor's **responses** about **Contemporary Art**?

5.3.2. Methods

Recruitment Procedure

A targeted sample was recruited at the MFA consisting of visitors older than 60 and from 18 to 25 years old. When asking visitors to participate in the study we had to ask for their age to make sure that they attained the age range condition. The participation of the subjects was voluntary. Also, a postcard from the museum as a thank you gift was offered for their participation. We recruited as many participants as we needed to have, on average, the same number of males and females in each group.

Participants

A total of 160 visitors from the general audience of the MFA participated: Group 1 in a contemporary art gallery - 40 younger adults (under age 25, mean age 19 years, 26 females, 14 males, 6 members of the museum) and 40 older adults (over age 60, mean age

67 years, 26 females, 14 males, 7 members of the museum)- and Group 2 in a more traditional art gallery - 40 younger adults (mean age 20 years, 26 females, 14 males, 3 members of the museum) and 40 older adults (mean age 68 years, 27 females, 13 males, 12 members of the museum). See appendix 9.4.3. We approached visitors who had already themselves chosen to be in each gallery and did not ask visitors to view a particular gallery.

Table 25: Participants per Gallery

	Group 1 Contemporary Art Gallery	Group 2 Traditional Art Gallery
Younger Adults	40	40
Older Adults	40	40

Four older adults from the sample were tourists, 2 from Japan and 2 from Europe while the rest of participants were Americans. The highest education levels included a high school degree (43%), BA (31%), MA (17%), and Ph.D. (9%). Table 26 shows participants classified as art experts since they had either a Bachelor or Masters Degree of Fine Arts.

Table 26: Participants that studied Fine Arts

	Younger Adults	Older Adults
Contemporary Art	312 (Bachelor Fine Arts)	501 (Bachelor Fine Arts)
	332 (Bachelor Fine Arts)	511 (Bachelor Fine Arts)
	333 (Bachelor Fine Arts)	513 (Bachelor Fine Arts)
		520 (Bachelor Fine Arts)
		531 (Master Fine Arts)
		537 (Master Fine Arts)
Traditional Art		606 (Bachelor Fine Arts)
		638 (Bachelor Fine Arts)

Materials and Procedure

Group 1 were asked to complete the questionnaire (appendix 9.4.2) at the exit door of the Contemporary Art section (Gallery 259) -figure 37- and group 2 were asked to respond the same questionnaire at the exit door of the Art of Europe section (Gallery 255) -figure 38- at the MFA; there were 32 feet (10 meters) between each gallery.
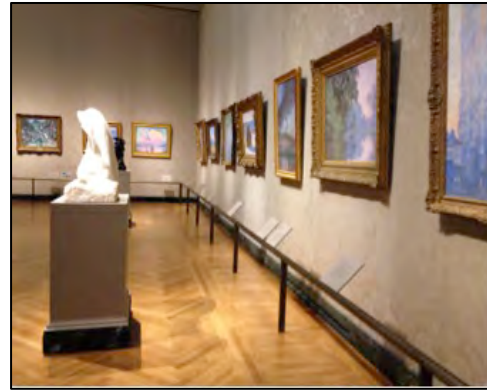
Photographs © [2015] Museum of Fine Arts, Boston

The protocol elaborated for the general audience of the museum is showed below:

General audience - Museum Protocol

(*The researcher introduces herself to the general audience visitor*)

Hello, sorry to interrupt you. I am Andrea, Visiting Scholar at Boston College and I am conducting a research for my PhD about contemporary art appreciation in a contemporary and traditional art gallery in younger (less than 25 years old) and older adults (more than 60) at the museum. If you want to participate you will have to complete a small questionnaire that will take approximately 5 minutes and at the end, as a thank you gift, we will give you a postcard from the museum. Would you like to participate in the study?

(*If no, the researcher says*)

Thank you very much. Enjoy your visit!

(*If yes, the researcher says*)

Great, thank you very much for your participation. If you prefer, we could seat in a nearby bench.

(*The researcher goes with the visitor to a nearby bench*)

Before starting I will need your consent. I would appreciate if you could please read and sign this document? Thank you.

(*The researcher gives a pen and a consent form -appendix 9.4.1- to the visitor*)

Thank you for your signature, one document is for you and the other one is for me.

(*The researcher gives the paper questionnaire to the visitor*)

This is the questionnaire you will have to complete. Please notice that in the questionnaire we ask you about some general information and some answers are already given, so you only have to mark your choice. Also, sometimes you will find open-ended questions were we ask you about your experience in this gallery. Therefore, you will have to write down your opinion. There are not good or bad answers. If you have any questions please let me know and if you are ready you can start, thank you.

(*The researcher steps apart and waits until the visitor finish to complete the questionnaire, then the researcher says*)

Did you finish?

(*And then the participant says*)

Yes

(*The researcher says*)

Great, thank you very much.

(*The researcher gives three postcards to the visitor and says*)

Now you can choose between one of these 3 postcards, thank you again for your participation.

(*While the participant is looking at the postcards the researcher verifies that every question in the questionnaire is responded, if something is missing the researcher asks for a response. At the end the researcher says*)

Have a good day!

Data collection

Data were collected in a questionnaire after subjects' visits to a contemporary or traditional art gallery. Data were collected from April to May 2015 during hours of high attendance at the MFA: Wednesday afternoons when the museum is free and open to the public and during the weekends when people have free time.

Questionnaires

After visiting the contemporary or the more traditional art gallery participants were asked to complete the same questionnaire in appendix 9.4.2. The questionnaire was created in collaboration with the Head of Planning and Evaluation at the MFA and, of course, it was revised and discussed with professors. Before distributing the questionnaire to the general audience of the study we did a small pilot testing with 10 adult (5 younger and 5 older) volunteers at the museum. We wanted to improve the questionnaire in Study 1. Previous experience gained in Study 1 allowed a finer formulation of questions and more affective approach to the visitor. Specifically, we changed the following: we moved the personal information (age, genre, education) to the end of the questionnaire for visitors to have the easiest information at the end and not to disturb them at the beginning, the format was improved with bullet points for easy reading, we asked 'why' after each question to collect qualitative information from visitors responses, and we added a six point likert scale when asking about understanding (easy-difficult) and experience (enjoyable-boring) because we thought it would be easier and quicker for visitors to respond.

The following background information was collected: age, gender, highest educational degree, frequency of museum visits and arts background (e.g. whether they had played an instrument, taken drawing, dance or theater classes), how long did they stay on the gallery (more than 30 minutes, 30 minutes, or less) and if they were members of the museum. Participants were asked to respond if they liked contemporary art and why in an open-ended question. They were asked in a 1 to 6- point scale how easy or difficult was for them to understand contemporary art, 1 referring to 'easy' and 6 to 'difficult'. Also, they were asked in a 1 to 6-point scale how was their experience of looking at works of art on that day on the Contemporary Art or Art of Europe Gallery, 1 referring to 'enjoyable' and 6

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to 'boring'. After choosing the number that best represented their opinion they had to explain why they chose that rating in an open-ended question. They were also asked if they read the written interpretations/placards and to what degree they found them useful (very useful, somewhat useful, not very useful and not at all useful), and they also had to explain why did they choose that rating. They had to mark with whom they came to the museum on that day and if they were talking to their companions about the works of art in order to see in what way talking to others related to their experience of looking at art. At the end, a space for adding their e-mail was provided in case the visitor wanted to be informed about the results of the study. It took 5 minutes on average for participants to complete the questionnaire.

Data Analysis

We analyzed quantitatively and qualitatively the following data: 80 questionnaires (40 younger and 40 older adults) in a contemporary art gallery and 80 questionnaires (40 younger and 40 older adults) in a traditional art gallery.

Table 27: Data Analysis Study 3

	Contemporary Art Gallery	**Traditional Art Gallery**
Data	80 questionnaires (40 YACA + 40 OACA)	80 questionnaires (40 YATA + 40 OATA)
Analysis	Quantitative and qualitative	Quantitative and qualitative

See Acronym for meaning of YACA/OACA/YATA/OATA

Analysis of Questionnaires

Due to nature of the data, not following a normal distribution, non-parametric analyses were performed to look for group differences in SPSS Version 22 Program. Mann -Whitney U analyses were performed for scale variables, questions 1/2/5/6/7.1 (appendix 9.4.2) and Crosstabs Chi-Squares analyses were performed for the rest of variables, questions 3/3.1/4/7/8/9/10/11/12/13 (appendix 9.4.2).

Mann-Whitney U tables showed the Ranks and the Tests Statistics. As for Crosstabs, in the contingency tables we had the Observed Count (the number of participants that indicated that labels hurt, did not help or helped) and the Expected Count (the number of participants that we expected to observe if there was no association). The observed count was different from the expected. The contingency table analysis tested whether the observed counts were significantly different from the expected counts. The Adjusted Residual (beyond 1.96) helped to know which were the significant cells. The Chi-Square Test determined if the observed count was different enough for the association to be significant. The Symmetric Measures told us how strong the association was. To see the magnitude of this association, indicators were delimited between 0 and 1. The closer the value to 1; the stronger the association was. In addition, when comparing two variables we looked at Phi; whereas when comparing more than two variables we looked at Cramer's V.

Concerning **question 3** we chose to analyze if participants had taken drawing classes and compared it to other artistic activities. We chose to analyze an activity such as drawing classes because it is the artistic activity more related to visual arts, our field of study.

When asking participants why they liked or disliked contemporary art, open-ended **question 4.1.** responses were entered into Atlas.ti Version 1.01. (67)- US (a qualitative analysis software program) and coded and categorized (Gibbs, 2007; Merriam, 2009). Instead of having preliminary established codes, we chose to allow codes to emerge from the data (Glaser & Strauss, 1967). The researcher used the *emic* qualitative approach that consists in finding categories of meaning that emerge from the data.

Subcategories and categories were created as follows. We observed that participants were describing if they liked or disliked contemporary art with different adjectives. For that

reason, we created 'qualities of the art for liking contemporary art', and 'qualities of the art for disliking contemporary art' subcategories. Also, there were participants referring to their traditional art preference when describing that they did not like contemporary art and we added the subcategory 'preference for traditional art'. All these quotes were 'describing actions' and we decided to create category *description* to encompass the three previously explained subcategories.

Also, because we found that participants were referring to artists and to their goals for creating a piece we created subcategories 'artist intention' and 'artistic process' and included them to the created category *artist reference*. In addition, when explaining why they liked contemporary art participants expressed their emotions. For that reason, we created a subcategory named 'emotion' that was included in a bigger category named *feelings*. In this category we added the subcategory 'curiosity' because we thought that participants being curious about artworks also were expressing their feelings.

Next, we found that participants were describing that they liked contemporary art and connected it into two different events; current events in society -they found contemporary art being the art of our social time- and daily events in their lives. For these reasons, we created subcategories 'society connection' and 'personal connection'. We created a last category named *connection* that encompassed participants' quotes relating to their connection to society and daily life.

We analyzed the frequency of appearance to show the themes that most commonly emerged from the data. Thus, not because of more frequent appearance this means that the category is more important, but we found a way to organize all the data and to observe what was relevant for the MFA visitors. Data analysis was discussed with two qualitative researchers for results validation.

For **questions 5.1./6.1./7.2./9.1.** we present quotes that emerged from participants'

responses that best represented the significant quantitative results. Furthermore, we took

into consideration art expert participants' opinions.

In table 28 a definition of each category is shown accompanied by an example.

Table 28: Category Definitions (question 4)

Categories	Subcategories	Definition	Example
Description	Qualities of the art (Like Contemporary Art)	Participants referring to adjectives to describe that they liked contemporary art.	*It's different, **unusual, creative** and **magical**. (Participant 340)*
	Qualities of the art (Dislike Contemporary Art)	Participants referring to adjectives to describe that they do not liked contemporary art.	*Abstract, **absurd**, touch upon the real problems in the world and questions everything. (Participant 325)*
	Preference to Traditional Art	Participants referring to preferring traditional art to describe that they do not like contemporary art.	*I find it much of it to be harsh. I greatly **prefer** the soft tone of the **impressionist period**. (Participant 629)*
Artist Reference	Artist Intention	Participants referring to contemporary artists and their intentions to describe that they liked contemporary art.	*It involves me in imagining what the **artist was trying to represent**, an emotion, an object, or just the act of creating a piece. (Participant 630)*
	Artistic Process	Participants referring to how the artwork was made to describe that they liked contemporary art.	*It can break apart traditional **techniques and methods** in an interesting way. (Participant 318)*
Feelings	Emotion	Participants referring to emotions and feelings to describe that they liked contemporary art.	*I feel it brings out person inner emotions **to life**. (Participant 429)*
	Curiosity	Participants referring to wanting to know more about artworks to describe that they liked contemporary art.	*I haven't had much exposure to it but I am **interested in seeing more**. (Participant 625)*
Connection	Society Connection	Participants referring to current events in society to describe that they liked contemporary art.	*It feels more **socially and politically relevant**. (Participant 334)*

Personal Connection	Participants referring to their personal connection to art to describe that they liked contemporary art.	*I think it is reflective of many of the **views** and opinions of **my generation***. (Participant 412)

5.3.3. Results

We found that not only were there differences between conditions, i.e. Contemporary Art vs. Traditional Art Gallery, but also between age groups. Attached a summary of the significant results following the question order is presented.

Table 29: Significant Variables- Results by Condition and Age Group

Question Number	Variables	Test	Result by Condition	Result by Age Group
1	Times Museum	U-Mann	No Sig (U=3153, p=0.863)	Sig (U=2417, p=0.004)
2	Visit CA	U-Mann	Sig (U=2638, p=0.027)	No Sig (U=2819, p=0.135)
3	Drawing	Chi-Square	No Sig (x^2(1df)=2.579, p=0.108)	Sig (x^2(1df)=8.356, p=0.004)
3.1	Drawing Other	Chi-Square	Sig (x^2(1df)=4.619, p=0.032)	Sig (x^2(1df)=16.836, p=0.000)
4	Like CA	Chi-Square	No Sig (x^2(1df)=0.165, p=0.685)	Sig (x^2(1df)=10.565, p=0.001)
5	Understand	U-Mann	Sig (U=2.642, p=0.046)	No Sig (U=3029.5, p=0.541)
6	Experience	U-Mann	No Sig (U=3128, p=0.795)	Sig (U=2552, p=0.019)
7	Read Labels	Chi-Square	No Sig (x^2(1df)=0.313, p=0.576)	No Sig (x^2(1df)=0.313, p=0.576)
7.1	Labels Useful	U-Mann	No Sig (U=3014.5, p=0.486)	No Sig (U=2843.5, p=0.180)
8	Visit With	Chi-Square	No Sig (x^2(3df)=3.252, p=0.354)	Sig (x^2(3df)=47.428, p=0.000)
9	Talk about art	Chi-Square	No Sig (x^2(1df)=0.656, p=0.418)	No Sig (x^2 (1df)=2.626, p=0.105)
10	Time in Gallery	Chi-Square	No Sig (x^2(2df)=0.550, p=0.759)	Sig (x^2(2df)=18.061, p=0.000)
11	Education	Chi-Square	No Sig (x^2(3df)=0.854, p=0.837)	Sig (x^2(3df)=76.520, p=0.000)
12	Gender	Chi-Square	No Sig (x^2(1df)=0.028, p=0.868)	No Sig (x^2(1df)=0.028, p=0.868)
13	Member	Chi-Square	No Sig (x^2(1df)=0.173, p=0.677)	Sig (x^2(1df)=4.329, p=0.037)

'1. How many times during last year have you visited a museum?'= Variable 'Times museum'. There is a **significant difference** in how many **times participants visited a museum** during the last year between **younger** and **older adults**. A Mann-Whitney test indicated that the times older adults visited a museum during the last year were greater than the times younger adults did so U= 2417, p = 0.004. Older adults visitors were more used to going to museums; during the last year, they visited museums more frequently than younger adults. Therefore, older adults were very frequent visitors with only two of them not having visited a museum during the last year. Conversely, ten younger adults did not visit any museum during the last year. The majority of participants stated that they had visited a museum 1-5 times during the last year. There were no significant results by condition, meaning that the times visitors visited a museum last year was equivalent between participants in the contemporary and in the traditional art gallery.

Figure 39: Times Museum Visits - by Age Group
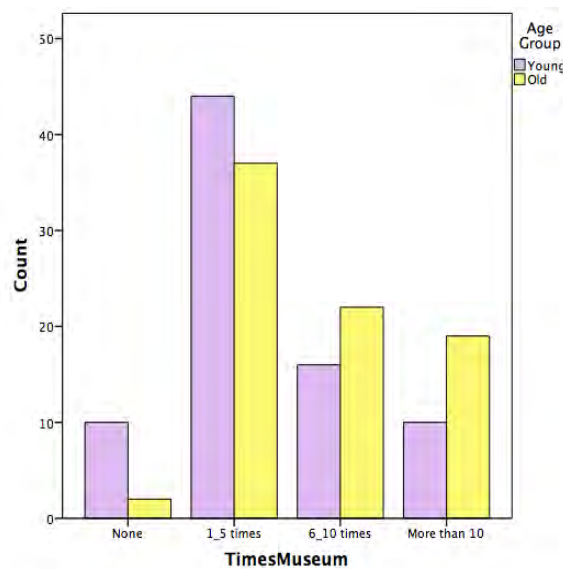
'2. In these visits, how many times have you visited a Contemporary art exhibition?'
= *Variable 'Visit CA'.* There is a **significant difference** in **visiting contemporary art exhibitions** between participants in the **contemporary art gallery** and participants in the **traditional art gallery**. A Mann-Whitney test indicated that participants visiting contemporary art exhibitions were greater in the contemporary art gallery that in the traditional art gallery U= 2638, p = 0.027. Visitors in the Contemporary Art Gallery were more used to visiting a Contemporary Art exhibitions in the past. In this case, there were no significant results by age, meaning that responses of visiting a Contemporary Art exhibition in their previous museum visits were equivalent between younger and older adults.

Figure 40 : Contemporary Art exhibition visits - by Condition
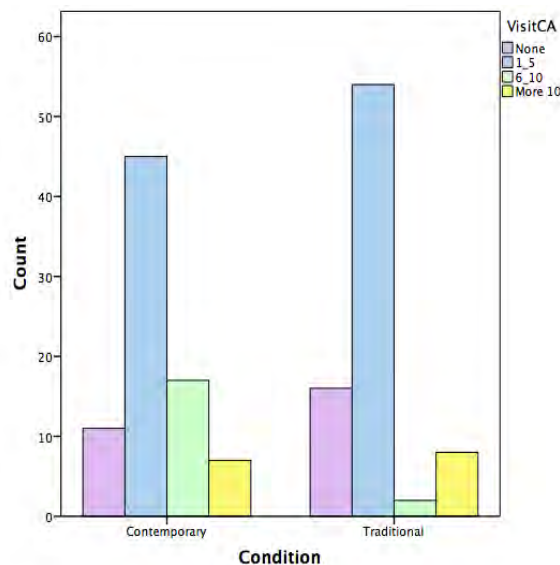
'3. Please mark if you have taken drawing classes or any other artistic activity.'=

Variable 'Drawing'. There is a **significant difference** in **drawing** between **younger** and

older adults. Pearson Chi-Square tests is significant x^2 (1df) = 8.356 (p = 0.004). As can be

seen in figure 41, younger adults were used to drawing more in their life experience than

older adults visitors. There is not a significant difference in drawing by condition.

Figure 41: Drawing - by Age Group
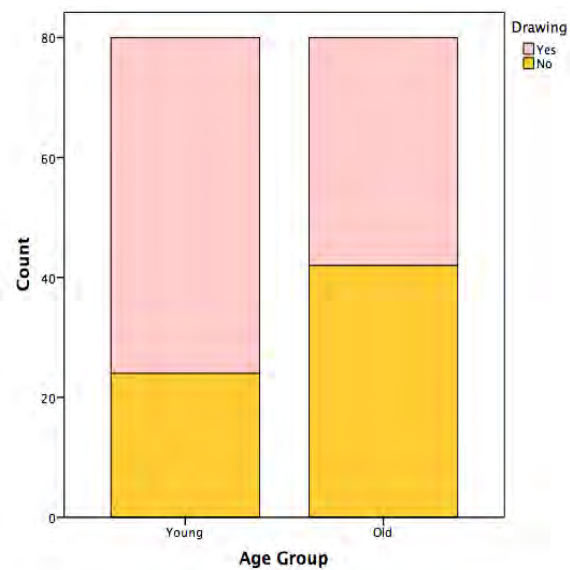
'3.1. Variable Drawing other'. There is a **significant difference** in doing **artistic activities other than drawing** between participants in the **contemporary art gallery** and participants in the **traditional art gallery**. Pearson Chi-Square tests is significant x^2 (1df) = 4.619 (p = 0.032). As shown in figure 42 visitors in the Contemporary Art Gallery are more used to doing other artistic activities than the ones in the more traditional art gallery.

Figure 42: Drawing Other - by Condition   **Figure 43**: Drawing Other - by Age Group
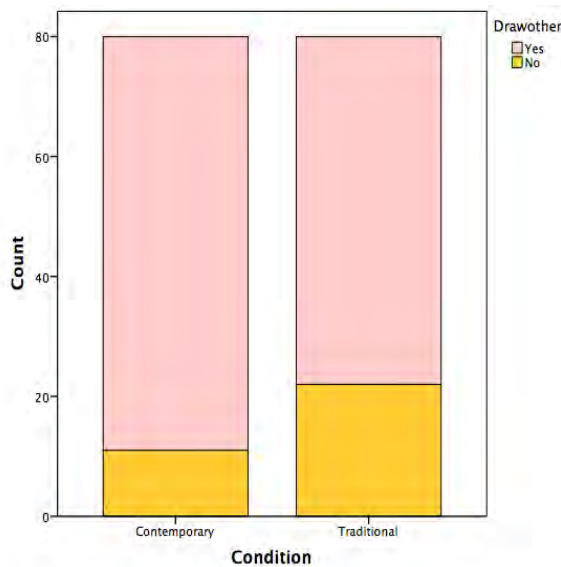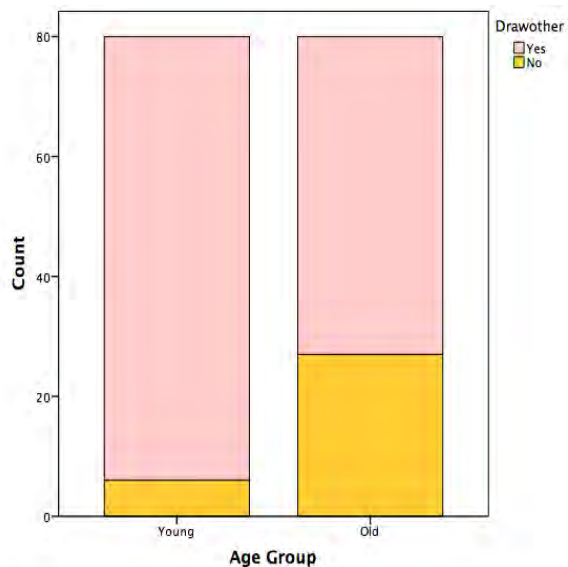
There is also a **significant difference** in doing **artistic activities other than drawing** between **younger and older adults**. Pearson Chi-Square tests is significant x^2 (1df) = 16.836 (p = 0.000). There is evidence (figure 43) to support the claim that younger adults are more likely to do other artistic activities other than drawing than older adults. Other common artistic activities that visitors did were photography, singing, design, etc.

'4. Do you like Contemporary Art?' = Variable *'Like CA'*. There were **significant differences** in **liking contemporary art** between **younger** and **older adults**. Pearson Chi-Square tests is significant x^2 (1df) = 10.565 (p = 0.001). As can be seen in figure 44 the younger group stated that they liked contemporary art more than older adults.

Figure 44: Like Contemporary Art - by Age Group
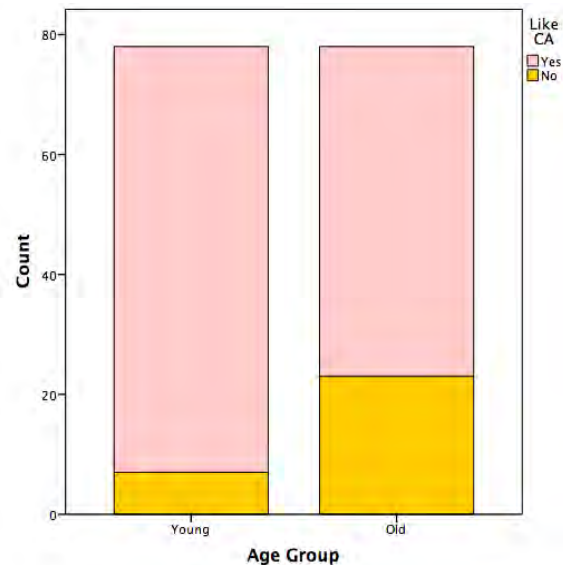
In table 30, cells "Yes-Young" and "No-Old", are the ones where the adjusted residual is z >1.96 and that means that the results are statistically significant.

Table 30: Like CA * Age Group Crosstabulation

			Young	Old	Total
Like CA	Yes	Count	**71**	55	126
		Expected Count	63.0	63.0	126.0
		Adjusted Residual	**3.3**	-3.3	
	No	Count	7	**23**	30
		Expected Count	15.0	15.0	30.0
		Adjusted Residual	-3.3	**3.3**	
Total		Count	78	78	156
		Expected Count	78.0	78.0	156.0

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'4.1. Why?' Figure 45 shows subcategories ordered by frequency out of the total amount of analyzed responses. As can be seen, in participants' responses about why they liked or disliked contemporary art, the most common subcategory was the qualities of the art- like contemporary art (37%), emotion (20%), and society connection (19%).

Figure 45: Subcategories by Frequency (question 4)
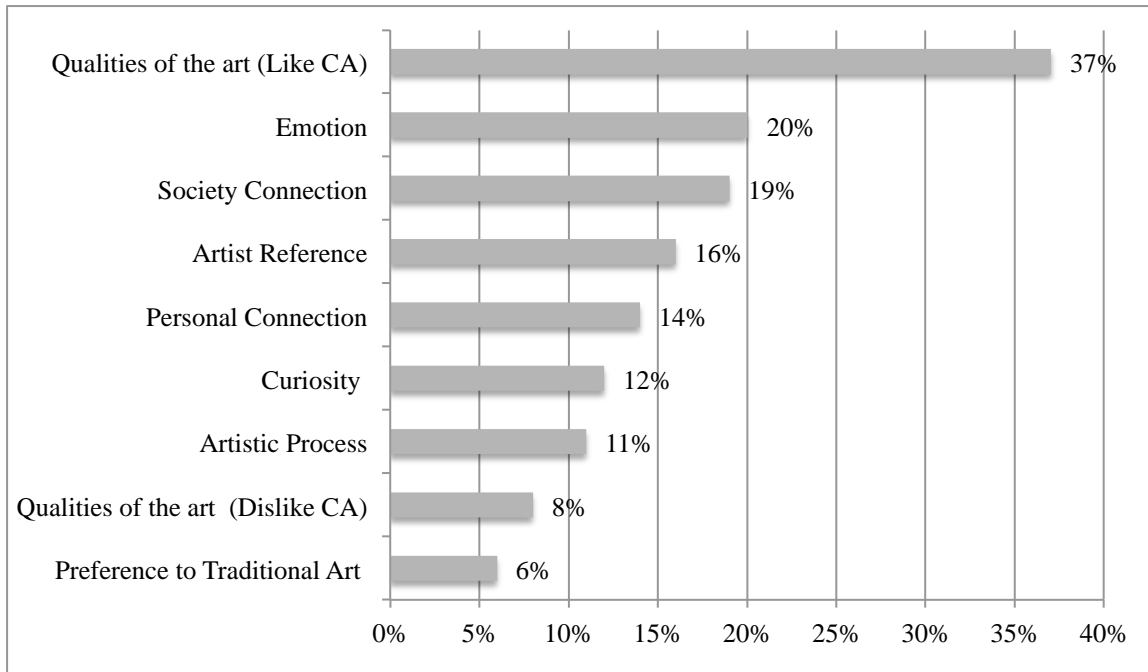
Below we listed examples of each subcategory. In each quote, words in bold represent the reason for the assigned subcategory, and at the end of each quote the age group, participant number, and gallery type are listed.

Qualities of the art - Like Contemporary Art (37%)

In responses from participants that said that liked contemporary art we realized that some participants were referring to finding this type of art "free", "new", "unique" and even "exciting" and "surprising".

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Free

*There is **freedom** within contemporary art. For the artist and the viewer. It's fluid and it confuses me in the best way possible.*

(Younger adult, Participant 423, Art of Europe Gallery)

*Contemporary art is **free and not stilted**. It has great variety and imagination, seems to follow no formulae.*

(Older adult, Participant 632, Art of Europe Gallery)

New

*Contemporary art introduces me to **new**; sometimes very exciting pieces.*

(Older adult, Participant 529, Contemporary Art Gallery)

*Contemporary art shows **new** views of a **new** world.*

(Older adult, Participant 612, Art of Europe Gallery)

*Contemporary art it's vibrant, innovative and stretches boundaries. There is always something **new**.*

(Older adult, Participant 616, Art of Europe Gallery)

Unique

*Contemporary art is always **unique**, something that I have never seen before. I can make more connections with contemporary art.*

(Younger adult, Participant 331, Contemporary Art Gallery)

*Contemporary art it's often **unique** and interesting or colorful, and generally pleasing.*

(Younger adult, Participant 426, Art of Europe Gallery)

Exciting

*Contemporary art it's **exciting**, invigorating, often challenging. I also enjoy seeing the development of art and various art forms.*

(Older adult, Participant 602, Art of Europe Gallery)

*Contemporary art is **exciting** and surprising.*

(Older adult, Participant 617, Art of Europe Gallery)

*Contemporary art it's **exciting**, stimulating and can really capture your attention. I love works, which are technically very surprising, and original.*

(Older adult, Participant 620, Art of Europe Gallery)

Surprising

*Contemporary Art it's so varied and often **surprising** and clever.*

(Older adult, Participant 511, Contemporary Art Gallery)

*I like the fact that it is **surprising**.*

(Older adult, Participant 515, Contemporary Art Gallery)

*Contemporary Art is **surprising**, audacious, fresh, challenging and inspires to create similarly.*

(Older adult, Participant 520, Contemporary Art Gallery)

*I like having emotions stimulated and I like the **"surprise"** element.*

(Older adult, Participant 618, Art of Europe Gallery)

Emotion (20%)

Surprisingly, the majority of quotes that were referring to this subcategory were given in the traditional art gallery.

*It's reflecting the timing; is providing new perspectives of **making me feel things**.*

(Younger adult, Participant 314, Contemporary Art Gallery)

*It's interesting, the meaning is up to you, and it's not straightforward. **It's fun to look at!***

(Younger adult, Participant 421, Art of Europe Gallery)

*I feel contemporary art **brings out** a persons **inner emotions to life.***

(Younger adult, Participant 429, Art of Europe Gallery)

*It expresses the **feelings** of the moment and **captures emotions**, which are reflective of my*

*current **feelings.***

(Younger adult, Participant 431, Art of Europe Gallery)

*I **enjoy** looking at a piece to see **how it affects my emotions and thoughts**.*

(Older adult, Participant 606, Art of Europe Gallery)

*I like contemporary art because it's a different and more unique way to **create different***

feelings.

(Older adult, Participant 607, Art of Europe Gallery)

Society Connection (19%)

Younger adults related contemporary art to current events in society more than older

adults.

*Contemporary art **can speak to contemporary life** better than other forms by virtue of the*

fact that it's based on actual observations.

(Younger adult, Participant 336, Contemporary Art Gallery)

*It is interesting to see how people can **bring current societal problems into their art** and*

make them fresh for the viewer.

(Younger adult, Participant 337, Contemporary Art Gallery)

*I **enjoy** contemporary art because it helps describe and **give the emotion of current events.***

(Younger adult, Participant 428, Art of Europe Gallery)

I think it's interesting to see how art has evolved over the years and how the way the world

*changes and **current social events influence modern art**.*

 (Younger adult, Participant 435, Art of Europe Gallery)

*Contemporary art shows me how artists and crafts people are **relating to the world/society***

***I live in**.*

(Older adult, Participant 531, Contemporary Art Gallery)

*Contemporary art is of the **"now" society**.*

(Older adult, Participant 619, Art of Europe Gallery)

*Contemporary art **reflects today's society and issues**.*

(Older adult, Participant 639, Art of Europe Gallery)

Artist Intention (16%)

Older adults, more than younger adults did, referred to the artist and took into account the person that created the artworks and the intent.

*It's interesting to see how **the artist** interprets the world.*

(Older adult, Participant 510, Contemporary Art Gallery)

*I like how many **contemporary artists** ask us to be active viewers of their work, not just passive expectations. They expect us to use our minds as well as our eyes.*

(Older adult, Participant 540, Contemporary Art Gallery)

*In many cases it is the evolution of **the artist** who came before. It is interesting to see **how an artist** can take **an idea on a new direction.***

(Older adult, Participant 604, Art of Europe Gallery)

Personal Connection (14%)

Younger adults were more personally connected to contemporary art than older adults.

*It is the most stimulating form of art. **I often feel that I can identify with it more**.*

(Younger adult, Participant 319, Contemporary Art Gallery)

*I like Contemporary Art because **it is more relatable to my life** than Classical Art.*

(Younger adult, Participant 414, Art of Europe Gallery)

***I feel more emotionally connected to it**, as it is more often from an art I understand.*

(Younger adult, Participant 430, Art of Europe Gallery)

<u>Curiosity (12%)</u>

Older adults were more stimulated and wanted to learn more about the different types of art.

*I don't understand what the artist is trying to convey. But I do appreciate the talent of the artist and **I am interested in learning more**.*

(Older adult, Participant 532, Contemporary Art Gallery)

*It appeals the mind **to new ways of thinking** and seeing.*

(Older adult, Participant 537, Contemporary Art Gallery)

<u>Artistic Process (11%)</u>

Older adults were more interested in the artistic process and the material used by the artists when making the artwork.

*I like the abstraction of contemporary art. I like the expression of imagination and creativity in the innovative **use of form, color and materials**.*

(Older adult, Participant 505, Contemporary Art Gallery)

***I enjoy non-traditional use of materials** and fresh interpretations that seem to connect with me.*

(Older adult, Participant 530, Contemporary Art Gallery)

*The **different materials** fascinate me.*

(Older adult, Participant 620, Art of Europe Gallery)

<u>Qualities of the art - Dislike Contemporary Art (8%)</u>

From the answers provided by those participants that disliked contemporary art, we realized that some participants found this type of art "too simple", "distant" and "silly".

Too simple

*I find it lacks true skill and can be **easily reproduced by anyone**.*

(Younger adult, Participant 332, Contemporary Art Gallery)

*Contemporary art it's **somewhat boring, too simple**.*

(Younger adult, Participant 405, Art of Europe Gallery)

Distant

*Contemporary art is **too abstract for me**.*

(Older adult, Participant 524, Contemporary Art Gallery)

*I find contemporary art **cold, distant, unrelated to the world**.*

(Older adult, Participant 528, Contemporary Art Gallery)

Silly

*I admire the creativity and imagination in some contemporary art; but much of it eludes me and often seems **silly.***

(Older adult, Participant 626, Art of Europe Gallery)

*Mostly it is **silly** and without discipline!*

(Older adult, Participant 636, Art of Europe Gallery)

Preference for Traditional Art (6%)

Also, in responses from participants that said that do not like contemporary art two quotes referred to preferring traditional art.

*I don't understand contemporary art. **I prefer historical pieces from the Renaissance** and Ancient Greece and Rome.*

(Younger adult, Participant 320, Contemporary Art Gallery)

*I am developing an appreciation to contemporary art, but **prefer classical subjects** and interpretations.*

(Older adult, Participant 615, Art of Europe Gallery)

Figure 46 shows a summary of these results.

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Figure 46: Scheme of Categories ('Why do you like or dislike Contemporary Art?')

Description
- Adj. description (Like CA)
  - YATA/OATA: Free
  - OATA/OACA: New
  - YATA/YACA: Unique
  - OATA: Exciting
  - OATA/OACA: Surprising
- Adj. description (Dislike CA)
  - YACA/YATA: Too simple
  - OACA: Distant
  - OATA: Silly
- Preference Traditional Art
  - YACA: Prefer ancient pieces from Renaissance
  - OATA: Prefer classical subjects and interpretations

Artist Reference
- Artist Intention
  - OACA: How artist interprets the world
  - OATA: Artist take an idea to a new direction
- Artistic Process
  - OATA: Different materials fascinate me
  - OACA: Use of form, color and materials
  - OACA: Non-traditional use of materials

Feelings
- Emotion
  - YACA: Make me feel things
  - YATA: Fun to look at
  - YATA: Brings out inner emotions to life
  - OATA: Art affects my emotions and thoughts
- Curiosity
  - OACA: Learning more
  - OACA: New ways of thinking

Connection
- Society connection
  - YACA: Bring current society problems to the art
  - OATA: Is of the 'now' society
  - YACA: Can speak to contemporary life
- Personal connection
  - YATA: Emotionally connected with it
  - YATA: More relatable to my life
  - YACA: I can identify with it more

See Acronym for meaning of YACA/YATA/OACA/OATA

'5. How easy or difficult do you think it is to understand Contemporary Art?' =
Variable 'Understand'. There is a **significant difference** in views of the ease of
understanding contemporary art between participants in the **contemporary art gallery**
and participants in the **traditional art gallery**. A Mann-Whitney test indicated that
participants who felt it was easy to understand contemporary art were greater in the
contemporary art gallery that in the traditional art gallery U= 2642, p = 0.046. When asked
how difficult did they think it is to understand Contemporary Art, participants in the
Contemporary Art Gallery found it easier than participants in the Traditional art gallery
(figure 47). The majority of participants indicated the middle numbers (3 and 4) in the
scale, with the extreme values (1 and 6) being less common. Figure 48 shows that there
were no significant results by age groups; younger and older adults found it similarly
difficult to understand contemporary art.

Figure 47: Understand Scale - by Condition   **Figure 48**: Understand Scale - by Age Group
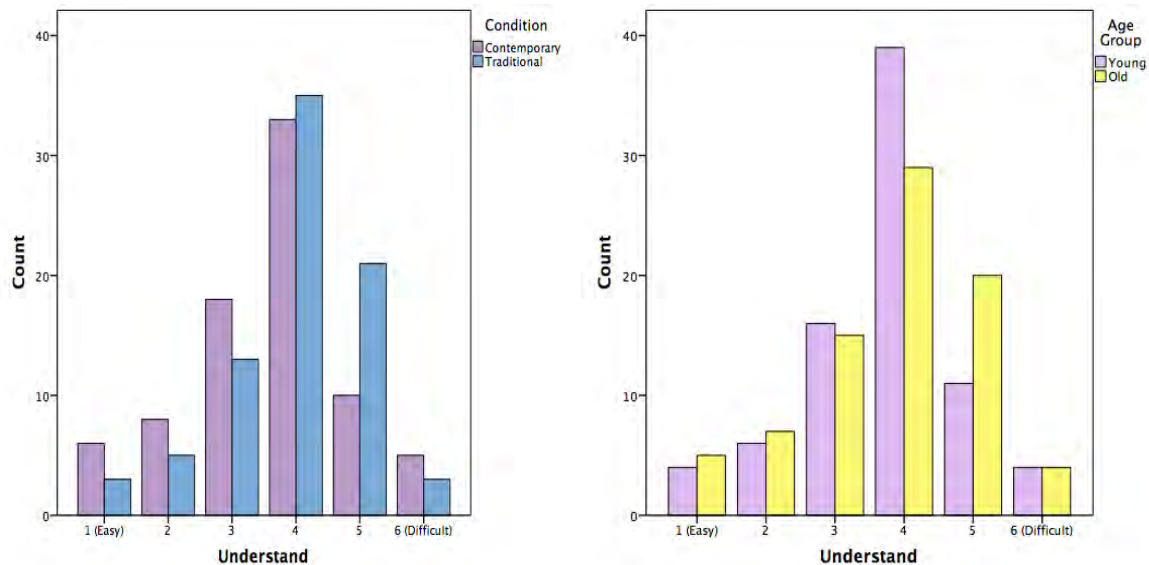
'5.1. Why did you choose that rating?' Below are sample responses from visitors explaining why did they chose the level rating they did for understanding artworks, with level 1 being easy to understand and level 6 being difficult to understand.

Table 31: Understanding Levels

	Contemporary Art Gallery		Traditional Art Gallery	
	Younger Adults	Older Adults	Younger Adults	Older Adults
Level 1	*It's **easy to understand**, it is what it makes you **feel**.* (Participant 314)	*It is what it is... meeting it on its terms and responding to **what moves you, not difficult**.* (Participant 535)		***It's visual.** I don't feel that I host part other meaning or analysis to it. Also, I just plain like almost all visual experiences.* (Participant 639)
Level 2	*Contemporary art is unique like the viewer but also since **I grew up in the era** in which it was created, it's **easy to understand**.* (Participant 315) *I think **understanding art is personal.** There is emotional reaction and mental reaction. The viewer will get something out of the art, even if it is not something that the artist intended. Therefore, I believe that **is no true one way to understand art**.* (Participant 337)	*I see a lot and have the **vocabulary** and **openness** to the experience.* (Participant 504)	*While some pieces are self explanatory, others are a bit **obscure/too metaphorical**.* (Participant 412)	*Because **all art needs "understanding".** Contemporary art may need a **greater effort** because artists may well be experimenting with existing forms. **Great efforts must not make it "difficult"**.* (Participant 603)
Level 3	*It can be **hard sometimes** because you have to look for a different meaning than what is shown on the surface. You have to **think outside of the box**.* (Participant 324)	*I'm not sure that **understanding** Contemporary Art **is relevant or possible**.* (Participant 528) *I hope most contemporary artists would appreciate **whatever understanding we***	*Some you have to **put yourself in the artist shoes** to picture their **vision**, which **can be difficult**.* (Participant 416)	*Some are difficult if you think "why? what on earth is that about?". There is **difficulty if you feel you need to understand the why/what** is it saying. Other works can be easy, beautiful in their*

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		viewers have of their work- *whether exactly the artist intended to convey or not.* (Participant 540)		*own right, truly abstract.* (Participant 620) *If you **read about it**, you can understand a lot.* (Participant 613)
Level 4	*Sometimes **I don't always understand contemporary art**, but I find it **important** and **valuable**.* (Participant 313) *The more you begin to **learn about art**, the **better your understandings are** but the more questions you have.* (Participant 328)	*Sometimes it is **hard to understand** the **artists' vision** but I feel art is a personal interpretation.* (Participant 514) *It is not as self-explanatory as more traditional art but can be **interpreted often in many ways**. And I **don't have to understand it to like it**.* (Participant 511)	*Because contemporary art is **often less straight forward and much more subjective** than more classical art, but it is still easy to understand the emotion behind it.* (Participant 401) *Harder than non-contemporary it tends to be **more abstract** and **unanalyzed**.* (Participant 411)	*It's hard to know what the artist was thinking. **My interpretation** may be completely **different** for someone else's or the **artists.*** (Participant 616) *Sometimes **I don't need to "understand" it**. It can please me without my having to analyze.* (Participant 632)
Level 5	*Some have **obscure meanings** that only the artist gets, **some I feel mean nothing at all**.* (Participant 332)	*I haven't studied much contemporary art and often in museums it is so different from what I really like, I found it's **hard to understand**.* (Participant 526) *Never really know what is going on in an **artists' head**.* (Participant 530)	*Not very clear, but **up to the interpretation** of the viewer artist **message can get lost**.* (Participant 410) *I feel as though contemporary art is **relatively difficult to understand** because I relate it to my own life as opposed to the artists meaning.* (Participant 414)	***Without studying** the artist and the techniques, it can be **difficult to understand** the work and the intent.* (Participant 604) *I often find that contemporary artists **try too hard to break new ground**, and so compromise their artistic talent and training.* (Participant 627)
Level 6	*Many times **there aren't clear answers** when it comes to contemporary art; and it becomes **more difficult** as the drawing has less of realistic appearance that makes people to start guessing.* (Participant 330)	*I have **had hard time** figuring out reason/feeling behind the work.* (Participant 525) *Because it **doesn't make any sense**.* (Participant 539)	*Contemporary art is, at times, quite **abstract,** making it **difficult to understand**.* (Participant 436)	

We considered levels 1, 2, and 3 finding the art easy to understand, and levels 4, 5, and 6 difficult.

Visitors who marked **level 1** found the art easy to understand and said that contemporary art is a visual experience that evokes feelings. Therefore, they felt it is easy to understand because we can follow our emotions and feelings to interpret it (314 and 535).

Visitors in **level 2** still found contemporary art easy to understand. For instance, participant 337 said that multiple interpretations for contemporary art are valid, and there is not a unique true way to interpret it. Also, participant 315 -younger adult in the contemporary art gallery- stated that because contemporary art is art of 'our time' is easy to understand. Participant 603 -older adult in the traditional art gallery- disputed that not because having to make an effort to understand contemporary art that means this type of art is difficult to understand.

Visitors in **level 3** found contemporary art not so easy to understand. Responses showed that contemporary art is not easy to understand because we have to think outside the box (324). Participants were commenting we really 'have to understand' contemporary art and considered it is free to interpretation. For instance, participant 416 -younger adult in the traditional art gallery- was empathizing with the artist to understand better the artworks. Some participants introduced that having art-knowledge, if you read and learn about contemporary art (613), would be helpful to understand the art.

In **level 4**, participants also talked about understanding art related to their knowledge. Referring to art appreciation, some visitors were commenting that they did not need to understand the art in order to like it (511- art expert- and 632). For instance, participant 514 found it is difficult to understand contemporary art because it is usually

difficult to understand the artist intent. Like participant 411 -younger adult in the traditional art gallery, visitors were comparing contemporary art and traditional art, with the latter easier to understand.

In **level 5** responses demonstrated that participants found contemporary art difficult to understand. In the contemporary art gallery visitors such as participant 332 stated that some contemporary art has no meaning. Older adults such us participant 526 in the same gallery found contemporary art hard to understand without having learned about it. In the same line, participant 604 -older adult in the traditional art gallery- insisted that to understand art some previous knowledge about the artist is needed.

Finally, in **level 6**, participant 330 **-**younger adult in the contemporary art gallery- was commenting that there are not clear answers about contemporary art, meaning that we must have a clear answer to interpret art. Also some older adults in the contemporary art gallery found, like participant 539, that contemporary art makes no sense. Furthermore, some participants (436) confirmed that the more abstract the piece is, the more difficult it is to understand it. We want to highlight the following quotes:

> ***Not everybody can see the deeper meaning*** *in a persons' art*.
> (Younger adult, Participant 429, Art of Europe Gallery)

> *You have to break the art up and **figure it out piece by piece***.
> (Younger adult, Participant 417, Art of Europe Gallery)

We can think that not everybody knows how to appreciate and interpret contemporary art because they have not been taught that and they are not used to looking at it in a museum. A younger adult (417) suggested that you need time and dedication to understand a piece. Also, participant 612 found that contemporary art was not for her.

> *I am old so the world of 20-40 years old is **different from my past***.
> (Older adult, Participant 612, Art of Europe Gallery)

Finally, it is relevant to see in the previous table 31 that in the traditional art gallery columns, none of the younger adults marked that found it easy to understand contemporary art and none of the older adults marked that they found it difficult.

'6. How was your experience of looking at works of art today on the Contemporary Art or Art of Europe Gallery?' = Variable 'Experience'. We asked visitors if they enjoyed art in the gallery they were visiting. There is a **significant difference** in the **experience** of looking at artworks in the museum between **younger** and **older adults**. A Mann-Whitney test indicated that the older adults' experiences were more enjoyable than the younger adults' U= 2552, p = 0.019. As can be seen in figure 49, older adults enjoyed the museum experience more than did the younger adults. Also, none of the participants indicated that it was a boring experience (option 6 in the scale). Figure 50 shows that there were no significant results by condition; visitors enjoyed similarly the experience of looking at art in the contemporary and in the traditional gallery.

Figure 49: Experience Scale - by Age Group   **Figure 50**: Experience Scale - by Condition
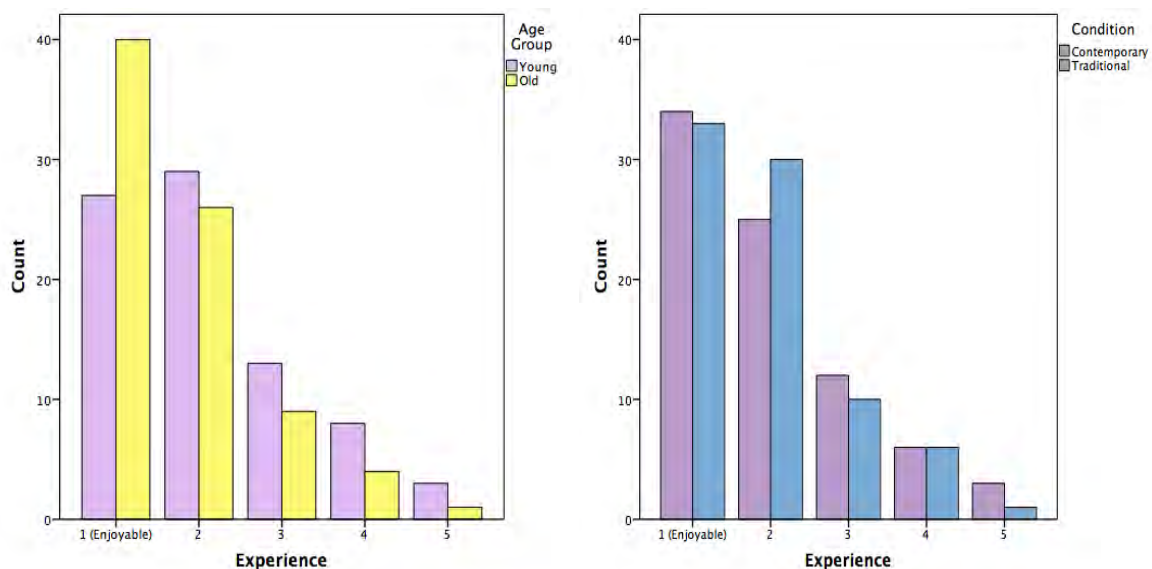
'6.1. Why did you choose that rating?' Below are sample responses from visitors explaining why they choose the enjoyment rating they did, from enjoyable (level 1) to boring (level 6).

Table 32: Enjoyment Levels

	Contemporary Art Gallery		Traditional Art Gallery	
	Younger Adults	Older Adults	Younger Adults	Older Adults
Level 1	*I love looking at art and also going to art museums. I always have an **enjoyable time**. (Participant 311)*	*I **enjoy** looking at artworks that are **out of my comfort zone**. It broadens my perspective. (Participant 524) It's a vision of the current world, well, my western world. I also **know** some of the **artists** in the collection. (Participant 531)*	*The paintings were **visually pleasing**. (Participant 406) I **generally enjoyed** the art in the **Art of Europe** Gallery and thought it was **beautiful**! (Participant 422)*	*Art of Europe is art I am very **familiar** with. (Participant 604) I like **"masterpieces"** paintings. (Participant 613) It is a thrill and a privilege to be so **close to artists I admire**. (Participant 627)*
Level 2	*I enjoy, but I **enjoy other works more**. I find looking at art from the Renaissance to have **more technique and skill** than most (but not all) contemporary art. (Participant 333)*	*I **enjoyed** the **range** of art and **artists**, and I understand that it is an overview; still I would like to have seen **more than one piece by certain artists**. (Participant 513)*	*I enjoy seeing Art of Europe, art of **people I know** for example, Monet. (Participant 430) I have **been to this museum several times** but there's always something new to see. (Participant 424) Because **I love it**. (Participant 408)*	*I **love** the 17h Century Dutch Paintings. Always makes me want to **step into those interiors.** (Participant 612) The Art of Europe Gallery is like being in the **company of old friends**. (Participant 625)*
Level 3	*I **enjoy** discussing and otherwise just admiring contemporary art. Sometimes it's interesting when you **know nothing about it**, to have an **outside perspective**. (Participant 313)*	*Rating (to me) represents how I **responded to the various works**- I liked more than I did not. (Participant 530) Some pieces speak to me **other pieces left me cold**. (Participant 534)*	*Much of it was very **similar** to things **I have seen in other museums**. (Participant 410) I have **seen** these **galleries before**, so **it wasn't as interesting**. (Participant 411) I find European artworks **a bit too traditional for my***	*It's my feeling, **just aesthetic experience**. (Participant 607)*

		personal taste. (Participant 428)	
Level 4	*I had **already seen most of the pieces** but I liked some of the new ones.* (Participant 327)	*I gained **much more pleasure**, satisfaction, and excitement from **other sections of the museum.*** (Participant 523)	*Art of Europe is **boring.*** (Participant 432) ***Not really into** Europe Art as much.* (Participant 433)
Level 5		***Uninteresting, not engaging***. (Participant 528)	

In this case, we considered levels 1, 2, and 3 to be visitors defining their experience as enjoyable and levels 4, 5, and 6 not so enjoyable and boring. None of the participants marked option level 6 and only an older adult marked level 5 in the contemporary art gallery.

Level 1 responses showed that participants enjoyed the experience of looking at art in the different art galleries because they found contemporary art thought-provocative, and traditional art pleasing and beautiful. Also, participants enjoyed the layouts of the rooms. In the contemporary art gallery usually participants were not very familiar with the pieces. However, participant 531 -older adult, art-expert in the contemporary art gallery-, was referring to contemporary art as a representation of our 'western world' and confirmed that he knew about some of the contemporary artists. In the Art of Europe Gallery, some impressionists' paintings were familiar to visitors (604), and concretely participant 613 pointed out that she enjoyed the experience of viewing the 'blockbuster' impressionists' paintings. Also, a visitor who was a member told us that the Art of Europe was one of his favorite rooms at the MFA. Also, in level 1 the following visitor was enjoying having a restorative experience:

*Art was **refreshing**.* (Younger adult, Participant 425, Art of Europe Gallery)

In **level 2** the level of enjoyment slightly decreased. For instance, participant 333 - younger adult, art-expert, in the contemporary art gallery- preferred works from the Renaissance because of the more elaborated technique. Contrarily, an older adult, participant 513, wanted to have seen more pieces from some contemporary artists of whom only saw one piece. In the traditional art gallery some younger adults (430) enjoyed seeing artworks from artists they knew, in this case referring to Monet. Other visitors in their responses were also referring to that artist. We can observe that frequently visitors had already been in this gallery in previous visits to the museum (424). Older adults, in the traditional art gallery, were more empathic with the artworks, meaning that they could see themselves inside the paintings and the epochs (612 and 625).

In **level 3** the level of enjoyment decreased a little bit more. For instance, participant 313 was referring to art knowledge, meaning that if we do not know anything about art, this could also be a challenge to see the art from a different perspective. Older adults in the contemporary art gallery confirmed that did not enjoy all kinds of art (534). In the traditional art gallery, some younger adults marked level 3 of enjoyment because of having seen the artworks before (411) or the art being too classical for them (428).

Level 4 responses demonstrated that participants were not enjoying so much their museum experience. Curiously, participant 523 -older adult in the contemporary art gallery- stated that he preferred other sections of the museum. Similarly, younger adults, participants 432 and 433, were not very much into the classical pieces in Art of Europe gallery.

Finally, in **level 5** we found a response for an older adult visitor (528) confirming that contemporary art was not interesting.

'7. Did you read any of the written interpretations/placards on the gallery?' There were no significant differences. Figure 51 and Figure 52 demonstrated that visitors were reading the labels independently of their age or the galleries they were visiting.

Figure 51: Read Labels - by Condition
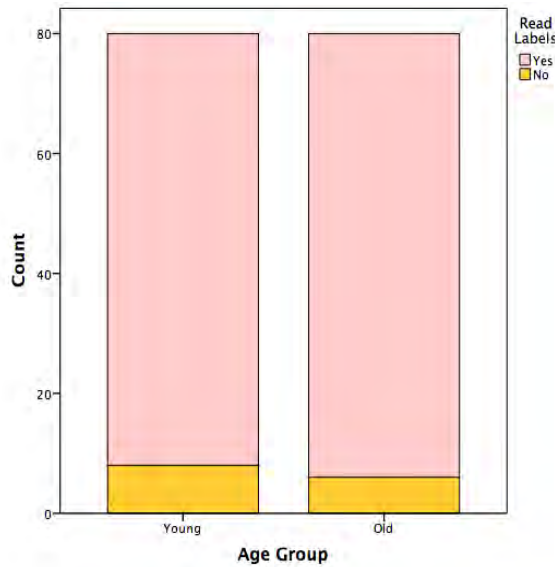
Figure 52: Read Labels - by Age Group
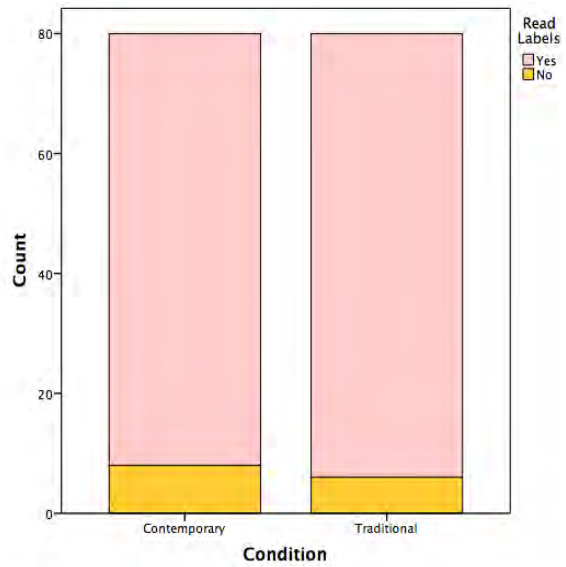
'7.1. Were there (the labels) useful?' Visitors found labels useful independently of their age or the galleries they were visiting.

Figure 53: Labels Useful- by Condition   **Figure 54**: Labels Useful- by Age Group
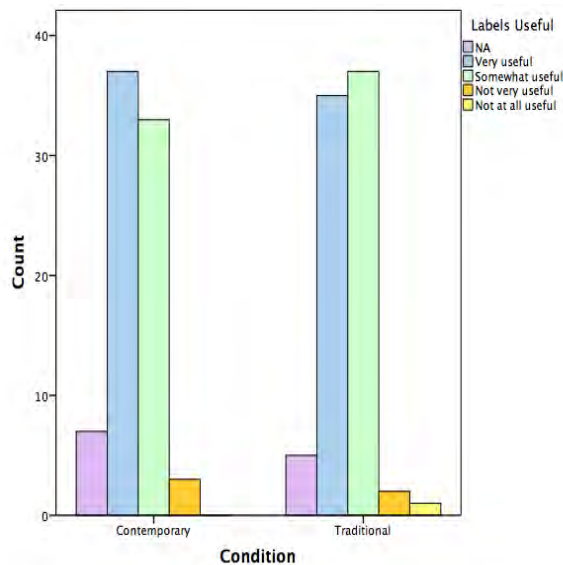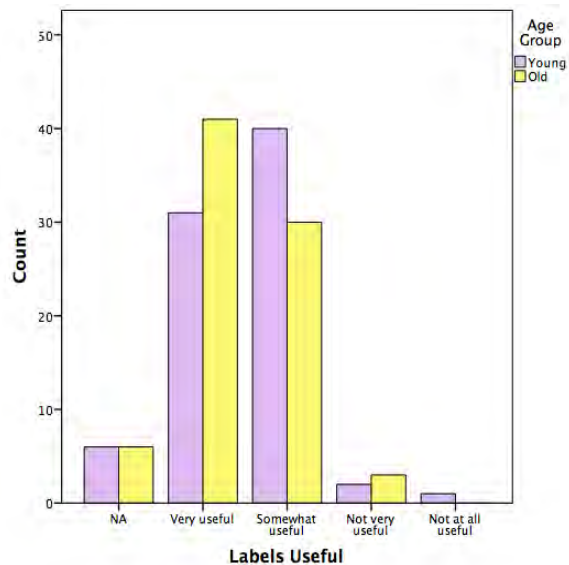
'7.2. Why did you choose that rating?' 88% of participants stated that labels were very and somewhat useful independently of condition or age. We found the following reasons that participants chose to rate labels being 'very useful' because of: label characteristics, finding labels helpful to connect with the art, labels contributed to understanding the art, and learning outcomes. Visitors' comments of 'Label characteristics' refers to the physical and general characteristics of the label, 'Labels helpful to connect to art' refers to labels being helpful in terms of the description given to connect with the art, 'Labels contributed to understanding the art' refers to comments about labels enhancing the understanding of the artworks, and 'Learning outcomes' refers to general comments about learning.

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Visitor sample responses:

Table 33: Visitor rating labels 'Very Useful'

	Contemporary Art Gallery		Traditional Art Gallery	
	Younger Adults	Older Adults	Younger Adults	Older Adults
Label Characteristics	*It is useful to learn a little bit about the* **artist's background** *and theme of the exhibition.* (Participant 321)	*They are clear, thoughtful and* **large size**. (Participant 515)	*I find the placards to be* **the most interesting aspect of museums**, *without it we would not know where the item came from, or its history.* (Participant 436)	*It's interesting to see the* **history behind the artwork** *and of* **portrait subjects**. (Participant 623)
Labels Helpful to Connect to Art	*Sometimes it's hard to get meaning of the art, and the placards always* **help you get into the mind of the artist** *to see it.* (Participant 311)	*Often labels merely tell the artists'* **name date and media.** *It's ok to give a* **little more** *than that.* (Participant 513)	*It* **helped explain the ones I didn't understand** *and if I really wanted to know more I read the description.* (Participant 416)	*They* **help explain the context** *of the art- how it* **fits into art history**. (Participant 626)
Labels Contributed to Understanding Art	*They allow me to* **understand the artist's intentions** *and better understand the artwork.* (Participant 329)	*Helped me to* **understand the art**. **Date** *it was created and who the* **artist** *was.* (Participant 533)	*I was* **able to understand the art more than if I** *was to just look at the sculpture/painting* **alone**. (Participant 429)	*The explanations* **helped** *me to* **understand** *the* **artists' goal**. (Participant 621)
Learning Outcomes	*They pointed me in the* **correct direction** *for* **how to interpret the art** *and how to understand the point the artist was trying to get across.* (Participant 324)	**Learned something**. (Participant 532) *I like* **to know abou**t *the* **artist.** (Participant 518)	*I* **learned** *a lot.* (Participant 407)	*It is enjoyable* **learning about the artist** *and their approach to their work.* (Participant 603)

On assessing **label characteristics** participant 515 -older adult in the contemporary art gallery- commented on the size of the label. For older adults, it is important that labels have a large enough size so that they can read them comfortably. Participant 436 -younger

adult in the traditional art gallery- emphasized the importance of the label in order to get crucial information like the history and the date of the artwork. Participant 623 was referring to the fact that in the Art of Europe Gallery, beside the artworks labels, there were portrait photographs of impressionists artists such as Degas and Monet. In fact, impressionist artists generally are well known and frequently visitors know about their works, but visitors are not used to seeing their faces in a photograph. Thus, this fact was relevant for visitors.

Visitors considered **labels helpful to connect to art** because for some younger adults (513) labels allowed to get more information such as the name and the media. However, older adult (626) asserted that labels were helpful in order to get the context and its place in art history. Moreover, participant 513 -older adult, art-expert, in the contemporary art gallery- wanted to have more information than the one provided on the label. Therefore, it seems reasonable that if he already knew something about contemporary art, he wanted to learn more about it.

Also, labels **contributed to understanding the art**. For some participants (329 and 621) knowing something about the artists' intention through the labels helped understand artworks. For participant 429 -younger adult in the traditional art gallery- labels contributed to understanding the art more than having any information and being alone in front of an artwork.

Finally, as for the **learning outcomes**, visitors felt that they learned something. Participant 324 -younger adult in the contemporary art gallery- thought there is a right direction to interpret this kind of art. Overall, participants enjoyed the experience of learning in the informal learning setting of the museum.

Below are sample responses of visitors rating labels 'Somewhat Useful':

Table 34: Visitor rating labels 'Somewhat Useful'

	Contemporary Art Gallery		Traditional Art Gallery	
	Younger Adults	Older Adults	Younger Adults	Older Adults
Label Characteristics	*Many described the* **motif** *of the artist for creating the piece.* (Participant 330)	*Some were* **too long** *and* **boring**. (Participant 518)	*I find them useful for* **explaining the artwork** *and what it is, but sometimes I want to know more about the work that is not there.* (Participant 435)	*Sometimes* **too abstract** *and* **overwritten**. (Participant 635)
Labels Helpful to Connect to Art	*I think the art need to stand alone, but the* **placard can help sometimes**. (Participant 318)	*Not interested in when obtained to the building. Not generally interested in artist but* **why the artist made it** *and what the art means.* (Participant 508)	*An explanation was* **helpful for some of the art.** *It was also interesting to interpret how you want without reading an explanation.* (Participant 405)	*Sometimes I prefer to make my own interpretation. It is good though to find out about* **materials** *or* **construction**. (Participant 616)
Labels Contributed to Understanding Art	*They are* **informative**, *but not necessary to enjoy the art.* (Participant 413)	*Mostly gave good* **background** *of work and* **helped me understand** *it better.* (Participant 521)	*It* **helped me understand** *what the* **message** *of the art was.* (Participant 421)	*I like to know about* **process** *when something looks mysterious.* **Too much explanation** *is deadening at times.* (Participant 609)
Learning Outcomes	*Only because I don't always read them, but it's* **nice to have them** *there if I want to know more about the piece.* (Participant 333)	*I like* **to know more about the techniques** *the artist used to create their pieces.* (Participant 531)	*Helped and produced an in* **depth analysis**. (Participant 418)	*Did not learn much new about the Dutch paintings. Did* **learn some things** *in the silver cases.* (Participant 621)

As for **label characteristics**, in this case, participants considered labels to be vague

and only telling about some biography and background. Also, labels did not tell enough for

some younger participants (435) who wanted to know more information about the artwork.

Older adults were more critical, such as participants 518 and 635 who defined the labels with negative adjectives like: long, boring, abstract and overwritten (independently of the type of gallery).

However, some visitors considered **labels helpful to connect to art** in some cases, too. Visitors considered looking at the art alone, without the labels and also with them. For instance, participant 403 summarized his confusion about labels as follows:

> *I am conflicted about placards. Shouldn't we decide how art makes us feel?*
> (Younger adult, Participant 403, Art of Europe Gallery)

In this case, participants had positive feelings about how labels **contributed to understanding the art**. Participant 521 -older adult in the contemporary art gallery- insisted on the background of the artwork that allowed her to have a better understanding. Also, participant 421 -younger adult in the traditional art gallery- stated that discovered the message behind the art.

Finally and concerning **learning outcomes**, participant 531 -older adult, art-expert, in the contemporary art gallery- was very interested in knowing about the artistic process and the art techniques. Also, participant 418 –younger adult in the traditional art gallery- said that reading the label implied an in-depth analysis. In the same gallery participant 621 - older adult in the traditional art gallery- did not learn much about art already known for him (Dutch) but confirmed that he had learned indeed something from other galleries of the museum.

The following visitors found labels '**Not very useful**' in the contemporary art gallery:

> *I think the **art should speak for itself**, without need for as explanation. In some instances a placard is helpful.*
> (Older adult, Participant 534, Contemporary Art Gallery)

I don't think they are very interesting. *I was in a Museum in Chicago and I spend 10 minutes, here I could spend the whole day with Monet and Van Gogh.*
(Older adult, Participant 636, Contemporary Art Gallery)

Don't care *about what they focus on.*
(Older adult, Participant 637, Contemporary Art Gallery)

These older adults visitors felt that they did not need the labels in the contemporary art gallery.

Most of it is opinion and relies **on you agreeing with** *the* **certain interpretation**.
(Younger adult, Participant 336, Contemporary Art Gallery)

Participant 336 found labels not very useful because he considered them to be an external opinion that he had to agree with.

The only visitor, a younger adult, who marked that labels were '**Not at all useful'** did not read any labels.

'8. Whom did you come to the Museum with today?'= Variable 'Visit With'. There is a **significant difference** in the **visitor companion status** between **younger** and **older adults**. Pearson Chi-Square tests is significant x^2 (3df) = 47.428 (p < 0.001). As indicated in figure 55 younger adults came to the museum more with friends and older adults more with family. One younger adult marked the option 'other' but none of the older adults marked it. Overall, visitors came more with others than alone.

Figure 55: Types of Visit Companion - by Age Group
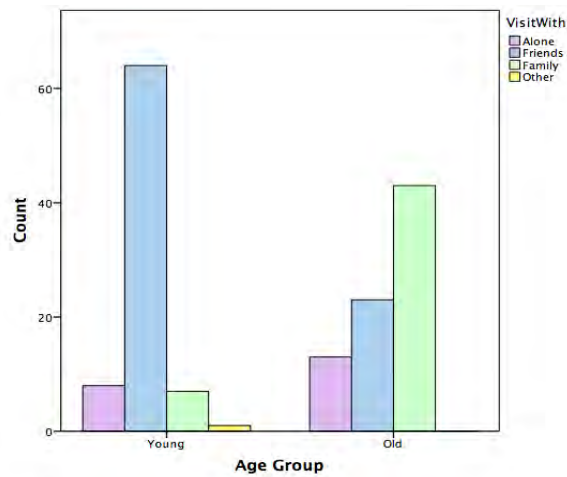
Table 35: Visit With * Age Group Crosstabulation

			Young	Old	Total
Visit With	Alone	Count	8	13	21
		Expected Count	10.6	10.4	21.0
		Adjusted Residual	-1.2	1.2	
	Friends	Count	**64**	23	87
		Expected Count	43.8	43.2	87.0
		Adjusted Residual	**6.4**	-6.4	
	Family	Count	7	**43**	50
		Expected Count	25.2	24.8	50.0
		Adjusted Residual	-6.2	**6.2**	
	Other	Count	1	0	1
		Expected Count	.5	.5	1.0
		Adjusted Residual	1.0	-1.0	
Total		Count	80	79	159
		Expected Count	80.0	79.0	159.0

In the table beyond, cells "Friends-Young" and "Family-Old", are the ones where the adjusted residual is z >1.96 and that means that the results are statistically significant. There is evidence to support the claim that younger adults are more likely to go to museums with friends and older adults with family members.

'9. Did you talk about the art with your companion(s)?' There were no significant differences. Figure 56 and figure 57 demonstrated that visitors were talking with their companions independently of their age or the galleries they were visiting.

Figure 56: Talk about art - by Condition   **Figure 57**: Talk about art - by Age Group
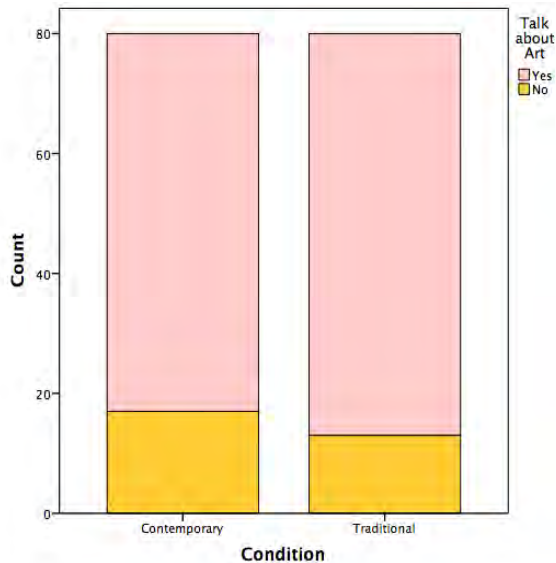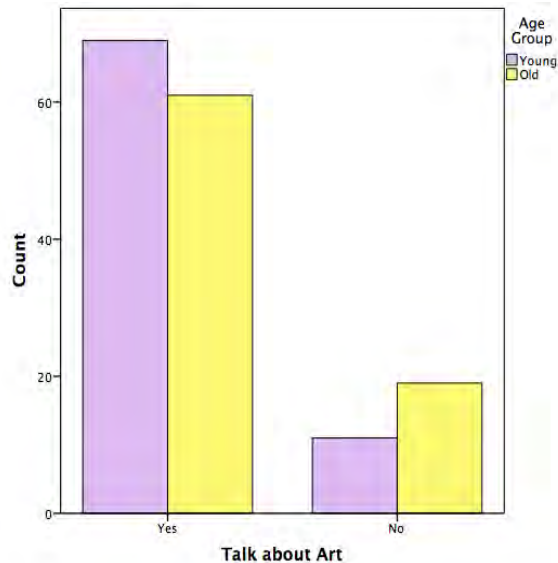
'9.1. How do you think talking to others affected your experience of looking at art?'

Below responses show that visitors felt talking to others positively affected their experience of looking at art. In participants' responses about how talking to others affected their experience of looking at art we found they were referring to: valuable different interpretations of a same artwork, conversations contributing to understanding the art, and talking to others contributing to the enjoyment of the art.

Table 36: Positive effects of talking to others

	Contemporary Art Gallery		Traditional Art Gallery	
	Younger Adults	Older Adults	Younger Adults	Older Adults
Value of other Interpretations	*You can see **different interpretations** of the pieces and find interesting things about **how others interpret the pieces** (sometimes this gives insight as to how they feel about life and about other personal issues).* (Participant 323)	*Sharing ideas/opinions sparks ideas and it is always fun/beneficial to think about **others ideas** and **interpretations**.* (Participant 526)	***Opened my mind.*** *(Participant 410)* ***Different perspectives*** *bring unseen details and ideas.* (Participant 411)	*We each see with **different eyes** and we enrich each other's view* (Participant 632)
Conversations Contributed to Understanding Art	*They might see the art in a different way and they could give me a **better understanding** of it.* (Participant 316) *It gave me different ideas and opened my mind to **different ways of understanding the art**.* (Participant 324)	*Possibly **better understanding**.* (Participant 525)	*My companion is an artist so it really **cleared a lot up** and allowed me to notice things I would otherwise have missed.* (Participant 425) *It can help me to **understand more complex art**.* (Participant 430)	*Exchanging ideas of how I view the art and how they view it, **helps us understand it better**.* (Participant 606)
Conversations Contributed to Enjoying Art	*It made it more **enjoyable**. Got more peoples opinions and ideas on the subject matter.* (Participant 335)	*We **each know a little into the art** we can share to enhance our knowledge plus it's **fun to ooh and aaah** (admire it) together.* (Participant 511) *Helped me **enjoy** and appreciate it more.* (Participant 521)	*Talking to others makes the **experience more enjoyable**; we can talk about what we thought and compare opinions.* (Participant 436)	*Helped, made it **more enjoyable**.* (Participant 622) *It's pleasurable to share art with someone. I **enjoy hearing their perspective** and usually **learn something** about the art as well as the companion.* (Participant 625)

Independently of the gallery, when participants shared their opinions, they considered to be **valuable** having **different interpretations** of the same artwork. For the majority of visitors, conversations enriched the experience of looking at art. However, three participants indicated the following about conversations:

> *Not that much influence because **I still stick with my own opinion***.
> (Younger adult, Participant 330, Contemporary Art Gallery)

> *Yes, adds a social dimension. **Sometimes it's pejorative.***
> (Younger adult, Participant 403, Art of Europe Gallery)

> *We will but we both prefer **to experience alone**, and then **talk later***.
> (Older adult, Participant 535, Contemporary Art Gallery)

Next, conversations **contributed to understanding art** in terms of having different perspectives and ways of understanding art.

> *Talking about the works **helps me remind what I saw** and **understand it better***.
> (Older adult, Participant 531, Contemporary Art Gallery)

For older adults, participants 531 and 629, talking to another person was important to remember the viewed artworks.

> *Helps to enhance my appreciation and **remembrances.***
> (Older adult, Participant 629, Art of Europe Gallery)

This memory factor is very important for older adults because talking about the experience allowed them to remember the concrete artworks that they might had forgot about otherwise. Also, sharing the viewing experience helped them revise and appreciate more the artworks. In this case, participant 531 was an art-expert (Master in Fine Arts) and stated conversation was useful for better understanding the artworks.

In the traditional art gallery younger adults needed to discuss the artworks with friends. The following participants needed an art-knowledgeable friend's help to understand classical art:

*I was able **to understand what they saw in the art that I couldn't.***
(Younger adult, Participant 429, Art of Europe)

They know more about it than me.
(Younger adult, Participant 418, Art of Europe)

*My **companion is an artist so it really cleared a lot up** and allowed me to notice things I would otherwise have missed.*
(Younger adult, Participant 425, Art of Europe Gallery)

In the same gallery, also the following older adults needed the support of an art-

knowledgeable member of the family to better understand the art.

*Conversation with my wife was very useful. **She has a much better knowledge of art history than me**, and she helped me to relate art to pieces we have seen in other galleries.*
(Older adult, Participant 626, Art of Europe Gallery)

*We trade opinions and experiences and **it enhances my interactions and relations with others**.* (Older adult, Participant 630, Art of Europe Gallery)

Finally, conversations **contributed to enjoying art** in terms of people enjoying

hearing other reactions about art. In this case, participant 511 -older adult, art-expert, in

contemporary art gallery- said that knew about art and enjoyed sharing the 'surprise'

moment *'it's fun to ooh and aaah (admire it) together.'* Also, participant 625 enjoyed

learning about the art as well about the person with whom she was sharing the art viewing

experience.

'10. How long did you spend in the Contemporary Art or Art of Europe Gallery?'=

Variable 'Time in Gallery'. There is a **significant difference** in the **time** spent in the

gallery between **younger** and **older adults**. Pearson Chi-Square tests is significant x^2 (2df)

= 18.061 (p < 0.001). As can be seen in figure 58, older adults spent more time in the

gallery than younger adults. We also added figure 59 to see the time spent in each gallery.

Figure 58: Time in the Gallery - by Age Group   **Figure 59**: Time - by Condition
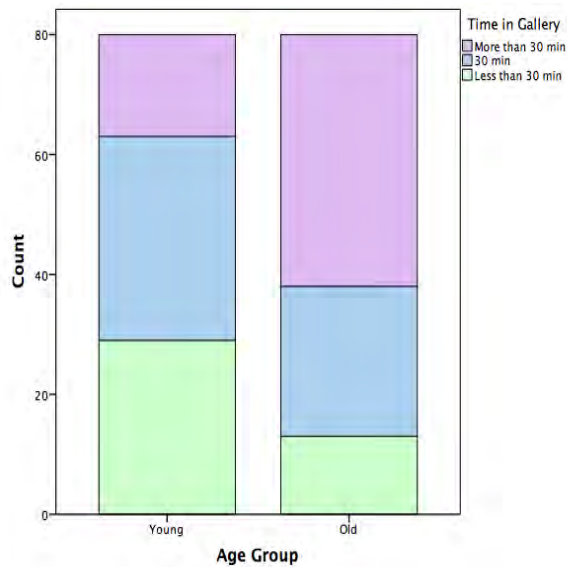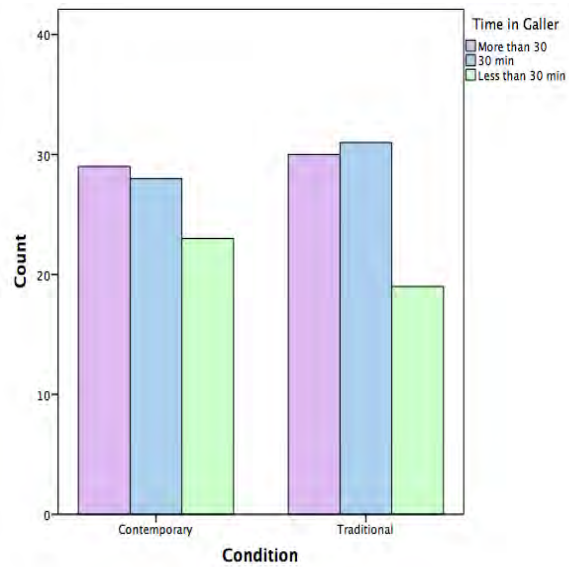
Table 37: Time in Gallery * Age Group Crosstabulation

			Young	Old	Total
Time in Gallery	More than 30 min	Count	17	**42**	59
		Expected Count	29.5	29.5	59.0
		Adjusted Residual	-4.1	**4.1**	
	30 min	Count	34	25	59
		Expected Count	29.5	29.5	59.0
		Adjusted Residual	1.5	-1.5	
	Less than 30 min	Count	**29**	13	42
		Expected Count	21.0	21.0	42.0
		Adjusted Residual	**2.9**	-2.9	
Total		Count	80	80	160
		Expected Count	80.0	80.0	160.0

In the table beyond, cells "Less 30 min-Young" and "More than 30min-Old", the adjusted residual is z >1.96 meaning the results are statistically significant. There is evidence to support the claim that younger adults are stay less than 30 minutes in a gallery and older adults stay more than 30.

'11. Highest educational degree attained' = Variable *'Education'*. There is a **significant difference** in the **highest educational degree** attained **between younger and older adults**. Pearson Chi-Square tests is significant x^2 (3df) = 76.520 (p < 0.001).   As shown in figure 60 the general audience of the museum is a highly educated visitor with post-graduate qualifications. The majority of younger adults attained high school, and 13 older adults had a PhD. We found no significant differences in education by condition, between the different kinds of galleries.

Figure 60: Education - by Age Group
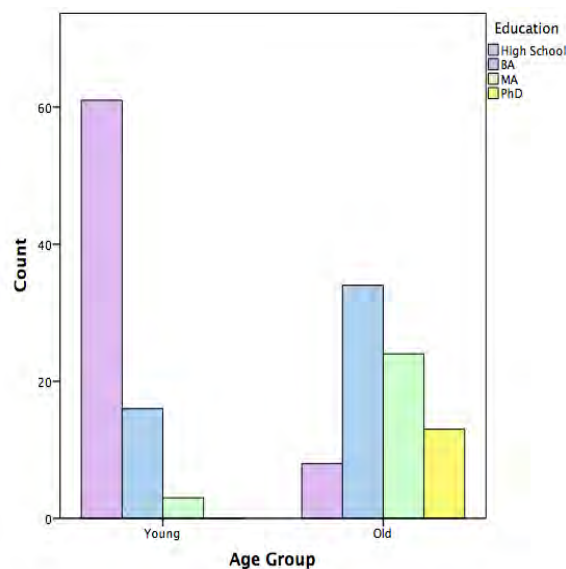
In table 38, cells "High School-Young", "BA-Old", "MA-Old" and "PhD-Old" are the ones were the adjusted residual is z >1.96 and that means that the results are statistically significant.

Table 38: Education * Age Group Crosstabulation

			Young	Old	Total
Education	High School	Count	**61**	8	69
		Expected Count	34.7	34.3	69.0
		Adjusted Residual	**8.4**	-8.4	
	BA	Count	16	**34**	50
		Expected Count	25.2	24.8	50.0
		Adjusted Residual	-3.1	**3.1**	
	MA	Count	3	**24**	27
		Expected Count	13.6	13.4	27.0
		Adjusted Residual	-4.5	**4.5**	
	PhD	Count	0	**13**	13
		Expected Count	6.5	6.5	13.0
		Adjusted Residual	-3.8	**3.8**	
Total		Count	80	79	159
		Expected Count	80.0	79.0	159.0

There is evidence to support the claim that younger adults are less educated that older adults, logically because of their life experience.

'12. Variable Gender'. There were **no significant differences** in **gender** independently of condition or age, with 52 younger adults women in the contemporary art gallery and 53 in the traditional art gallery and 28 men in the contemporary art gallery and 27 men in the traditional art gallery.

'13. Are you a member of the museum?'= 'Variable 'Member'. There is a **significant difference** in being a **member** of the museum between **younger and older adults**. Pearson Chi-Square tests is significant x^2 (1df) = 4.329 (p = 0.037). As can be seen in figure 61, more older adults than younger adults are members of the museum. There were no significant differences in being a member by condition.

Figure 61: Member - by Age Group
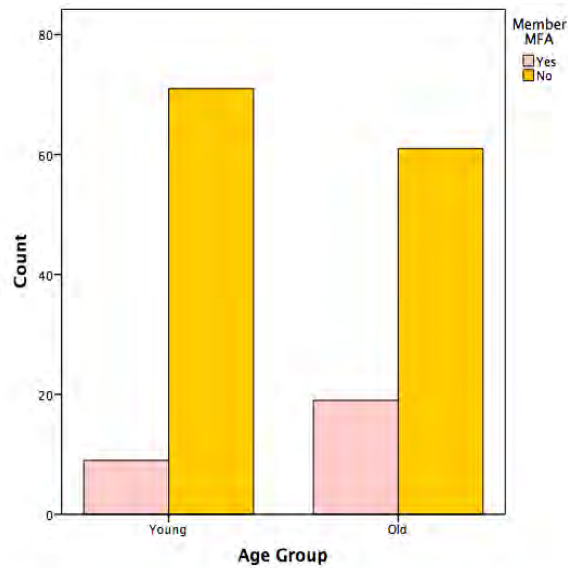
In table 39, cells "Yes-Old" and "No-Young" are the ones were the adjusted

residual is z >1.96 and that means that the results are statistically significant.

Table **39**: Member MFA * Age Group Crosstabulation

			Young	Old	Total
Member MFA	Yes	Count	9	**19**	28
		Expected Count	14.0	14.0	28.0
		Adjusted Residual	-2.1	**2.1**	
	No	Count	**71**	61	132
		Expected Count	66.0	66.0	132.0
		Adjusted Residual	**2.1**	-2.1	
Total		Count	80	80	160
		Expected Count	80.0	80.0	160.0

5.3.4. Discussion

Following objective 3 formulated in part 3.2. **Determine the level of contemporary art appreciation in younger and older adults -visitors from the general audience of the museum- after visiting a contemporary and a traditional art gallery**, our results showed differences in contemporary art appreciation not only by gallery condition, but also between age groups. In this part, we will discuss about the following themes of the study; sample, art-experts, participants' motivations, contemporary art appreciation, the variables 'understand contemporary art' and 'enjoy art', finding labels and conversation useful, time, and museum membership.

The **sample** included visitors from the general audience of the MFA. When asking regular visitors of the museum to participate we asked about their age because we needed to know if they were less than 25 years old for the younger group and more than 60 for the older group. Asking visitors about their age in the galleries was sometimes a little bit uncomfortable for some visitors as well as for the researcher. We also have to take into account that only 32 feet (10 meters) separated the Contemporary and Art of Europe Galleries. That means that surveyed visitors could previously have visited the other gallery, and this could have influenced participants' responses. However, even being in a more traditional art gallery, participants were able to respond about their liking or disliking of contemporary art meaning that all visitors distinguished about the types of art.

The sample was highly educated, likely because Boston is a city with a highly educated population. No significant differences were found by type of gallery but because of their life experience, older adults were more educated than younger adults. Older adults had post-graduate qualification like MA and PhD. Furthermore, eleven **art-experts** were identified as participants that studied Fine Arts. For instance, we found that participant 513

in the contemporary art gallery wanted to know more information about an artwork, the label information was not enough, and he already knew about some contemporary artists. Also, this participant was very interested in knowing about the artistic process, materials the artist used and the techniques. These results are in line with the findings of Pol and Asensio (1997) that demonstrated that art-experts preferred pieces based on their different techniques and styles. Art-related knowledge is a factor that influences the aesthetic experience (Chatterjee, 2003; Leder et al., 2004; Massaro et al., 2012; Pihko et al., 2011) and some participants (429, 526, 604) insisted that without art-knowledge it is more difficult to understand contemporary art.

As for **participant's motivation** more women than men participated; visitors in the Contemporary Art Gallery were more approachable and generally accepted to complete the questionnaire. In the exit of the Art of Europe Galleries we got more denials. This could be because visitors in the contemporary art gallery were more open to experiences (Silvia, 2007). As commented, when asking visitors to participate a thank you gift was offered as a motivating factor. Only one participant -older adult- rejected the postcard gift. Generally, visitors were grateful for gaining a free postcard from an artwork at the MFA after their participation. When asking participants to choose between three postcards, two participants asked if this was also part of the experiment. In fact, this could have been another part of the study -for example, if we would have wanted to explore personality differences between galleries- (Cleridou & Furnham, 2014; Rawlings, 2003; Pol & Asensio, 1997).

Following Mastandrea et al. (2007, 2009) in this study instead of comparing visitors in a contemporary art museum and in a more traditional museum, we compared visitors in the same museum in two galleries with these characteristics; one with contemporary artworks and another with more traditional artworks. As Mastandrea et al. (2007, 2009)

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showed, visitors in the contemporary art gallery tend to visit more museums. In this study it is shown that visitors in the contemporary art gallery were used to visiting more contemporary art exhibitions in their previous museum visits, they were doing other artistic activities besides drawing, and participants understanding of contemporary art was greater than those in the traditional art gallery. Also, more art-experts were surveyed in the contemporary art gallery (9) than in the traditional art gallery (3).

Interestingly, we found not only differences between gallery conditions (contemporary and traditional) but between age groups. This means that visitors were different in terms of life experience, art-knowledge, frequency of museum visits, doing artistic activities, liking contemporary art, enjoying art, their museum companions, time spent in the gallery, and being members. This means that visitors are divers and can be categorized in different ways (Pitman & Hirzy, 2010, Falk & Dierking, 2013).

Regarding **contemporary art appreciation** in **question 4** we were asking 'Do you like Contemporary Art?' and we realized that this was a broad question. We defined Contemporary Art as art made in the last decade, but still it was a very open question. We realized that with an interview more information would have been possible to capture and because it was a questionnaire we could not ask participants to clarify their responses.

Interestingly, younger adults more than older adults said they liked contemporary art. Also, descriptions of reasons for liking contemporary art definitions contained more positive adjectives like 'free', 'new', 'unique', etc. and explanations were related to emotional factors and connected to our current society. Younger and older adults described their liking of contemporary art with positive adjectives. Emotions emerged more in the traditional art gallery. This could be because classical impressionists paintings, the layout and usual silence of the Art of Europe Gallery invited visitors to get emotional. In contrast,

in the contemporary art gallery participants tend to relate the art more with current events in society. Younger adults considered contemporary art being of 'our time' and related this type of art with society's problems more than older adults. This could be because they felt that the materials used and styles are more up for discussion and free interpretation and are more modern than classical art. Also, some participants were rejecting contemporary art as Heinich (1996, 2001) commented on viewers who are obsessed by the sense of the artworks and found economical, functional, civic, juridical, and ethical reasons to reject it.

In the Art of Europe Gallery when asked about Contemporary art appreciation visitors tend to compare contemporary art with traditional art. This was logical because they were in a traditional art gallery and this fact enables them to relate the question with artworks they were looking at minutes before. Accordingly, in responses from participants who said that do not like contemporary art we realized that some participants preferred traditional art.

As for questions 5 and 6 looking at the variables '**understand contemporary art**' and '**enjoy art**' visitors had to rate from 1 to 6 their level of 'understanding of contemporary art' and 'enjoyment of art', with level 1 being positive and level 6 negative. In theses questions we noticed that although visitors were used to rating in questionnaires, they were not used to thinking about why they have chosen their concrete rating. Therefore, sometimes these questions made participants uncomfortable. Some visitors told us they did not know or they were not sure how to answer question 5. In that case, we explained that this was an opportunity for them to explain why they did not want to risk on their response -meaning to mark an extreme score-, or if they risked, what their opinions were. Afterwards, we invited them to think ahead and try to answer the question.

As we can see from visitors' responses, in **question 5** visitors were not extreme in their response. The majority of them marked level 3 and 4; the middle scores means they found the art neither easy nor difficult. It is also relevant that none of the younger adults marked that found contemporary art easy to understand and none of the older adults marked that found it difficult. This could be because of a socially acceptable response associated to age; if you are young you are not able to say that something is easy because you do not have experience enough to know it, and if you are old, because you have more experience, you cannot say that something is difficult.

In **question 6** the socially acceptable response is 'Enjoyable experience- level 1 or 2'. Therefore, the majority of visitors indicated those levels and did not mark a non-socially acceptable response (boring experience-level 6). None of the participants marked level 6 and only one person marked level 5. This could be because visitors were being polite for a research study. Older adults enjoyed the museum experience more, probably because they are used to going to museums and more art-experts were older adults. Also, two younger adults (423, 425) were having a restorative experience (Packer, 2006) finding the art pleasing and important for their wellbeing.

Open-ended questions 5.1. and 6.1. showed that visitors had divers opinions. For instance, participant 613 explained that she enjoyed the experience of viewing the 'masterpieces' - the impressionists' paintings in the Art of Europe Gallery. Falk and Dierking (2013) would categorize this visitor as 'Experience Seeker', characterized by considering visiting a museum a relevant activity and wanting to see the 'blockbuster' pieces. Other participants insisted on having an art-knowledgeable person to talk to in order to understand the art because visiting alone and without talking to anyone was difficult. Participants accompanied by an art-expert were more secure in their understanding what

they were looking at. Therefore, we can think about art not being for all, only for people that had been educated to understand it (429). Visitors enjoyed both galleries; younger adults were more empathetic with contemporary art (315). Instead, older adults empathized more with traditional art seeing themselves inside of the paintings and considering impressionists' paintings their old friends (612 and 625).

Participants found '**labels useful**' independent of the gallery they were visiting. This study shows that visitors read the labels in art museums (Mc Manus, 1990; Screven 1992) because the majority of younger and older participants read the labels and found them useful independent of the gallery. Sometimes visitors said that they were not sure how to answer question 7.2. and asked for advice. We said that we wanted them to explain why they found labels to be useful after rating them from very useful to not at all useful. In the open-ended responses visitors explained that they rated labels useful because of their characteristics, finding them helpful to connect with the art, and for their contributions in understanding and learning about artworks (Serrell et al., 2013). Nevertheless, there were three older adults in the contemporary art gallery who revealed that they do not need labels and assisted that artworks speak for themselves.

Participants found '**conversations useful**' independent of the gallery they were visiting. In this study we demonstrated that for both younger and older adults visiting a museum is a social experience (Debenedetti, 2003) because the majority of them visited with a companion and talked with their companions about the art. Distinctly, younger adults tend to visit museums with friends and older adults with a family member. This could be because younger adults are used to sharing their social experiences in their leisure time with friends and older adults with family. Thus, independently of age, an art museum visit is considered a social experience, but what changes is the type of companion.

Furthermore, in their conversations visitors shared the value of companions' interpretations and stated that those contributed to understanding and enjoying the art (Tröndle et al., 2012).

Our role as researcher, in this case, combined quantitative and qualitative data. The fact that participants were visitors from the general audience at MFA was a challenge. Capturing visitors in the galleries was sometimes difficult but visitors contributed positively to the study. Before doing the study in a museum context, of course, the researcher must be familiar with the museum space, know about the museum layout, and has to be able to orient participants in the museum context.

Concerning the **time spent in the gallery** older adults reported spending more than 30 minutes and younger adults less than that. We can confirm that younger adults visitors still did not have the power of patience for art (Roberts, 2013). We also found that younger adults are less often **members** of the museum than older adults. This could be because younger adults studying in a Boston university had free entrance with their university cards. Therefore, they have no need to become members. Also, because students typically have much less disposable income.

5.3.5. Conclusion

In appreciating Contemporary Art in a Contemporary and a Traditional Art Gallery at the MFA we found that there were more differences by age groups than by type of gallery.

A highly educated sample was studied. Younger adults were less educated because of their life experience but older participants had high educational qualifications. Eleven art experts (BFA, MFA) were considered and they demonstrated that they knew about some of the artists, wanted to know more about types of art, and were interested in artworks'

techniques and styles better than non art experts. Thus, they could better appreciate artworks.

As for the **type of gallery differences**, visitors in the Contemporary Art Gallery were used to visiting contemporary exhibitions in their previous museums visits, were used to doing other artistic activities besides drawing in their life experience, and better understood contemporary art.

In terms of **age differences** older adults were more frequent museum visitors, enjoyed their museum experience more, spent more time in the gallery, and were more often members of the museum than younger adults. Instead, younger adults did more drawing and other artistic activities and stated that they liked contemporary art more than older adults. Also, visitors were reading labels and found them useful independently of their age or the galleries they were visiting. In addition, younger adults came to the museum more with friends and older adults with family members; both age groups talked with their companions about art and found conversation to affect positively their museum experience.

6. General Discussion

We want to include this part as a 'general discussion' because after the analysis of the three studies we found similarities and differences (table 40) that we consider relevant to discuss and highlight for museum educators.

Table 40: Discussions' similarities

Discussion/Themes	Study1	Study 2	Study 3
Sample Characteristics	Sample	(same as Study 1)	Sample
	Art-experts		Art-experts
	Participant's motivation		Participant's motivation
Effect of Labels & Conversations	Effect of labels and conversations	Effect of labels and conversations	Effect of labels and conversations
Specific theme of each study	Experiment design lab and museum settings	Other museum experience Museum context	Contemporary art appreciation Contemporary vs. Traditional art gallery
Variables	Variables understanding/liking/ enjoyment	Variables understanding/liking/ enjoyment	Variables point-scale 'understand contemporary art' 'enjoy contemporary art'
Researcher Characteristics	Our role as researchers	Our role as researchers	Our role as researchers
Other specific characteristics by study	Differences between lab and museum setting	Time	Time
		Group dynamics	Museum membership

Next, we will discuss in general the sample, art-experts, participants' motivation, effect of labels and conversations, contemporary art appreciation, museum context, and variables 'understanding', 'liking' and 'enjoyment'.

If we compare the **samples** of the three studies, we have to realize that Boston is a city with a highly educated population because of multiple universities like Harvard University, MIT, and others. Also, Huntington Avenue where the MFA is situated is named the 'Avenue of the Arts' because it is also home to MassArt, MFA, Northeastern University, Symphony, and other cultural organizations. Moreover, Boston is a city with a

large art community incuding Berklee College of Music, Boston Ballet (dance), and others. Because of all these factors, 'Bostonians are more culturally engaged, more curious, more informed and more open to new cultural experiences' (Culture Track, Focus on Boston, 2014).

Notably, participants in Study 1 and 2 were recruited from highly educated institutions (BC and HILR). We found that visitors in Study 3 were 'a different kind of participant', meaning that they had more questions about how to answer the questionnaire at the MFA. Also, the researcher had to verify if every question was completed correctly because several times participants left blank questions. We suspect that participants in Study 1 and 2 were more familiar with questionnaire formats. Moreover, in Study 1 and 2 normally participants did not know each other and were concentrated on the activity; in study 3 normally participants were visiting the museum with other visitors they knew (family members or friends) and after completing the questionnaire they wanted to continue their museum experience. In Study 1 most of the younger adults did not stay in the museum after the activity. Contrarily, for older adults, it was their leisure time and they really enjoyed having time to discuss with other participants and went around the museum after the activity. **We invite museums to** study different age groups. An intergenerational workshop where younger and older adults could meet and share their museum experience in an informal environment should be a meaningful and enriching experience. Given the results of the study we would expect to find older adults helping younger adults to discover contemporary artworks.

Regarding participants' art knowledge, we considered the following **art-experts** in each study: five in Study 1 (one younger -125 and 4 older adults -206/220/136/139), two in Study 2 (2 older adults-206/220), and eleven in Study 3 (3 younger adults-312/332/333 in

the contemporary art gallery, six older adults in the contemporary art gallery-501/511/513/520/531/537, and two older adults in the traditional art gallery- 606/638). These participants were studying for or had attained a Bachelor's or Master's Degree in Fine Arts. In fact, we knew about that information from participants who decided to add their concrete art related degree in their questionnaires, meaning that in the questionnaire there was not a specific question were participants could mark that option. Therefore, we considered that option post data analysis taking into consideration previous research referring to these characteristics (Rawlings, 2003; Smith & Smith, 2006; Winston & Cupchik, 1992). **We invite museums to** offer activities for art and non art-experts so both groups could be engaged with art in museums. For instance, a gallery conversation between a younger adult that is studying art history/BFA/MFA with another younger adult that is studying a science degree, not used to go to art museums. This would allow both of them to know different realities and to share and enrich their knowledge in art and science.

We have to take into consideration **participant's motivations** in each study. Participant's motivations in Study 1 and 2 were only focused on doing a research experiment. However, visitors in Study 3 of the general audience in the museum were visiting the museum and were offered to complete a questionnaire. We must emphasize that visitors who want to complete a questionnaire in a museum are likely different from the ones who do not in terms of wanting to participate in a different museum experience, and this is in line with the Tinio and Smith (2014) and Falk and Dierking (2013) studies. Also, in the three studies some participants were interested in knowing the results. In Study 1, some younger adults and the majority of older adults were very interested in knowing the results of the study. In Study 2, at the end of three focus groups (FG 1, FG 5 and FG 6) participants stated that would like to know the results of the study. In Study 3, 44 % of

participants added their e-mail at the end of the questionnaire because they were interested in knowing the results. **We invite museums to** study the different visitors' motivation to visit their institutions. Given our findings, we suspect that motivations impact the museum experience in terms of predisposition and willing to have a different life experience. Museum should know that some visitors would like to share their museum experience. Also, since our subjects were very interested in the results, museums could share their internal evaluations with the visitors who participated.

In this study we refer to a '**label**' as to the title of the artwork and the art, historical and/or social context information provided by the curator and the Head of Interpretation of the museum (Serrell, 1996). We noticed that in the three studies participants were referring to labels with the word 'placard' or 'little information on the wall'. For that reason, in the Study 3 questionnaire we replaced the word label with 'written interpretations/placards on the gallery' for participants to better understand what we were talking about and to be more familiar with their words. As commented, visitors felt that information provided about an artwork affects art appreciation and understanding (Leder et al., 2006; Millis, 2001; Swami, 2013). Therefore, extra information, for example the information given in a label, could help visitors in liking an artwork more. Study 1 showed that older adults did not need the information provided in the labels to better appreciate the artworks as much as younger participants did. Also, younger adults felt that labels were more helpful in the context of the museum than in the lab setting. In addition, in Study 2 more younger than older adults felt that labels were a starting point to understanding the art. Finally, in Study 3 both younger and older adults of the general audience at the MFA felt labels were useful independent of the gallery they were visiting. **We invite museums to** consider labels' importance. It would be interesting for the Interpretation department to add labels for younger audiences that still

need guidance. For instance, an additional set of labels adapted to younger language level urge in galleries, labels with easier vocabulary words.

This research contributed to the study of social practices in art museums because the three studies analyzed **conversations** in an art museum. In Study 1, more young than older adults stated that conversation helped them to like the artworks, more in the museum than in the lab setting (Tschacher et al., 2012). In Study 2 we can consider focus groups being 'meta conversations', meaning that participants were talking about what they think about their previous conversations about artworks. Finally, in Study 3, generally participants agree with the fact that talking with another person made the experience more enjoyable (Tröndle et al., 2012). We want to point out participant 535's quote in Study 3 that indicated a preference to first visit the gallery alone and then talk to her family member later. Interestingly, this is a combination of what we were asking participants to do in Study 1, to first look at artworks in silence and alone and then talk with another person. Also, the three studies demonstrated that younger adults tend to visit museums with friends and older adults with family members. **We invite museums to** promote conversations between visitors in the same group of people visiting together (with group of friends for younger adults and with family members for older adults) and with other visitors in the museum. For instance, coffee/tea-time social gathering activities would allow visitors to socialize and be able to have a different museum experience. The VTS methodology that is being used with school visits in art museum contexts could also be used in tours with younger adults who still need guidance and with older adults who aim to explore an artwork from another perspective, not only from the intellectual one.

In this research we chose the most challenging kind of art of all to investigate – **contemporary art.** Some visitors found it strange that we asked them about contemporary

art in the Art of Europe Gallery and some of them afterwards were curious to go and visit the Contemporary Art Gallery. In Study 2 (participant 220 with contemporary art) and 3 (participant 612 with traditional art) two older adults participants said they could view themselves inside the artworks. We can refer to the theory of empathy that analyzed how the viewer tends to project himself on to a piece. Younger adults had more empathy with contemporary art emphasizing that they considered it art of 'their time'.

As for **contemporary art appreciation**, in Study 1 younger adults stated that labels and conversations contributed to their liking of the artworks more in the museum than in the lab setting. In Study 2 participants were empathizing in the museum context, which enhanced their art appreciation. Finally, in Study 3 younger adults responded that they liked contemporary art more than older adults. For that reason, **we invite museums to** do activities related with Contemporary Art for different age groups, but especially with younger adults. We suggest that museum encourage conversations that could offer opportunities for visitors to empathize with the works.

As commented, research in the PA field of study has usually been in lab settings; our research aims to innovate and moved participants from the lab to the real setting, the **museum context**. Recent studies have demonstrated that viewing art in a museum is a more positive experience than viewing art outside of a museum, on a computer screen (Brieber et al., 2014; Brieber et al., 2015), and we sought to replicate this finding. Following Tschacher et al. (2012), who found that being in a museum helped visitors like the artworks better, in Study 1 we examined artworks first in a lab and then in a museum setting and found that both groups preferred looking at artworks in the real setting of the museum rather than on a computer screen in a lab. In Study 2 we analyzed the group discussion in the museum setting after Study 1 and finally, in Study 3 we decided only to

the research in the real environment of the museum, during a casual day in the museum with regular visitors.

This research demonstrated the importance of the real museum experience and thus defended an environmental psychology perspective. While conducting the studies at the MFA we found the following advantages. For Study 1 it was easy: to go from the entrance to the contemporary art gallery located in the second floor of the museum (we used elevators for older adults and stairs for younger adults), to move participants from one artwork to another one in the same gallery, and to move from the gallery to the rotunda sofa area (not far away from the entrance so participants could exit the museum easily after the activity). It is true that the environmental sound of the museum (the noise of large doors when people entered the gallery and people walking around) were an impediment for the recording of conversations. In Study 2 we were allowed to stay in the rotunda sofa area, a quiet place in the museum where we could implement and record the focus groups with participants. Finally, in Study 3 we were able to sit in a bench and let participants complete the questionnaire of the study without disturbing other visitors. Therefore, **we invite museum** educators and especially other researchers who often work in labs to do research studies in the museum context.

Concerning the studied variables **'understanding', 'liking' and 'enjoyment'**, with a better understanding of an artwork, it is more probable that individuals' pleasure is augmented (Leder et al., 2004). We think there is no need to know about art to enter in a museum, but of course, if you know something about it (through art history background, being an artist, etc.) you may enjoy it better. Following Smith and Smith (2006) and Housen (1992), quantitative results showed (table 40) significant differences in education and frequency of museum visits between younger and older adults in Study 1 and 3:

Table 41: Significant quantitative variable results

Study 1	Sig between Age (YA and OA)	
	Education	
	Gender	
	Times Museum	
	Visit CA	
	Understand CDQ	
	Like MLQ	
	Like MDQ	

Study 3	Sig between Age (YA and OA)	Sig between Conditions (CA and TA)
	Times Museum	Visit CA
	Drawing	Drawing Other
	Drawing Other	Understand
	Like CA	
	Experience	
	Visit With	
	Time in Gallery	
	Education	
	Member	

Moreover, qualitative results showed that visitors comment on their liking of artworks in their visits and relate their appreciation with positive adjectives, emotional features and connecting to their daily life experiences. In Study 1 participants were referring to the artistic process and they wanted to know more about it. Also, they were referring to the titles of the artworks. That means that labels and titles are important when presenting an artwork in an art museum. This is also a clue for museums, **we invite museums to** design programs where visitors could express their opinions and talk about artistic processes, their feelings, and connect their previous life experiences with artworks to connect with the art. In Study 1 and 2 participants were relating artworks to their daily lives or even saying that they would like to have one of the studied artworks at home. It is important to help visitors connect with the art through their personal experiences; this will allow visitors to remember the museum experience.

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In Study 3 when asking on a six-point scale about understanding contemporary art, interestingly, participants asked if it is really necessary to understand contemporary art. Also the artist intent was related as a key factor to understand a contemporary artwork. In the three studies participants found valuable having different interpretations of the same artwork. Also, they indicated that having art-knowledge would help to better understand artworks. Finally, participants confirmed that the more abstract the piece is, the more difficult it is to understand it. Study 3 showed that older adults enjoyed the museum experience more, independent of the gallery they were visiting. For all these reasons, **we invite museums to** find ways to adapt to the understanding and the enjoyment of different visitors. For example, discussing the artist intent on the label could be useful.

In Study 2 and 3 we found participants being examples of Falk & Dierking's (2013) identity-related categorization. Younger adults in focus groups 2 and 4 who commented that they go to museums to relax represented the 'rechargers' and an older adult, participant 613, explained that she enjoyed the experience of viewing the 'masterpieces' impressionists' paintings in Art of Europe Gallery would represent the 'Experience Seekers'. Moreover, in the three studies we can consider younger adults being 'participants' who need guidance to understand artworks, and older adults being 'participants' being more comfortable with the experience of looking at art; even the ones who had art-knowledge or were art teachers could be considered 'enthusiasts' (Pitman & Hirzy, 2010). Also, as for the stages of aesthetic development, we can likely place participants in Parson's (1987) Stage V and in Stage II of Housen's (1992) framework. For participants who had knowledge in art, including knowing the styles and how to categorize the artworks, then we could attribute them to Stage III. This confirms what Housen (1992) said about visitors being normally in Stages II and III. As commented, visitors are divers and **we**

invite museums to learn how to attract them. An activity that could be appropriate for visitors in Stages II and III (Housen, 1992), would be inviting people to choose an artwork in the museum that could represent them. Afterwards, each visitor would have to explain to the rest of the group, how the artwork tasted if it was food, how the artwork sounded if it was music, and what the artwork would say if it was a person. This activity could promote personal associations, emotional narratives so that visitors could connect with the art easily from their conventional view of the world

To conclude, multiple other factors other than age could contribute to art appreciation such as education or frequency of visits. Museums have to listen to visitors' voices and opinions to enhance their museum experience. This would make them more likely repeat the visit and the goal of both the museum and the visitor would be accomplished.

7. Conclusion

From the outlined objectives and the results of the three studies, this research provides evidence that:

Study 1

1. Participants felt that labels and conversations contributed to their liking of the artworks more for younger than older adults, and more in the museum than in the lab setting.

2. In participants' conversations, the themes that most emerged were 'appreciation', 'artistic process', and the 'title'.

Study 2

3. Both groups agreed that the experience of looking at art in the museum setting was better than in the lab setting and helped them appreciate the artworks, indicating that the museum context is relevant.

4. Focus groups of younger adults confirmed labels and conversations in the museum to be a starting point to understand and appreciate art. For older adults labels and conversations were not as useful for art appreciation.

Study 3

5. There were differences between art conditions; participants' understanding of contemporary art was greater in the contemporary art gallery.

6. There were differences between age groups; younger adults stated that they liked contemporary art more, and older adults enjoyed their museum experience more.

7. When asking about why participants liked or disliked contemporary art, themes that most commonly emerged were 'qualities of the art for liking contemporary art', 'emotion' and 'society connection'.

7.1. Limitations

We found the following limitations for each study. Because we were comparing younger and older adults, the sample was evidently different in its experience levels. Moreover, the Boston population is usually highly educated.

For Study 1 the recruitment process was hard and long. Specifically, collection of email addresses as the method of recruitment potentially biased the sample, since older adults who did not have email or were not comfortable using email would likely not have signed up. This study was logistically difficult concerning the organization of participants and artworks' respective order. In the lab setting we could control the different variables. In contrast, in the museum setting we had to be positioned in front of the labels because we could not remove them from the wall. We realized that in the photographs of the artworks in the lab setting it would have been useful to add the size of the pieces since many participants were referring to how big or how small the artworks were. This would have helped participants to get an idea of how big the artworks really were before the real museum experience.

As commented, younger adults completed the questionnaires digitally and older adults in a paper format. The researcher had to type the older adult's questionnaires into a digital format and sometimes handwriting was difficult to decipher. This fact slowed down the data collection process. Relating to the questionnaire, in question 3 we asked 'please mark if you have ever done a artistic activity' and, because we added no time constraints,

participants could have done an artistic activity as a child; everything counted. Therefore, responses showed the majority of participants did an artistic activity throughout their lives. If we had constrained the time, probably we would have had a more accurate and actual response about their recent relationship with artistic activities. We observed that in question 7 and 8 we asked very directly about labels and discussions. This could be the reason why participants responded very specifically. Another issue is that the researcher had a direct experimenter effect. Not only did the questionnaire directly ask about labels and discussions, but also in the condition we asked participants not to pay attention to the labels and discussion while looking at art. Our aim and what was expected of the participants afterwards, not to pay attention to the labels and not discussing with another person, was immediately realizable as being a reactivity effect. To solve this problem, it would have been appropriate to measure our variables 'understanding', 'liking' and 'enjoyment' in a scale independently of the experimental manipulation. This would allow not asking so directly about the studied variables.

In Study 2, older adults' focus groups were not well recorded and the researcher had to take advantage of the field notes collected after the groups' discussions. Logistical problems of recording as well as the environmental sound of the museum could have been enhanced. The rotund sofa area was a good place, quiet and away from the galleries so we could not disturb other visitors. Therefore, one day that there was an event at the museum we had to adapt the study and do the focus group near the café area. In case of unexpected events, it would have been appropriate to have a small and quiet room at the museum to do the focus group. Moreover, qualitative results (Study 2) are harder to be generalized and compared across other studies in the same field of study (Morrow, 2005). Also, qualitative

studies are hard for qualitative researchers who solely have to collect data, transcribe it, introduce it into Atlas.ti to organize it, and finally, analyze it and write down the results.

Finally, concerning Study 3, for visitors in the contemporary art gallery it was easy to respond about contemporary art appreciation; whereas being in the traditional art gallery, participants could be biased by the type of art they were just looking at in the previous minutes before responding to the questionnaire. When asking visitors to explain why they rated their understanding/experience the way they rated (questions 5/6) we realized it would have been better to do a small interview to entail dialogue with visitors so as researcher could go more in depth in these responses. Also, the studied galleries were very close to each other; this means that surveyed visitors could previously had visited the other gallery. This gallery order effect could have influenced participants' responses. Another limitation was the time spent in the gallery that, instead of being observed, was self-reported. This fact, would certainly introduce some degree of inaccuracy of the real time visitors spent in the gallery.

A general limitation throughout the three studies was to categorize visitors as art experts based on having a BFA/MFA when that information was obtained only because some people happened to add more specific degree information. This means that others might have had a BFA/MFA and just not reported it because the survey did not ask for a specific degree. Also, having a BFA/MFA is not the only way that visitors could have expert art knowledge as, for example, other art related studies could be also relevant.

7.2. Future Research

The field of PA has potential future research in different areas. We wanted this dissertation to be thought-provoking for other researchers who aim to study psychology and

arts-related field of studies, not only the visual arts, but music, theatre, dance and other artistic activities that could be explored.

First, more research is needed in **the context of the museum**; researchers need to go beyond the walls of the lab and go to the actual museum context. This will allow researchers to present more environmentally valid outcomes to museum professionals who aim to study their audiences and capture a broad range of visitors.

Second, more research is needed on **younger adult visitors in museums**. Museums have to continue their efforts to capture the attention of younger adults through social activities like concerts, special events, or activities that promote their participation to make them feel comfortable in an environment where they are not used to being.

Third, more research is needed on **healthy older adults visitors in museums**. It is important to consider that this is the group of older adults who more frequently visits museums, but this is also the group that is less studied. Our future confirms a predominantly aged population and cultural institutions have to know how to attend to this age group in their cultural programs and activities.

Finally, more research is needed on **novice and art-expert visitors in museums**. Knowledge in Art History is a key factor. Therefore, if we want visitors to be more engaged with art and to enjoy it we will have to provide more opportunities for people to understand and get in-depth information on art. More art classes should be in schools in order to provide context and change peoples' attitudes towards art. Besides, we urge museums to learn how to address the needs of both expert and non-expert visitors.

There is also a need to understand the role of **new technologies in museums** to engage visitors with the art. After working in different museums in Boston the researcher realized the urgent need of museums to know if new technologies, such as iPads, are

appropriate for their galleries to improve the experience of looking at art. It is still challenging to identify the best approach to introduce new technologies in art galleries and study visitors' reactions to them.

Also, more research is needed in specific topics like **art styles** and how **personality** correlates with aesthetic experiences. Research in art styles is important from an arts education point of view to explore how people identify and comprehend the different styles. In addition, how personality correlates with aesthetic preferences is relevant for museums to offer a wide range of art for different people.

In the near future the researcher wants to **contact the artists** of the artworks used for the study to share the results of this dissertation with them. Also, the researcher will share the results of the studies with participants who were interested in them. This would be an enriching experience for participants as well as for the artists to see how visitors are being engaged with their pieces. The researcher invites museums to promote relationships between artists and museum audiences by sharing their opinions and thoughts about artworks.

Also, the researcher wants to **replicate a similar study in a museum in Spain** to observe if cross-cultural differences would be found. Certainly, cross-cultural studies in art preferences are lacking. We would like to compare younger and older adults from different cultures to see if age differences across cultures maintain a certain pattern towards art, more concretely, towards contemporary art. We suggest comparing a contemporary art museum in Barcelona, such as Museu d'Art Contemporani de Barcelona (MACBA), and a contemporary art museum in Boston, such as the Institute of Contemporary Art (ICA).

To conclude, as for the academic future, the researcher aims to start a **new research line** in Grup de Recerca Comunicació i Salut (COMSAL) at FPCEE, Blanquerna studying

the theme of 'Art and Wellbeing'. Also, the researcher wants to continue collaborating with Boston College, Harvard University and the Museum of Fine Arts, Boston to further research and promote international research studies and collaborations. Furthermore, the researcher will present the dissertation results in two poster formats, one at the next Visitor Studies Association Conference (VSA) in Boston and another one at the next Conference of the International Association of Empirical Aesthetics (IAEA) in Vienna. The researcher aims to submit the following publications: 'Response to Contemporary Art Viewed in a Lab vs. Museum Setting: Perceived Benefits of Labels and Conversations' to *Visitor Studies Association Journal* and 'Contemporary Art Appreciation in a Contemporary and Traditional Art Gallery at Museum of Fine Arts, Boston' to *Psychology of Aesthetics, Creativity and the Arts Journal.*

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9. Appendices

9.1. Appendices Letters

9.1.1. Letter of Support HILR

HARVARD UNIVERSITY
DIVISION OF CONTINUING EDUCATION

INSTITUTE FOR LEARNING IN RETIREMENT

51 BRATTLE STREET
CAMBRIDGE, MASSACHUSETTS 02138-3722

March 5th, 2013

Dear Andrea Granell and Ellen Winner,

The HILR (Harvard Institute for Learning in Retirement) supports your proposed study "Perception of contemporary art in young and older adults: An intergenerational study".

We understand that there will be 40 HILR volunteer members involved in this study and one experimenter from your research team. We understand that the sample of the study will be tested at HILR rooms on Tuesdays and Thursdays afternoons. We understand that the first part of the study will consist in 20 participants viewing images on a laptop in pairs, and that the activity will take about 30 minutes. We understand that 20 other HILR members will be asked to do another activity that will consist in a visit to a museum as well as to attend a group discussion.

We understand that you will provide us with access to the data if we request it.

We look forward to working with you on this project,

Sincerely,

Lydia Sheehan
Office Manager
Harvard Institute for Learning in Retirement
51 Brattle Street
Cambridge, MA 02138
617.495.4072
lydia_sheehan@harvard.edu

9.1.2. Letter of Support MFA

mfa Museum of Fine Arts Boston

March 25th, 2013

Dear Andrea Granell and Ellen Winner,

The Museum of Fine Arts, Boston, (MFA) supports your proposal to conduct the study "Perception of contemporary art in young and older adults: An intergenerational study" at the MFA.

We understand that the sample will consist of individuals specifically recruited by you to visit the MFA for the purpose of the study, and that other MFA visitors will not be involved. We understand that there will be 80 participants involved in this study: 40 young people less than 25 years old, and 40 elder people more than 60 years old and that half of the participants, 40 people (20 younger and 20 older) will visit the Museum on Wednesday evenings and the other half will view digital images of works in the collection as part of the study. We understand that the study will be based on the Contemporary Art collection, using works on view. We understand that each testing session at the MFA will consist of a group of 5 participants and one experimenter from your research team and will take about 30 minutes.

Please note that only digital images of works in the MFA collection may be available and, if used for any other purpose than viewing online, such as, but not limited to, publication of the study, a modest licensing fee may be required. Please note also that works on view now may not be on view in the future. It is recommended that once specific works are selected, you notify me so that I may ascertain whether or not they will be on view throughout the duration of the study.

We understand that you will provide us with access to the data if we request it, and we would like to obtain a copy of the final report.

We look forward to working with you on this project.

Best regards,

Lynn Courtney
Head of Planning and Evaluation, Education
Museum of Fine Arts, Boston
lcourtney@mfa.org
617-369-3376

9.2. Appendices Study 1

9.2.1. Recruitment Tools Study 1

SONA SYSTEM Script

Study Name: Perception of contemporary art in young and older adults: An intergenerational study.

Description: In this study you will be asked to view a series of four contemporary works of art on a laptop. Some will be shown without labels and you will be asked to view these in silence. Others will be shown with labels and you will be asked to discuss your responses with another participant. Then, you will have to complete a short questionnaire about this experience.

Prescreen Restrictions: No Restrictions

Duration: 30 minutes

SONA SYSTEM Script

Study Name: Perception of contemporary art in young and older adults: An intergenerational study.

Description: In this study you will be asked to go to the Boston Museum of Fine Arts to visit their contemporary art collection. There you will see four pieces of art. First you will look at these works without labels and in silence. Next you will look at them with labels and will discuss your responses with other members of your group. At the end of the visit, you will have to complete a short questionnaire about your experience during the visit.

Prescreen Restrictions: No Restrictions

Duration: 2 hours

Perception of Contemporary Art

This is a 2-part study. Both parts should be scheduled at the same time, and the second part should be scheduled to occur between 1 and 30 day(s) after the first part. The second part may be scheduled to occur at any time on a different day than the first part and that is within the range of acceptable dates.

Description
In the first part of the study you will be asked to view a series of four contemporary works of art on a laptop. Some will be shown without labels and you will be asked to view these in silence. Others will be shown with labels and you will be asked to discuss your responses with another participant. Then, you will be asked to complete a short questionnaire about this experience. For the second part, you will be asked to go to the Boston Museum of Fine Arts to visit their contemporary art collection. This visit will be on a Wednesday late afternoon or evening (between 3:00 and 9:30 pm) and the entrance will be FREE. Your round trip subway fare will be covered. There you will see four pieces of art. First you will look at these works without labels and in silence. Next you will look at them with labels and will discuss your responses with other members of your group. At the end of the visit, you will be asked to complete a short questionnaire about your experience. STUDENTS MUST SIGN UP IN PAIRS FOR THE SAME TIME SLOT!

Duration
30 minutes (Part 1)
150 minutes (Part 2)

Credits
0.5 Credits (Part 1)
2.5 Credits (Part 2)
(3 Credits total)

Researcher
Andrea Granell
Email: andreagranell@gmail.com

1

NAME	E-MAIL

PhD Research

Are you OVER 60?
Do you love ART?

Do you enjoy visiting museums?
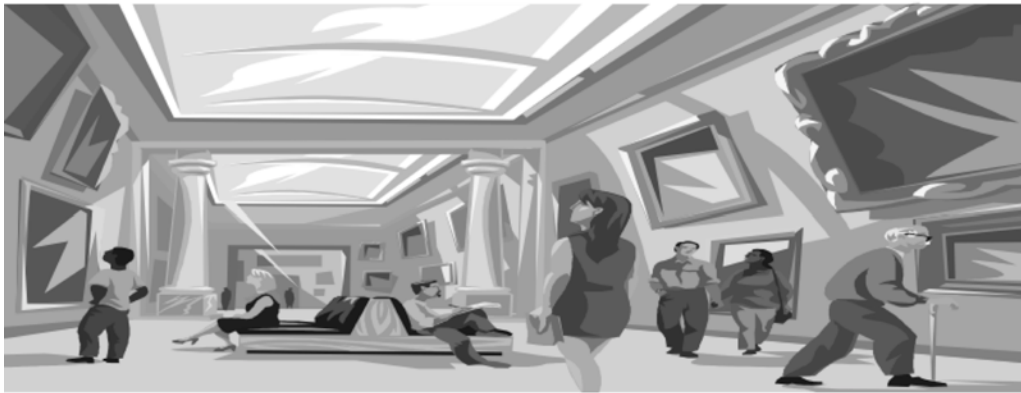
PLEASE sign in
E-MAIL AND PHONE
Thank you ☺
Andrea
andreagranell@hotmail.com

*as many WOMEN as MEN as possible!!!

1

LAST NAME	FIRST NAME	E-MAIL	PHONE

2

9.2.2. Consent Forms Study 1

BOSTON COLLEGE
PSYCHOLOGY DEPARTMENT
Contemporary Art Perception Consent Form
Investigators: Andrea Granell and Ellen Winner

Date: November 2013

Introduction:
You are being asked to be in a research study on the relationship between art perception and emotion while looking at contemporary art on a laptop.

Purpose of the Study:
The purpose of the study is to compare the perception of contemporary art in young and older people under two different viewing conditions: without labels and without the opportunity to discuss; and with labels and with the opportunity to discuss. We hypothesize that the presence of labels and the opportunity to discuss will significantly enhance the viewing experience, and that this enhancement will be greatest for the older age group (who may feel the most negatively about contemporary art and therefore who may be most helped by these two additions).

Description of Study Procedures:
You will be asked to view a series of four contemporary works of art on a laptop. Some will be shown without labels and you will be asked to view these in silence. Others will be shown with labels and you will be asked to discuss your responses with another participant. This will take about 10 minutes. Discussions will be audio recorded. Then 15 minutes will be given to complete a short questionnaire about this experience.

Risks and Benefits to Being in Study:
There are no foreseeable risks to being in this study. The benefits of participating will be the opportunity to enjoy viewing works of art on a laptop. Social interaction with other participants will be also stimulating.

Cost:
There is no cost for this study participation.

Confidentiality:
The records of this study will be kept private. When we will publish our findings we will not include any information that will make it possible to identify participants. Access to the records will be limited to the researchers. However, please note that the Institutional Review Board may review the research records.

Voluntary Participation/Withdrawal:
Your participation is voluntary. You are free to withdrawal at any time, for whatever reason.

Contacts and Questions:
The researcher conducting this study is Andrea Granell psychologist at University Ramon Llull (Barcelona, Spain) and Dr. Ellen Winner psychologist at Boston College. For questions or more information concerning this research you may contact directly at 617-291-9043.

Copy of Consent Form:
You will be given a copy of this form to keep for your records and future reference.

For BC students only, the participation to this study will allow you to get 0.5 credits.

Please note: 1 hour= 1 credit
Laptop study (30 minutes) = 0.5 credits.

Statement of Consent:
I have read the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I have received a copy of this form.

Signatures/Dates:

Your Name: _____

        Date:_____

BOSTON COLLEGE
PSYCHOLOGY DEPARTMENT
Contemporary Art Perception Consent Form
Investigators: Andrea Granell and Ellen Winner

Date: November 2013

Introduction:
You are being asked to be in a research study on the relationship between art perception and emotion while looking at contemporary art in a museum.

Purpose of the Study:
The purpose of the study is to compare the perception of contemporary art in young and older people under two different viewing conditions: without labels and without the opportunity to discuss; and with labels and with the opportunity to discuss. We hypothesize that the presence of labels and the opportunity to discuss will significantly enhance the viewing experience, and that this enhancement will be greatest for the older age group (who may feel the most negatively about contemporary art and therefore who may be most helped by these two additions).

Description of Study Procedures:
You will be asked to go to the Boston Museum of Fine Arts to visit their contemporary art collection. There you will see four pieces of art during 5 minutes. First you will look at these works without labels and in silence. Next you will look at them with labels and will discuss your responses with other members of your group. Discussions will be audio recorded. At the end of the visit, 15 minutes will be allowed to complete a short questionnaire about your experience during the visit.

Risks and Benefits to Being in Study:
There are no foreseeable risks to being in this study. The benefits of participating will be the opportunity to visit in a beautiful museum a small set of contemporary works of art. Social interaction with other participants will be also stimulating.

Cost:
The admission to the museum will be free. We will cover for travel expenses to and from the museum (2.00 on the T, student and senior rate).

Confidentiality:
The records of this study will be kept private. When we will publish our findings we will not include any information that will make it possible to identify participants. Access to the records will be limited to the researchers. However, please note that the Institutional Review Board may review the research records.

Voluntary Participation/Withdrawal:
Your participation is voluntary. You are free to withdrawal at any time, for whatever reason.

Contacts and Questions:
The researcher conducting this study is Andrea Granell psychologist at University Ramon Llull (Barcelona, Spain) and Dr. Ellen Winner psychologist at Boston College. For questions or more information concerning this research you may contact directly at 617-291-9043.

Copy of Consent Form:
You will be given a copy of this form to keep for your records and future reference.

For BC students only, the participation to this study will allow you to get 2 credits.

Please note: 1 hour= 1 credit
Museum study plus travel time (2 hours) = 2 credits.

Statement of Consent:
I have read the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I have received a copy of this form.

Signatures/Dates:

Your Name: _____

        Date:_____

9.2.3. Questionnaire Study 1

Participant number: _____
0. Highest educational degree attained: _____

00. Age: _____ Female ☐ Male ☐

(Please mark with an "x" your best option)

1. How many times during last year have you visited a museum?
      None   1-5   5-10   10 or more
       ☐   ☐   ☐   ☐

2. In these visits, how many times have you visited a Contemporary art exhibition? *(By contemporary, we refer to art created in the last decade)*
      None   1-5   5-10   10 or more
       ☐   ☐   ☐   ☐

3. Please mark if you have ever:
  - played an instrument ☐
  - taken drawing classes ☐
  - taken dance lessons ☐
  - performed in a theatre ☐
3.1. Engaged in other artistic activity and if so please indicate what this activity is

_____ ☐

Please indicate the extent to which you agree with each statement below:

4. I have a background in the arts *(By background in the arts, we refer to art studies like; art history, design, visual arts, photography, etc.)*

1	2	3	4	5
Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

5. I am practicing visual artist either professionally or by hobby

1	2	3	4	5
Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

6. I like contemporary art (as defined above)

1	2	3	4	5
Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

7. In this study you first viewed contemporary art with no labels; you then viewed contemporary art with labels.

7.1. Please tell us how the presence or absence of labels affected your **<u>understanding</u>** of the artworks.

_____
_____
_____
_____

7.2. Please tell us how the presence or absence of labels affected how much you **<u>liked</u>** the artworks.

_____
_____
_____
_____

7.3. Please tell us how the presence or absence of labels affected your overall **<u>enjoyment</u>** of the viewing experience.

_____
_____
_____
_____

8. In this study you first viewed contemporary art silently; you then viewed contemporary art and were asked to talk to a partner about your reactions. Please compare the effect of being able to talk to others vs. viewing the works silently in terms of:

8.1. Your **<u>understanding</u>** of the works of art

_____
_____
_____
_____

8.2. Your **<u>liking</u>** of the works of art

_____
_____
_____
_____

8.3. Your **<u>enjoyment</u>** of the experience

_____
_____
_____
_____

9.2.4. Invoice Study 1

Perception of Contemporary Art - MFA Visit

Cost

The admission to the museum will be free. We will cover for travel expenses to and from the museum (2.00$/ride on the T).

____Participant Name_____

I have received 4$ from Andrea Granell, Principal Researcher Perception of Contemporary Art Study.

Signature:

Your Name: _____

Date:_____

9.2.5. Younger Adults Participants Study 1

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
101	1	High School	19	F	1_5	None	Instrument_Drawing classes_Ballet	4_Disagree	4_Disagree	2_Agree
102	1	High School	18	M	None	None	Instrument	4_Disagree	5_Strongly Disagree	4_Disagree
103	1	High School	19	F	10 or more	5_10	Instrument	2_Agree	2_Agree	2_Agree
104	1	High School	20	M	1_5	1_5	Instrument_Drawing classes_Theatre	3_Neither	4_Disagree	2_Agree
105	1	High School	20	M	1_5	1_5	Dance lessons_Art and sculpture classes	4_Disagree	4_Disagree	3_Neither
106	1	High School	19	M	1_5	1_5	Instrument_Drawing classes_Dance	2_Agree	2_Agree	2_Agree
107	1	High School	19	F	1_5	1_5	Self-taught drawing, Knitting, Graphic designing	5_Strongly Disagree	2_Agree	3_Neither
108	1	High School	20	M	1_5	1_5	Instrument_Drawing classes	4_Disagree	4_Disagree	2_Agree
109	1	High School	19	M	1_5	1_5	Instrument_Drawing classes_Computer design	4_Disagree	5_Strongly Disagree	2_Agree
110	1	High School	19	F	1_5	1_5	Instrument_Drawing classes	2_Agree	5_Strongly Disagree	2_Agree
111	2	High School	18	F	1_5	1_5	Instrument_Dance lessons_Photography class	2_Agree	2_Agree	2_Agree

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
112	2	High School	18	F	1_5	None	Instrument_Drawing_Dance_Theatre	2_Agree	4_Disagree	2_Agree
113	2	High School	18	F	1_5	1_5	Instrument_Drawing_Dance	4_Disagree	5_Strongly Disagree	2_Agree
114	2	High School	19	F	1_5	1_5	Dance lessons_Theatre	4_Disagree	4_Disagree	2_Agree
115	2	High School	19	F	1_5	1_5	Instrument_Drawing_Dance_Ceramics	2_Agree	2_Agree	2_Agree
116	2	High School	18	M	1_5	1_5	Instrument_Drawing_Theatre	5_Strongly Disagree	5_Strongly Disagree	2_Agree
117	2	High School	18	M	1_5	1_5	Instrument_Drawing	4_Disagree	5_Strongly Disagree	4_Disagree
118	2	High School	20	M	1_5	None	Instrument	4_Disagree	5_Strongly Disagree	3_Neither
119	2	High School	18	F	1_5	1_5	Drawing classes_Theatre_Photography	4_Disagree	2_Agree	2_Agree
120	2	High School	18	F	1_5	None	Instrument_Drawing_Photography_Art history classes	2_Agree	4_Disagree	2_Agree
121	1	High School	19	M	1_5	1_5	Drawing classes_Theatre	4_Disagree	3_Neither	2_Agree
122	1	High School	19	M	1_5	None	Drawing classes_Ceramincs_Photography	3_Neither	5_Strongly Disagree	3_Neither
123	1	High School	19	F	1_5	1_5	Instrument_Drawing_Dance_Theatre	4_Disagree	5_Strongly Disagree	1_Strongly Agree
124	1	High School	19	M	1_5	None	Instrument_Drawing_Dance_Dj_Producing music	2_Agree	4_Disagree	3_Neither

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
125	1	High School	21	M	5_10	5_10	Intrument_Drawing_Dance_Theatre_Photo_Visual Artist	1_Strongly Agree	1_Strongly Agree	2_Agree
126	1	High School	18	F	1_5	1_5	Instrument_Drawing classes	2_Agree	3_Neither	2_Agree
127	1	High School	18	M	1_5	1_5	Instrument	3_Neither	5_Strongly Disagree	2_Agree
128	1	High School	20	M	1_5	1_5	Theatre	4_Disagree	4_Disagree	1_Strongly Agree
129	1	High School	20	F	1_5	1_5	Instrument_Drawing classes_Dance	3_Neither	4_Disagree	2_Agree
130	1	High School	20	F	1_5	None	Instrument_Drawing classes_Dance	4_Disagree	5_Strongly Disagree	2_Agree
131	2	High School	18	F	1_5	1_5	Instrument_Drawing_Dance	4_Disagree	5_Strongly Disagree	2_Agree
132	2	High School	18	M	1_5	1_5	Instrument_Drawing_Theatre	3_Neither	5_Strongly Disagree	3_Neither
133	2	High School	19	F	1_5	1_5	Dance_Theatre_Ceramics_Photo_Filmmaking	2_Agree	2_Agree	2_Agree
134	2	High School	19	F	1_5	1_5	Instrument_Drawing_Dance_Theatre_Choir	1_Strongly Agree	1_Strongly Agree	2_Agree
135	2	High School	20	M	1_5	None	Drawing classes	4_Disagree	5_Strongly Disagree	3_Neither
136	2	High School	18	M	1_5	1_5	Instrument_Drawing classes_Ceramics_Photography	2_Agree	4_Disagree	2_Agree
137	2	High School	18	M	1_5	1_5	None	5_Strongly Disagree	5_Strongly Disagree	3_Neither

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
138	2	High School	19	M	1_5	1_5	Instrument_Drawing	2_Agree	4_Disagree	3_Neither
139	2	High School	21	M	1_5	1_5	Instrument_Writing_Creative writing	4_Disagree	4_Disagree	3_Neither
140	2	High School	19	M	1_5	1_5	Instrument_Drawing_Dance_Theatre	5_Strongly Disagree	5_Strongly Disagree	4_Disagree

9.2.6. Older Adults Participants Study 1

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
201	1	PhD	76	F	5_10	1_5	Dance_Theatre_Photography	4_Disagree	2_Agree	3_Neither
202	1	MA	83	F	5_10	1_5	Photography	5_Strongly Disagree	2_Agree	3_Neither
203	1	MA	73	F	10_more	5_10	Drawing_dance_theatr_architecture	2_Agree	3_Neither	3_Neither
204	1	MA	70	F	5_10	5_10	All_singing_art courses_photography	1_Strongly agree	1_Strongly agree	2_Agree
205	1	MA	80	F	1_5	1_5	All_Cermics	3_Neither	2_Agree	3_Neither
206	1	BA	74	F	10_more	10_more	Instrument_Drawing_Art teacher_Sculpture_Bookmaking	5_Strongly Disagree	5_Strongly Disagree	5_Strongly Disagree
207	1	MA	87	F	5_10	1_5	Instrument_Piano as a child	4_Disagree	5_Strongly Disagree	4_Disagree
208	1	BA	75	F	5_10	1_5	All_Art history classes	1_Strongly agree	1_Strongly agree	3_Neither
209	1	MA	83	F	1_5	1_5	Drawing_Dance	3_Neither	4_Disagree	3_Neither
210	1	MA	73	F	5_10	5_10	All_Writing	2_Agree	5_Strongly Disagree	2_Agree
211	2	MA	67	M	5_10	5_10	Instrument_Graphic design_Topography_Photography	4_Disagree	5_Strongly Disagree	1_Strongly agree
212	2	High School	86	F	5_10	1_5	Instrument	2_Agree	5_Strongly Disagree	3_Neither
213	2	BA	73	F	10_more	1_5	All	4_Disagree	5_Strongly Disagree	5_Strongly Disagree
214	2	PhD	80	M	1_5	1_5	Instrument_Drawing_Dance	5_Strongly Disagree	5_Strongly Disagree	2_Agree

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
215	2	MA	72	F	10_more	1_5	Instrument_Dance_Theatre_Writing	2_Agree	5_Strongly Disagree	3_Neither
216	2	BA	79	F	5_10	1_5	All_Phtography_Glass blowing	3_Neither	5_Strongly Disagree	2_Agree
217	2	MA	77	F	5_10	1_5	Instrument_Theatre_Sewing	4_Disagree	5_Strongly Disagree	1_Strongly agree
218	2	MA	74	F	1_5	1_5	Dance_Theatre	5_Strongly Disagree	5_Strongly Disagree	3_Neither
219	2	BA	76	M	1_5	None	Instrument_Theatre_Singing	5_Strongly Disagree	5_Strongly Disagree	5_Strongly Disagree
220	1	MA	79	M	10_more	10_more	Abstract sculptor	1_Strongly agree	1_Strongly agree	1_Strongly agree
221	1	MA	77	F	10_more	10_more	Instrument_Dance	2_Agree	4_Disagree	1_Strongly agree
222	1	High School	79	F	5_10	1_5	Instrument_Drawing_Dance_Theatre_Radio	2_Agree	2_Agree	3_Neither
223	1	MA	71	F	1_5	1_5	None	2_Agree	5_Strongly Disagree	4_Disagree
224	1	BA	76	F	5_10	5_10	Instrument_Drawing_Dance	1_Strongly agree	2_Agree	1_Strongly agree
225	1	PhD	73	F	10_more	5_10	Drawing_Dance_Theatre_Sculpture_Printmaking_Photography	1_Strongly agree	1_Strongly agree	2_Agree
226	1	BA	68	F	10_more	None	Instrument_Drawing_Dance_Theatre_Writing a novel	3_Neither	5_Strongly Disagree	3_Neither
227	1	PhD	67	M	10_more	1_5	Theater_Vocal Music	3_Neither	5_Strongly Disagree	4_Disagree
228	1	PhD	83	F	10_more	5_10	Instrument_Drawing_Dance_Stone Carving_Watercolor	3_Neither	2_Agree	2_Agree
229	1	BA	70	M	5_10	1_5	Instrument_Theatre_Poetry	5_Strongly Disagree	5_Strongly Disagree	2_Agree
230	2	MA	84	F	1_5	1_5	Dance_Theatre_Writing_Ceramics	2_Agree	5_Strongly Disagree	3_Neither

Participant Number	Group	Highest Degree	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
231	2	PhD	87	F	5_10	5_10	Instrument_Drawing_Dance_Singer	3_Neither	5_Strongly Disagree	2_Agree
232	2	PhD	64	F	10_more	10_more	Instrument	5_Strongly Disagree	5_Strongly Disagree	1_Strongly agree
233	2	MA	69	F	5_10	1_5	Instrument_Drawing_Dance_Theatre_ Drumming circle	1_Strongly agree	4_Disagree	3_Neither
234	2	MA	68	F	10_more	10_more	All_Designing gardens	4_Disagree	5_Strongly Disagree	2_Agree
235	2	PhD	73	M	5_10	1_5	Instrument_Dance_Theatre	4_Disagree	5_Strongly Disagree	2_Agree
236	2	MA	84	M	10_more	10_more	Instrument_Drawing_Dance	1_Strongly agree	2_Agree	1_Strongly agree
237	2	PhD	83	M	1_5	1_5	Instrument_Dance_Theatre_Photography	4_Disagree	5_Strongly Disagree	2_Agree
238	2	BA	60	F	10_more	10_more	Instrument_Dance_Theatre_Photography_Choral_ Writers Workshops	1_Strongly agree	4_Disagree	1_Strongly agree
239	2	MA	76	M	10_more	10_more	Instrument_Drawing_Architect	1_Strongly agree	1_Strongly agree	1_Strongly agree

9.3. Appendices Study 2

9.3.1. Recruitment Tool Study 2

SONA SYSTEM Script

Study Name: Perception of contemporary art in young and older adults: An intergenerational study.

Description: In this study you will be asked to talk with other participants of your same age group about your reaction to the work of art. Andrea Granell, the researcher in charge of the study, will facilitate the group discussion.

Prescreen Restrictions: No Restrictions

Duration: 30 minutes.

9.3.2. Consent Form Study 2

BOSTON COLLEGE
PSYCHOLOGY DEPARTMENT
Contemporary Art Perception Consent Form
Investigators: Andrea Granell and Ellen Winner

Date: November 2013

Introduction:
You are being asked to be in a research study on the relationship between art perception and emotion while looking at contemporary art in a museum.

Purpose of the Study:
The purpose of the study is for participants to discuss with one another in a focus group how they responded to the works of contemporary art under each viewing condition. Participants will meet with others of their own age group in a room in the MFA to share their opinions and feelings about the experience immediately after viewing the works. This activity will last a maximum of 30 minutes.

Description of Study Procedures:
You will be asked to talk with other participants of your same age group about your reaction to the work of art. Discussions will be audio recorded. The group discussion will be facilitated by Andrea Granell, the researcher in charge of the study.

Risks and Benefits to Being in Study:
There are no foreseeable risks to being in this study. The benefits of participating will be the social interaction with other participants relating to the experience.

Cost:
There is no cost for this study participation.

Confidentiality:
The records of this study will be kept private. When we will publish our findings we will not include any information that will make it possible to identify participants. Access to the records will be limited to the researchers. However, please note that the Institutional Review Board may review the research records.

Voluntary Participation/Withdrawal:
Your participation is voluntary. You are free to withdrawal at any time, for whatever reason.

Contacts and Questions:
The researcher conducting this study is Andrea Granell psychologist at University Ramon Llull (Barcelona, Spain) and Dr. Ellen Winner psychologist at Boston College. For questions or more information concerning this research you may contact directly at 617-291-9043.

Copy of Consent Form:
You will be given a copy of this form to keep for your records and future reference.

For BC students only, the participation to this study will allow you to get 0.5 credits.

Please note: 1 hour= 1 credit
Group discussion (30 minutes) = 0.5 credits.

Statement of Consent:
I have read the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I have received a copy of this form.

Signatures/Dates:

Your Name: _____

       Date:_____

9.3.3. Focus Group Questions Study 2

<u>Focus Group Questions</u>

1. What are the main differences you found between having the opportunity to read the labels or not.

2. What are the main differences you found between having the opportunity to interact with others or not.

3. What is the different between this visitor experience and the others visits you did previously in other museums?

9.3.4. Focus Group Participants Study 2

FG Number	Partici-pant Number	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
FG1	105	20	M	1_5	1_5	Dance lessons_Art and sculpture classes	4_Disagree	4_Disagree	3_Neither
FG1	106	19	M	1_5	1_5	Instrument_Drawing classes_Dance	2_Agree	2_Agree	2_Agree
FG1	107	19	F	1_5	1_5	Self-taught drawing, knitting, graphic designing	5_Strongly Disagree	2_Agree	3_Neither
FG1	108	20	M	1_5	1_5	Instrument_Drawing classes	4_Disagree	4_Disagree	2_Agree
FG2	123	19	F	1_5	1_5	Instrument_Drawing_Dance_Theatre	4_Disagree	5_Strongly Disagree	1_Strongly Agree
FG2	124	19	M	1_5	None	Instrument_Drawing_Dance_ Dj_Producing music	2_Agree	4_Disagree	3_Neither
FG2	129	20	F	1_5	1_5	Instrument_Drawing classes_Dance	3_Neither	4_Disagree	2_Agree
FG2	130	20	F	1_5	None	Instrument_Drawing classes_Dance	4_Disagree	5_Strongly Disagree	2_Agree

FG Number	Partici-pant Number	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
FG3	132	18	M	1_5	1_5	Instrument_Drawing_Theatre	3_Neither	5_Strongly Disagree	3_Neither
FG3	133	19	F	1_5	1_5	Dance_Theatre_Ceramics_Photo_ Filmmaking	2_Agree	2_Agree	2_Agree
FG3	134	19	F	1_5	1_5	Instrument_Drawing_Dance_Theatre_ Choir	1_Strongly Agree	1_Strongly Agree	2_Agree
FG3	136	18	M	1_5	1_5	Instrument_Drawing classes_Ceramics_Photography	2_Agree	4_Disagree	2_Agree
FG4	131	18	F	1_5	1_5	Instrument_Drawing_Dance	4_Disagree	5_Strongly Disagree	2_Agree
FG4	135	20	M	1_5	None	Drawing classes	4_Disagree	5_Strongly Disagree	3_Neither
FG4	137	18	M	1_5	1_5	None	5_Strongly Disagree	5_Strongly Disagree	3_Neither
FG4	138	19	M	1_5	1_5	Instrument_Drawing	2_Agree	4_Disagree	3_Neither
FG4	139	21	M	1_5	1_5	Instrument_Writing_Creative writing	4_Disagree	4_Disagree	3_Neither
FG4	140	19	M	1_5	1_5	Instrument_Drawing_Dance_Theatre	5_Strongly Disagree	5_Strongly Disagree	4_Disagree

FG Number	Partici-pant Number	Age	Gender	1. Times Museum	2. Visit CA	3. Have ever	4. Background Arts	5. Practicing	6. Like CA
FG 5	203	73	F	10_more	5_10	Drawing_Dance_Theatre_ Architecture	2_Agree	3_Neither	3_Neither
FG 5	204	70	F	5_10	5_10	All_Singing_Art courses_photography	1_Strongly agree	1_Strongly agree	2_Agree
FG 5	205	80	F	1_5	1_5	All_cermics	3_Neither	2_Agree	3_Neither
FG 5	206	74	F	10_more	10_more	Instrument_Drawing_ Art teacher_Sculpture_Bookmaking	5_Strongly Disagree	5_Strongly Disagree	5_Strongly Disagree
FG 6	220	79	M	10_more	10_more	Abstract Sculptur	1_Strongly agree	1_Strongly agree	1_Strongly agree
FG 6	221	77	F	10_more	10_more	Instrument_Dance	2_Agree	4_Disagree	1_Strongly agree
FG 6	226	68	F	10_more	None	Instrument_Drawing_Dance_Theatre	3_Neither	5_Strongly Disagree	3_Neither
FG 6	227	67	M	10_more	1_5	Theater_Vocal Music	3_Neither	5_Strongly Disagree	4_Disagree

FG Number	Partici-pant Number	Age	Gender	1. Times Museum	2. Visit CA	3.Have ever	4. Background Arts	5. Practicing	6. Like CA
FG 7	208	75	F	5_10	1_5	All_Art history classes	1_Strongly agree	1_Strongly agree	3_Neither
FG 7	211	67	M	5_10	5_10	Instrument_Graphic design_Topography_Photography	4_Disagree	5_Strongly Disagree	1_Strongly agree
FG 7	214	80	M	1_5	1_5	Instrument_Drawing_Dance	5_Strongly Disagree	5_Strongly Disagree	2_Agree
FG 7	218	74	F	1_5	1_5	Dance_theatre	5_Strongly Disagree	5_Strongly Disagree	3_Neither
FG 8	212	86	F	5_10	1_5	Instrument	2_Agree	5_Strongly Disagree	3_Neither
FG 8	213	73	F	10_more	1_5	All	4_Disagree	5_Strongly Disagree	5_Strongly Disagree
FG 8	215	72	F	10_more	1_5	Instrument_Dance_Theatre_Writing	2_Agree	5_Strongly Disagree	3_Neither
FG 8	216	79	F	5_10	1_5	All_Phtography_Glass blowing	3_Neither	5_Strongly Disagree	2_Agree

9.4. Appendices Study 3

9.4.1. Consent Form Study 3

<center>

BOSTON COLLEGE
PSYCHOLOGY DEPARTMENT
Contemporary Art Perception Consent Form
Investigators: Andrea Granell and Ellen Winner

</center>

Date: February 2015

Introduction:
- You are being asked to be in a research study on the relationship between art perception and emotion after looking at art in a museum.
- Please read this form. Ask any questions that you may have before you agree to be in the study.

Purpose of the Study:
- The purpose of the study is to compare the perception of contemporary art and traditional art in young and older adults after a museum visit.
- You were selected to be in the study because you are at least 18 years old.

Description of Study Procedures:
- If you agree to be in this study, you will be asked to respond a 10 minutes interview with the researcher about your experience during the visit.

Risks and Benefits to Being in Study:
- There are no foreseeable risks to being in this study.
- As a thank you gift a postcard from the museum will be given at the end of the interview.

Cost:
- There is no cost for this study participation.

Confidentiality:
- The records of this study will be kept private. When we will publish our findings we will not include any information that will make it possible to identify participants.
- Access to the records will be limited to the researchers. However, please note that the Institutional Review Board may review the research records.

Voluntary Participation/Withdrawal:
- Your participation is voluntary. You are free to withdrawal at any time, for whatever reason.

Contacts and Questions:
- The researcher conducting this study is Andrea Granell psychologist at University Ramon Llull (Barcelona, Spain) and Dr. Ellen Winner psychologist at Boston College.
- For questions or more information concerning this research you may contact directly at 617-291-9043.

Copy of Consent Form:
- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:
- I have read the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I give my consent to be in this study. I have received a copy of this form.

Signatures/Dates:

Study Participant (Print Name): _____

Signature: _____   Date: _____

9.4.2. Questionnaire Study 3

Participant number:
Date:
Hour:

1. How many times during last year have you visited a museum?
   - None
   - 1-5
   - 6-10
   - More than 10

2. In these visits, how many times have you visited a Contemporary art exhibition?
(By contemporary, we refer to art created in the last decade)
   - None
   - 1-5
   - 6-10
   - More than 10

3. Please mark if you have ever:
   - Played an instrument, sung, composed music, or otherwise actively engaged in a musical pursuit
   - Taken drawing classes, painting, or otherwise actively engaged in an art pursuit
   - Taken dance lessons, or otherwise actively engaged in a bodily-kinesthetic pursuit
   - Performed in a theatre, or otherwise actively engaged in a performance pursuit

3.1. Engaged in other artistic activity and if so please indicate what this activity is
   _____

4. Do you like Contemporary Art?
Yes/No
4.1.Why?

_____
_____
_____
_____

5. How easy or difficult do you think it is to understand Contemporary Art? Please choose a number that best represents your opinion:

Easy   1   2   3   4   5   6   Difficult
5.1.Why did you choose that rating?
_____
_____
_____
_____

6. How was your experience of looking at works of art today on the Contemporary Art or Art of Europe Gallery? Please choose a number that best represents your opinion:
Enjoyable   1   2   3   4   5   6   Boring
6.1.Why did you choose that rating?
_____
_____
_____
_____

7. Did you read any of the written interpretations/placards on the gallery?
Yes/No
7.1. Were they useful?
- Very useful
- Somewhat useful
- Not very useful
- Not at all useful

7.2.Why did you choose that rating?
_____
_____
_____
_____

8. Whom did you come to the Museum with today?
- Alone
- Friends
- Family
- Other

9. Did you talk about the art with your companion(s)?
Yes/No
9.1. How do you think talking to others affected your experience of looking at art?
_____
_____
_____
_____

10. How long did you spend in the Contemporary Art or Art of Europe Gallery?
   ▪ More than 30 min
   ▪ 30 min
   ▪ Less than 30 min

11. Highest educational degree attained:

Age:

12. Female/Male

13. Are you a member of the museum?
Yes/No

If you want to be informed about the results of the study please add your e-mail address:
_____

Thank you very much for your participation!

9.4.3. General Audience Participants Study 3

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
301 YACA-1	None	1_5	Instrument_Drawing classes_Design and Photography	Y	4	2	N	Alone	N	> 30 min	BA	24	F	N
302 YACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	1	5	Y	Friends	Y	> 30 min	High School	18	F	N
303 YACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre_ Writing classes, creative and songwriting	Y	3	1	Y	Friends	Y	< 30 min	High School	18	F	N
304 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre_ Writing	Y	3	3	Y	Alone	N	< 30 min	MA	21	M	N
305 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre_ Photography	Y	4	5	Y	Alone	N	30 min	High School	22	F	Y
306 YACA-1	1_5	1_5	Drawing classes	Y	4	2	Y	Friends	Y	> 30 min	MA	25	F	N
307 YACA-1	6_10	1_5	Instrument	Y	4	2	Y	Friends	Y	< 30 min	High School	18	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
308 YACA-1	6_10	1_5	Instrument_Drawing classes	Y	4	2	Y	Family	Y	> 30 min	High School	18	M	N
309 YACA-1	1_5	1_5	Dance lessons	Y	1	2	Y	Family	Y	> 30 min	BA	24	M	N
310 YACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	3	1	Y	Friends	Y	30 min	High School	18	F	N
311 YACA- 1	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	1	1	Y	Friends	Y	30 min	High School	19	F	N
312 YACA-1	1_5	1_5	Instrument_Dance lessons_Film studies	Y	3	2	Y	Friends	Y	30 min	BA	21	F	N
313 YACA-1	1_5	1_5	Instrument_Drawing classes	Y	4	3	Y	Friends	Y	30 min	BA	21	F	N
314 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre_ Writing _Poetry	Y	1	1	Y	Friends	Y	30 min	High School	18	M	N
315 YACA-1	1_5	1_5	Instrument_Theatre	Y	2	1	Y	Friends	Y	30 min	High School	18	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
316 YACA-1	1_5	None	Instrument	N	3	3	Y	Friends	Y	< 30 min	High School	18	F	N
317 YACA-1	1_5	None	Instrument_Drawing classes_Dance lessons_Theatre	N	3	4	Y	Friends	Y	< 30 min	High School	18	F	N
318 YACA-1	More than 10	More than 10	Instrument_Drawing classes_Ceramics	Y	4	1	Y	Friends	Y	30 min	High School	21	M	N
319 YACA-1	More than 10	6_10	Dance lessons_Theatre	Y	4	2	Y	Friends	Y	< 30 min	High School	19	F	N
320 YACA- 1	1_5	None	Instrument	N	5	2	N	Friends	N	< 30 min	BA	22	M	N
321 YACA-1	More than 10	6_10	Instrument_Drawing classes_Dance lessons_Theatre_ Photography	Y	4	1	Y	Friends	Y	< 30 min	BA	19	F	Y
322 YACA- 1	More than 10	More than 10	Instrument_Drawing classes_Dance lessons_Theatre_Art history classes	Y	2	1	Y	Friends	Y	< 30 min	High School	20	F	Y
323 YACA-1	1_5	1_5	Instrument_Drawing classes_Theatre	Y	2	2	Y	Friends	Y	30 min	High School	18	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
324 YACA-1	None	None	Instrument	Y	3	2	Y	Friends	Y	30 min	High School	18	F	N
325 YACA-1	6_10	1_5	Instrument_Drawing classes	Y	3	1	Y	Friends	Y	>30 min	High School	18	F	N
326 YACA- 1	1_5	1_5	Instrument	Y	5	2	Y	Friends	Y	30 min	High School	18	M	N
327 YACA-1	1_5	1_5	Drawing classes	Y	4	4	Y	Friends	Y	30 min	High School	20	M	N
328 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Friends	Y	> 30 min	High School	19	F	N
329 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	2	Y	Friends	Y	< 30 min	High School	18	F	N
330 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre	Y	6	3	Y	Friends	Y	< 30 min	High School	19	F	Y
331 YACA-1	1_5	1_5	Drawing classes	Y	4	1	Y	Friends	Y	> 30 min	High School	19	F	N
332 YACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	N	5	3	Y	Friends	Y	30 min	BA	24	F	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
333 YACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons	N	3	2	Y	Friends	Y	30 min	BA	24	F	N
334 YACA-1	1_5	1_5	Instrument_Theatre_ Creative Writing	Y	4	3	Y	Friends	Y	30 min	High School	21	M	N
335 YACA-1	None	None	Instrument_Drawing classes_Dance lessons_Theatre	Y	3	2	Y	Friends	Y	> 30 min	High School	24	F	N
336- YACA-1	1_5	None	Instrument_Drawing classes_Theatre	Y	4	2	Y	Friends	Y	30 min	High School	18	M	N
337 YACA- 1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	2	1	Y	Friends	Y	< 30 min	High School	18	F	N
338 YACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons	Y	4	1	N	Friends	Y	< 30 min	High School	20	F	Y
339 YACA- 1	1_5	1_5	Instrument_Dance lessons_Theatre	Y	4	1	N	Friends	Y	< 30 min	High School	20	F	Y
340 YACA-1	1_5	1_5	Instrument	Y	5	1	Y	Friends	Y	> 30 min	High School	21	M	N
401 YATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	2	Y	Alone	N	30 min	High School	18	F	N
402 YATA-2	More than 10	More than 10	Drawing classes	Y	3	1	Y	Friends	Y	< 30 min	High School	18	M	Y

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9- Talk	10- Time	Highest Degree	Age	Gender	Member
403 YATA-2	More than 10	More than 10	Drawing classes_Dance lessons_Theatre	Y	3	2	Y	Friends	Y	30 min	High School	20	M	Y
404 YATA-2	6_10	1_5	Instrument_Theatre	Y	5	5	Y	Friends	Y	30 min	High School	20	M	N
405 YATA-2	None	None	Instrument	N	2	4	Y	Family	Y	< 30 min	BA	21	F	N
406 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	4	1	Y	Friends	Y	< 30 min	High School	19	F	N
407 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	2	Y	Friends	Y	< 30 min	High School	19	F	N
408 YATA-2	None	None	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Friends	Y	30 min	High School	18	M	N
409 YATA-2	1_5	1_5	Instrument_Drawing classes	Y	4	2	Y	Family	Y	30 min	BA	24	M	N
410 YATA-2	1_5	1_5	Instrument_Dance lessons	Y	5	3	Y	Friends	Y	< 30 min	BA	22	M	N
411 YATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons_Animation modeling and game design	Y	4	3	Y	Friends	Y	30 min	High School	21	M	N
412 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	2	2	Y	Friends	Y	30 min	High School	18	F	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
413 YATA-2	6_10	1_5	Instrument_Drawing classes	Y	4	2	Y	Friends	Y	30 min	High School	18	M	N
414 YATA-2	1_5	1_5	Drawing classes_Dance lessons_Theatre	Y	5	2	Y	Alone	N	> 30 min	BA	24	F	N
415 YATA-2	6_10	1_5	Instrument_Dance lessons	Y	5	1	Y	Alone	N	> 30 min	BA	24	F	N
416 YA_TA	None	None	Instrument_Dance lessons	Y	3	3	Y	Friends	N	< 30 min	High School	20	F	N
417 YATA-2	1_5	1_5	None	Y	6	4	N	Friends	Y	< 30 min	BA	20	F	N
418 YATA-2	None	None	Instrument_Drawing classes_Dance lessons	Y	6	3	Y	Friends	Y	30 min	BA	22	M	N
419 YATA-2	More than 10	More than 10	Instrument_Drawing classes	Y	3	1	Y	Friends	Y	30 min	High School	20	F	N
420 YATA-2	None	None	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	4	Y	Friends	N	< 30 min	High School	18	F	N
421 YATA-2	1_5	6_10	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Friends	Y	30 min	High School	18	F	N
422 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	3	1	Y	Friends	Y	30 min	High School	18	F	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
423 YATA-2	1_5	None	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Friends	Y	30 min	High School	18	F	N
424 YATA-2	More than 10	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	2	Y	Friends	Y	< 30 min	High School	19	F	N
425 YATA-2	1_5	None	Instrument_Dance lessons_Theatre	Y	4	1	N	Friends	Y	< 30 min	High School	19	M	Y
426 YATA-2	More than 10	1_5	Instrument_Drawing classes_Dance lessons	Y	4	2	Y	Alone	N	30 min	High School	19	F	N
427 YATA-2	1_5	None	Drawing classes_Dance lessons	N	4	3	Y	Alone	N	> 30 min	High School	22	F	N
428 YATA-2	1_5	1_5	Instrument_Drawing classes_Artist Pastisserie Work	Y	4	3	Y	Friends	Y	> 30 min	High School	19	F	N
429 YATA-2	None	None	Theatre	Y	4	3	Y	Friends	Y	30 min	High School	21	M	N
430 YATA-2	More than 10	1_5	Instrument_Theatre	Y	4	2	Y	Friends	Y	30 min	High School	21	F	N
431 YATA-2	1_5	1_5	Instrument_Drawing classes_Theatre	Y	4	1	Y	Friends	Y	< 30 min	High School	20	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
432 YATA-2	None	None	Drawing classes	Y	5	4	N	Friends	Y	< 30 min	High School	18	F	N
433 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	4	N	Other	Y	< 30 min	High School	19	M	N
434 YATA-2	1_5	1_5	Instrument	Y	5	2	Y	Family	Y	> 30 min	MA	22	F	N
435 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Friends	Y	< 30 min	High School	19	F	N
436 YATA-2	1_5	None	Instrument_Dance lessons_Theatre	Y	6	2	Y	Friends	Y	< 30 min	High School	19	F	N
437 YATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	3	2	Y	Friends	Y	30 min	High School	20	F	N
438 YATA-2	1_5	1_5	Drawing classes_Theatre	Y	4	1	Y	Friends	Y	30 min	High School	20	F	N
439 YATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons	Y	5	2	Y	Family	Y	> 30 min	High School	19	F	N
440 YATA-2	1_5	1_5	Instrument_Drawing classes	Y	4	4	Y	Family	Y	> 30 min	BA	23	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
501 OACA-1	More than 10	6_10	Drawing classes	Y	4	1	Y	Alone	N	< 30 min	BA	68	F	Y
502 OACA-1	1_5	None	Instrument_Drawing classes	Y	3	1	Y	Family	Y	> 30 min	BA	67	F	N
503 OACA-1	More than 10	1_5	Instrument	Y	3	2	Y	Alone	N	< 30 min	MA	60	M	N
504 OACA-1	6_10	6_10	Drawing classes_Dance lessons	Y	2	1	Y	Family	Y	> 30 min	MA	64	M	N
505 OACA-1	More than 10	6_10	Instrument_Drawing classes_Dance lessons_Theatre	Y	2	1	Y	Family	N	30 min	Ph.D	73	M	Y
506 OACA-1	1_5	1_5	Instrument	N	3	2	N	Family	Y	30 min	MA	70	M	N
507 OACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	4	1	Y	Family	Y	30 min	High School	67	F	N
508 OACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre_I am creating one woman show	Y	4	2	Y	Family	Y	> 30 min	BA	66	F	N
509 OACA-1	1_5	1_5	Theatre	Y	2	1	Y	Family	Y	> 30 min	BA	60	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
510 OACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	4	1	Y	Friends	Y	< 30 min	BA	63	F	N
511 OACA-1	6_10	1_5	Instrument	Y	4	1	Y	Friends	Y	> 30 min	BA	60	F	N
512 OACA-1	More than 10	More than 10	Instrument_Writing	Y	4	2	Y	Family	Y	30 min	Ph.D	64	M	N
513 OACA-1	More than 10	More than 10	Instrument_Drawing classes_Theatre_Profession Art Director and Art School training	Y	4	2	Y	Family	N	> 30 min	BA	63	M	Y
514 OACA-1	1_5	1_5	None	Y	4	2	Y	Friends	Y	< 30 min	BA	61	F	N
515 OACA-1	More than 10	More than 10	None	Y	6	1	Y	Alone	N	More than 30 min	BA	79	F	N
516 OACA-1	1_5	None	Instrument_Drawing classes_Dance lessons	Y	4	3	Y	Alone	N	30 min	MA	77	M	N
517 OACA-1	1_5	More than 10	Drawing classes	Y	4	1	Y	Friends	Y	> 30 min	High School	78	M	N
518 OACA-1	6_10	6_10	Drawing classes_ Photography	Y	1	1	Y	Friends	Y	> 30 min	High School	62	M	Y

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
519 OACA-1	1_5	1_5	Instrument	Y	4	2	Y	Family	Y	30 min	Ph.D	61	F	N
520 OACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons_Theatre_ Orchestra	Y	3	1	Y	Family	Y	> 30 min	BA	78	M	N
521 OACA-1	More than 10	6_10	Instrument_Dance lessons_Theatre_ Singing	Y	4	4	Y	Family	Y	> 30 min	BA	73	F	N
522 OACA-1	More than 10	6_10	Instrument_Drawing classes	Y	4	1	Y	Family	Y	30 min	High School	79	F	N
523 OACA-1	6_10	1_5	Instrument_Drawing classes	Y	4	4	Y	Family	Y	> 30 min	BA	73	M	N
524 OACA-1	1_5	None	Instrument_Drawing classes_Dance lessons	N	6	1	N	Friends	Y	< 30 min	MA	60	F	N
525 OACA-1	1_5	1_5	Instrument_Drawing classes_Knitwear design	N	6	4	Y	Friends	Y	30 min	BA	60	F	N
526 OACA-1	More than 10	1_5	Instrument_Dance lessons_Lots of courses in Art History and Impressionists	N	5	4	Y	Family	Y	30 min	MA	65	F	N
527 OACA-1	1_5	None	None	N	5	2	N	Friends	N	< 30 min	High School	67	F	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
528 OACA-1	6_10	1_5	None	N	3	5	Y	Friends	Y	< 30 min	Ph.D	62	F	N
529 OACA-1	None	1_5	None_Major in Costume Design	Y	5	3	Y	Alone	N	> 30 min	High School	85	F	N
530 OACA-1	6_10	6_10	Drawing classes_Jewelry Fabrication	Y	5	3	Y	Friends	Y	> 30 min	MA	67	M	N
531 OACA-1	6_10	1_5	Instrument_Drawing classes	Y	4	1	Y	Friends	Y	> 30 min	MA	65	F	N
532 OACA-1	1_5	1_5	Instrument	Y	5	1	Y	Alone	N	> 30 min	MA	77	F	Y
533 OACA-1	1_5	None	Instrument_Drawing classes_Dance lessons	N	5	2	Y	Family	Y	> 30 min	BA	60	F	N
534 OACA-1	More than 10	More than 10	Instrument_Drawing classes_Dance lessons_Design	N	3	3	Y	Alone	N	> 30 min	MA	65	F	Y
535 OACA-1	6_10	6_10	Instrument_Drawing classes_Dance lessons_Theatre_ Writing and jewelry making	N	1	1	N	Friends	N	< 30 min	Ph.D	60	F	N
536 OACA-1	6_10	1_5	None	Y	4	3	Y	Family	Y	30 min	BA	63	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9- Talk	10- Time	Highest Degree	Age	Gender	Member
537 OACA-1	1_5	1_5	Drawing classes_Dance lessons_Theatre	Y	3	2	Y	Friends	Y	< 30 min	MA	76	F	N
538 OACA-1	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	2	1	Y	Family	Y	30 min	MA	80	F	N
539 OACA-1	1_5	1_5	None	N	6	3	Y	Family	N	30 min	BA	72	F	Y
540 OACA-1	1_5	1_5	Instrument_Drawing classes	Y	3	1	Y	Family	N	> 30 min	BA	62	F	N
601 OATA-1	1_5	1_5	None	Y	5	3	N	Family	Y	< 30 min	BA	61	F	N
602 OATA-2	More than 10	More than 10	Instrument_Drawing classes_Theatre	Y	3	1	Y	Family	Y	> 30 min	MA	76	F	N
603 OATA-2	More than 10	More than 10	Theatre	Y	2	2	Y	Family	Y	30 min	MA	71	M	N
604 OATA-2	6_10	1_5	None	Y	5	1	Y	Friends	Y	30 min	MA	65	F	Y
605 OATA-2	1_5	1_5	None	Y	4	2	Y	Friends	Y	30 min	MA	71	F	N
606 OATA-2	6_10	1_5	Instrument	Y	5	1	Y	Family	Y	> 30 min	BA	65	M	Y

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
607 OATA-2	More than 10	1_5	Drawing classes_Dance lessons	Y	4	3	Y	Alone	N	> 30 min	High School	69	M	N
608 OATA-2	More than 10	More than 10	Instrument_Dance lessons	Y	4	2	N	Family	Y	< 30 min	Ph.D	60	F	Y
609 OATA-2	6_10	1_5	Instrument_Drawing classes	Y	4	2	Y	Alone	N	> 30 min	MA	70	F	Y
610 OATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons	N	5	1	Y	Friends	Y	> 30 min	Ph.D	60	F	Y
611 OATA-2	None	None	None	Y	5	2	Y	Friends	Y	30 min	BA	64	F	N
612 OATA-2	6_10	1_5	None	Y	4	2	Y	Alone	N	< 30 min	BA	74	F	N
613 OATA-2	6_10	6_10	Drawing classes	Y	3	1	Y	Alone	N	> 30 min	MA	67	M	N
614 OATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons_Theatre	Y	5	1	Y	Friends	Y	30 min	MA	60	F	Y
615 OATA-2	6_10	1_5	Instrument_Drawing classes_Theatre	N	4	1	Y	Friends	Y	30 min	BA	68	F	N

| Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 - Talk	10- Time	Highest Degree	Age	Gender	Member
616 OATA-2	More than 10	More than 10	Drawing classes	Y	4	1	Y	Family	Y	> 30 min	MA	63	M	N
617 OATA-2	More than 10	More than 10	Drawing classes_Designing gardens and wrote a cooking book	Y	1	1	Y	Family	Y	> 30 min	MA	62	F	N
618 OATA-2	6_10	1_5	Hand Embroidery	Y	2	1	Y	Family	Y	> 30 min	BA	64	F	N
619 OATA-2	1_5	1_5	Drawing classes	Y	4	1	Y	Family	Y	30 min	Ph.D	71	M	Y
620 OATA-2	6_10	1_5	Instrument_Theatre	Y	3	1	Y	Friends	Y	30 min	BA	72	F	N
621 OATA-2	1_5	1_5	None	Y	5	1	Y	Family	Y	30 min	BA	74	F	Y
622 OATA-2	1_5	1_5	None	Y	4	1	Y	Family	Y	> 30 min	MA	82	M	N
623 OATA-2	1_5	None	Bobbin Lace making	N	5	2	Y	Family	Y	> 30 min	BA	63	F	N
624 OATA-2	1_5	None	None	N	5	2	Y	Family	Y	> 30 min	BA	67	M	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
625 OATA-2	1_5	None	Instrument	Y	3	2	Y	Family	Y	< 30 min	BA	71	F	N
626 OATA-2	6_10	1_5	Drawing classes	N	5	1	Y	Family	Y	> 30 min	Ph.D	70	M	N
627 OATA-2	6_10	1_5	Instrument_Theatre	N	5	1	Y	Family	Y	> 30 min	BA	68	F	N
628 OATA-2	1_5	1_5	Instrument	N	4	2	Y	Family	Y	> 30 min	High School	70	M	N
629 OATA-2	1_5	1_5	Instrument	N	5	1	Y	Family	Y	> 30 min	BA	70	F	N
630 OATA-2	More than 10	1_5	None	Y	3	1	Y	Friends	Y	30 min	MA	72	F	Y
631 OATA-2	1_5	1_5	None	N	5	2	Y	Friends	Y	> 30 min	BA	63	M	Y
632 OATA-2	1_5	1_5	Instrument_Drawing classes	Y	4	2	Y	Family	Y	> 30 min	BA	73	F	N
633 OATA-2	1_5	1_5	Theatre	Y	4	1	Y	Family	Y	30 min	Ph.D	76	M	N
634 OATA-2	1_5	None	Instrument_Garden Design	N	3	3	Y	Family	Y	30 min	BA	65	F	N

Participant Number & Group	1- Times Museum	2- Visit CA	3- Have ever	4- Like CA	5- Understand CA	6- Experience	7- Read Labels	8- With	9 -Talk	10- Time	Highest Degree	Age	Gender	Member
635 OATA-2	More than 10	1_5	Drawing classes	N	5	2	Y	Family	Y	> 30 min	Ph.D	77	F	Y
636 OATA-2	More than 10	1_5	None	N	4	2	Y	Family	Y	> 30 min	Ph.D	77	M	Y
637 OATA-2	1_5	1_5	Instrument_Dance lessons_Theatre_Landscape design and care	N	2	2	Y	Alone	N	30 min	MA	70	F	N
638 OATA-2	1_5	1_5	Instrument_Drawing classes_Dance lessons	Y	1	1	Y	Family	Y	> 30 min	BA	62	F	N
639 OATA-2	1_5	1_5	Instrument_Drawing classes	Y	1	1	Y	Friends	Y	> 30 min	Ph.D	68	F	N
640 OATA-2	6_10	1_5	Instrument_Drawing classes_Dance lessons	Y	3	2	Y	Alone	N	> 30 min	Ph.D	61	F	N

9.5. Appendices Certificates

9.5.1. Boston College Certificate

BOSTON COLLEGE

DEPARTMENT OF PSYCHOLOGY

June 30, 2014

To whom it may concern:

This letter certifies that Andrea Granell was a visiting scholar in my lab, the Arts and Mind Lab, at Boston College, from 18 September 2013 through 30 June 2014.

Sincerely,

Ellen Winner
Professor
Director, Arts and Mind Lab

300 MCGUINN HALL, 140 COMMONWEALTH AVENUE, CHESTNUT HILL, MA 02467
TEL: 617-552-4100 FAX: 617-552-0523 EMAIL: psychoffice@bc.edu WEB: www.bc.edu/psychology

9.5.2. Real Colegio Complutense Harvard University Certificate

REAL COLEGIO COMPLUTENSE
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RCC.HARVARD.EDU

Tel. +1 (617) 495 35 36
26 Trowbridge St. @ Harvard St.
02138 CAMBRIDGE, MA · USA

Cambridge, MA., 30 de junio de 2014

A quien pueda interesar:

José Manuel Martínez Sierra, como Director del Real Colegio Complutense at Harvard University

CERTIFICA:

Que Dña. Andrea Granell Querol está efectuando una estancia de investigación en nuestra institución como RCC *Associate* desde el 30 de Junio 2013 hasta 30 de Junio 2014 (ambos inclusive), desarrollando su proyecto sobre el siguiente tema: "Perception of Contemporary Art in Younger and Older Adults"en las Bibliotecas de Harvard University.

Y para que conste donde convenga al interesado, firmo este certificado en el lugar y fecha arriba indicados.

Cordialmente,

José Manuel Martínez Sierra
Director del Real Colegio Complutense

9.6. Appendices CD

This doctoral dissertation meets the international doctor mention requirements.

Aquesta Tesi Doctoral ha estat defensada el dia _____ d_____ de 201__

al Centre_____

de la Universitat Ramon Llull, davant el Tribunal format pels Doctors i Doctores

sotasignants, havent obtingut la qualificació:

President/a

_____

Vocal

_____

Vocal *

_____

Vocal *

_____

Secretari/ària

_____

Doctorand/a

(*): Només en el cas de tenir un tribunal de 5 membres