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THESIS:**

**MUSEUM VISITORS' SELF-EFFICACY AND INTEREST IN
CONTEMPORARY ART**

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CONTEMPORARY ART**

BY

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ABSTRACT

MUSEUM VISITORS' SELF-EFFICACY AND INTEREST IN CONTEMPORARY ART

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Contemporary art can pose a particular challenge for museum visitors to interpret, and psychological literature suggests that such challenge to self-efficacy may lower interest (Hong & Lin, 2013; Ryan & Deci, 2000; Schunk & Usher, 2008). This study sought to explore museum visitors' interpretive strategies, feelings of self-efficacy, and interest. Factors including prior knowledge, interpretation support (e.g., labels), and challenge of artwork were also considered. Results discuss suggestions for museums when displaying works that may be perceived as challenging or unapproachable. Participants included visitors to the Blanton Museum of Art and students at the University of Texas at Austin who were pre-screened for prior knowledge of museums. Sessions occurred during the fall of 2014 and included completing questionnaires while viewing three works in the contemporary galleries. Students also participated in focus groups.

Both quantitative and qualitative results confirmed predictions that interpretive self-efficacy and interest are related. Provision of labels did not show significant difference

for self-efficacy or interest, but high prior knowledge of art did show increased levels of self-efficacy. A search for meaning and aesthetic observation and preference typically drove participant interpretations; most were highly personal. With low self-efficacy, participants struggled to interpret works and even considered pieces arbitrary. However, they enjoyed being challenged to interpret the work on their own before viewing the label. Participants responded particularly well to the idea of using interactive interpretive devices as a means of building understanding for works to which they may not otherwise be drawn. Overwhelmingly, low-prior-knowledge infrequent visitors wanted clear explanations of the artist's motive for creating the work and wanted the ability to visualize or even mimic the artistic process for creating each piece. Museums striving to increase interest in contemporary art for visitors should prioritize building self-efficacy through supportive interpretive strategies.

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INTRODUCTION

Spend an hour in a typical contemporary art gallery and you are bound to hear someone question if an art object is *really* worthy of being on display. The practice is so commonplace that sociologists have even studied the concept of questioning “Is this art?” by museum visitors (Tröndle et al., 2014). Museums encourage analysis and scrutiny from their visitors, but is it always justified to this degree? Certainly the curator of the exhibition spent hours considering which objects to include and can explain at length what properties cause that work to be worthwhile to share with the public. Most art museum visitors are not art critics, and do not have extensive backgrounds in art, so why do they often hold such dismissive and unwelcoming mindsets toward contemporary works?

This question emerged while I was working as the Family & Community Programs Intern at the Blanton Museum of Art. In the museum, children offered opinions about contemporary pieces that adults glanced at and walked past without a second thought. I believed most adults and children are on the same playing field when confronted with contemporary art; assuming that neither child nor adult have heard of a specific contemporary artist before, both would be pulling from their own life experience to make sense of and relate to these pieces, or be reliant on the information provided by the museum. I wanted to investigate what it was that caused adults to be so dismissive, and my hunch was that they simply didn’t know think where to begin interpreting contemporary works.

As my research project began, I discussed my hypothesis with the museum’s Director of Education. He informed me that the museum would be re-hanging their collection in the coming

years and that information about use of labels for contemporary works would be particularly useful for the museum. Extensive instructive literature about label writing techniques and visitor reception is available to the museum world, but it does not extensively address the impact of labels on visitor interpretations in contemporary art (Serrell, 1996). I saw the opportunity to examine differences in interpretive comfort level, or self-efficacy, and interest in contemporary works based on how much information was given to a viewer in the form of a typical museum label.

I also was interested in how alternate, experiential forms of interpretation are received in relation to art. In recent decades, science and to a large extent, history institutions, have shifted presentation of information from relying wholly on didactic labels to incorporating interactive exhibits (Wilson, 2012). The *NMC 2015 Report: Museum Edition* (Johnson, Adams Becker, Estrada, & Freeman, 2015) identified increased focus on participatory experiences as one of the growing trends in museum practice and design, driven by the ease of open dialogue between the museum and its visitors through digital formats. Although technological advancements allow for convenient spaces to develop visitor engagement, analog participation opportunities were also considered to be more prevalent for museums in the future. The authors provided one example of a studio-type environment at the Center for Creative Connections at the Dallas Museum of Art, where activities are tailored toward adults and “the museum educators have learned that children are not the only ones who enjoy making and sharing their creations and reflections with others,” (Johnson, et al., 2015, p. 19). With interactive engagement foreseeably changing the way that museums have communicated in the past, the field collectively benefits from research on the reception of these new techniques.

Serrell (1996) emphasized the advantages of utilizing a range of modalities, or forms of presenting information, within an exhibition because it enables diverse individuals to access information through what she referred to as a variety of learning styles and preferences. Art museums have been slower and more selective in their adoption of interactive techniques; although there is a growing trend in utilizing interactive experiences during special events and some museums experiment with visitor art making or online content, interactive interpretation activities are not ubiquitously integrated as a feature of regular visits¹. In more traditional art museums, visitors are only overtly provided opportunities to participate if an artist's work is inherently designed for visitor interaction or during guided tours. However, there is an evident desire for more involvement from the public as shown by the popularity of these special events that museums host; even standard guided tours have found financial success for innovators like Museum Hack, a company that crafts jail-broken museum tours to provide a light-hearted, active visit experience for paying customers (Bossert, 2015).

In her book, *The Participatory Museum*, Simon (2010) argued that the distinction between experiences crafted within a traditional mindset and one from a participatory design perspective is a matter of information exchange. She stated that traditional designs emphasize providing information to visitors for their consumption, whereas participatory tactics seek to support visitor creation of content and provide a forum for that content to be shared (Simon, 2010). Essentially, she spoke to educational research paradigms which would frame visitor involvement as a co-constructive, social learning process facilitated by their environment rather than by a traditional model of imparting information. I was curious how a more collaborative learning approach

¹ Some art museums are known for their interactive approaches, however. For example, the Denver Art Museum has pushed for interactive elements under the guidance of museum educator Patterson Williams since the mid-1980s.

between the museum and visitor would be received in a context that usually employs traditional techniques, especially in reference to my focus on increasing interest in contemporary artworks by way of adding supports of self-efficacy.

RATIONALE AND DEFINITIONS

Research on interest and engagement within informal learning environments is relatively sparse, particularly in the context of interpreting contemporary art. This study borrows from formal education findings in order to identify possible factors that contribute to interest in contemporary art. Within Self Determination Theory, Ryan and Deci (2000) asserted that people are intrinsically motivated when they satisfy three basic needs: competence, autonomy, and relatedness. This study hypothesized that self-efficacy, or one's perceived capabilities for learning or performing actions (Bandura, 1977, 1997; Schunk & Usher, 2008), plays a particularly instrumental role in developing, sustaining, and holding an interest in engaging with contemporary art. Bandura's (1977, 1997) social cognitive theory divides influences on human behavior into three reciprocal groups: personal, behavioral, and social/environmental factors (Schunk & Usher, 2012). Self-efficacy, when considered to be a personal factor, reciprocally functions with behavioral and social/environmental factors. In other words, self-efficacy influences what a person will engage with, and this engagement will thus alter corresponding self-efficacy based on the feedback the person receives. For museums, this means that the personal factor of self-efficacy will influence which pieces of art a person chooses to view and to what extent. Based on this interaction, feelings of self-efficacy will reflect the experience the person had while looking at the art, which will then influence subsequent engagement with similar experiences, or looking at another artwork.

For the purposes of this study, the terms *interpretive self-efficacy* and *self-efficacy* are used interchangeably to address broadly feelings of competence while looking at and making sense of artworks. A custom self-efficacy scale for art interpretation was developed for the study and was adapted from the general self-efficacy scale by Schwarzer and Jerusalem (1995). Although *intrinsic motivation* and *interest* are not synonymous, they do bear some similarity and have a close relationship to each other. As proponents of free-choice learning environments, museums encourage visitors to spend time with, interpret, consider, view, talk about, and otherwise engage with artworks at their leisure. Without intrinsic motivation to pursue these activities, a visitor has no obligation to acknowledge a piece (Dierking & Falk, 2003; Serrell, 1996). Thus, intrinsic motivation, in the informal learning context of a museum, is highly related to interest. Furthermore, Ryan and Deci (2000) assert that as a self-determined, intrinsically regulated process, intrinsic motivation bears ties with regulatory processes such as interest, enjoyment, and inherent satisfaction.

The term *interpretation* is used throughout the study to indicate a method of explaining or understanding. Also critical to the purposes of the study is the concept of an *interpretive label*. Freeman Tilden's six principles of interpretation explain that the main aim of interpretation is to provoke rather than instruct, present a whole rather than a part, and is a revelation based upon information rather than information on its own (Serrell, 1996; Tilden & Craig, 2010). Serrell (1996) outlined an interpretive approach to labels as such:

- Label content is conceived in the context of communication goals and a big idea
- Labels are written with knowledge of the physical context and layout of the exhibition
- The development of labels requires visitor input through front end and formative evaluation

- Labels cannot be thoroughly understood unless visitors read them in the context of the whole museum visit experience (p. xiv-xi).

Labels used in this study were developed with these general considerations in mind. Although they may not adhere to all elements of Tilden and Serrell's guidelines, they offered sufficient interpretive assertions that they would be nonetheless considered interpretive for the purposes of researching self-efficacy and interest.

SELF-EFFICACY AND PRIOR KNOWLEDGE

Although prior knowledge in itself is not a contributing factor to level of self-efficacy (Bandura, 1997), an individual's *interpretation* of their prior knowledge does have weight on establishing their level of self-efficacy (Schunk & Parjares, 2009; Schunk & Usher, 2012). Likewise, these self-efficacious feelings are reciprocal; they promote thoughts and behaviors that lead to high performance (e.g., goal setting, or prolonged engagement) that in turn gives positive feedback and furthers feelings of self-efficacy (Schunk & Usher, 2012). In an art museum context, belief of high prior knowledge can be a contributing factor to an individual's self-efficacy in that environment.

Without an existing body of research on self-efficacy and prior knowledge in an art museum setting, however, the degree to which prior knowledge contributes to interpretive self-efficacy is as of yet unknown. In its place, there is some theory that prior knowledge leads to a certain degree of ability in the museum context. Bourdieu and Darbel (1991) have explored the idea that visitors possess a certain *art competence*, a construct that addresses a viewer's ability to decode and understand an inherent meaning of an artwork. They asserted that only with this understanding can the viewer truly appreciate and enjoy the work (Bourdieu & Darbel, 1991;

Tröndle et al., 2014). This ability is garnered through education and knowledge about art, or cultural capital; understandably, frequent museum visits could be a potential source of this information (Bourdieu & Darbel, 1991). However, their account does not take into consideration the myriad ways in which people engage with artworks and derive pleasure from these pieces despite not having unlocked a particular inherent meaning. Rather than consider enjoyment from the frame of a visitor's self-efficacy, the authors posit that prior knowledge leads to ability, which leads to high performance, and therefore enjoyment.

Self-efficacy and prior domain knowledge in the art realm has been investigated sparingly, but some findings do exist. Outside the museum context, Welch (1995) found that for first year student teachers and in-service teachers, high self-efficacy for teaching art was related to higher prior experience with art or art education. Likewise, another study found that a contributing factor to low art teaching self-efficacy in early teachers was a lack of quality arts education during their professional experience (Garvis & Pendergast, 2010; Garvis et al., 2011). For teaching self-efficacy, prior knowledge garnered through experience and training in the arts is crucial.

One Swiss study examined the effects of prior knowledge on one particular visitor interpretation of artworks-- whether or not a piece counted as art (Tröndle et al., 2014). Although technically speaking, an interpretation of "not art" is just as much an interpretation of "it's art," a visitor claim that a piece is simply scribbles on a wall indicates a judgment that the work does not possess the same qualities as an "official" art object (Tröndle et al., 2014). Hence, it is possible to deduce that these visitors, by stating that the work was not art, indicated low interpretive self-efficacy for the piece because they believed the work was not intended to be interpreted as a piece of art. According to the study, frequent exposure to museum environments did prove to

have a significant influence on whether or not a visitor considered a contemporary artwork to fit into the category of art, showing openness to this interpretation with more experience in a museum context (Tröndle et al., 2014). However, general education level was not found to be a significant influence on visitor judgment of contemporary art (Tröndle et al., 2014). Use of implied self-efficacy, though, is problematic, and is not the explicit driving theoretical construct used by the authors. Although general education is not influential on art/not art judgments of contemporary works (Tröndle et al., 2014), their study sets the stage to clarify the relationship between prior domain knowledge and interpretive self-efficacy in the museum context.

SELF-EFFICACY AND INTEREST DEVELOPMENT

Museums readily present opportunities for triggered situational interest, the “psychological state of interest that results from short-term changes in affective and cognitive processing” (Hidi & Renninger, 2006, p. 114). Triggered situational interest is 1) sparked by environmental features and unique learning materials, 2) typically externally supported, and 3) may precede an individual’s motivation to reengage with content again in more developed phases of interest (Hidi & Renninger, 2006).

Studies have examined the conditions under which situational interest progresses from triggered to maintained states and have found that early transitions into deeper levels of interest are often dependent on external support (Hidi & Renninger, 2006). In museums, external support may take the form of interpretive labels, guided tours, interactive devices, and supplemental materials. Furthermore, studies have articulated the shift in feelings of self-efficacy across interest development; low self-efficacy found in states of triggered situational interest contrast with the high levels of self-efficacy prevalent in emerging situational interest (Lipstein & Renninger,

2006). However, researchers have not extensively examined whether increased feelings of self-efficacy during triggered situational interest can facilitate maintained situational interest.

Although this study likewise did not address the distinction between triggered situational interest and the movement to maintained situational interest in regards to self-efficacy, it did aim to determine how feelings of self-efficacy correspond with interest in contemporary art in an environment likely to trigger situational interest. Likewise, Self Determination Theory establishes a clear connection between self-efficacy and interest; perceived competence is an underlying component which directly supports intrinsic motivation (Ryan & Deci, 2000). The similar constructs of self-efficacy and perceived competence thus are closely joined with self-regulated interest.

SELF- EFFICACY, ENGAGEMENT, AND INVOLVEMENT IN MUSEUMS

Tracing the shift of collections-centered to experience-centered institutions shows an emerging emphasis on visitor engagement. Among museum staff, *engagement* broadly refers to the degree of focus, interaction, attention, and interplay a visitor has with a particular element. Within museum research, engagement has only recently acquired a proposed, theoretical definition (Jun & Lee, 2014). Jun and Lee (2014) presented four types of dialogic engagement and co-creation within museum environments: dialogue with *others* (free and familiar interaction), *self* (creative expression), *context* (exploring interrelationships), and *principle* (critical reflection). In free-choice learning environments, research often focuses on preference for particular styles of engagement; for example, Falk's (2011) motivational identities which categorizes visitors as explorer, experience seeker, recharger, professional/hobbyist, or facilitator based on the purpose for their visit. Within art museums, researchers from Randi Korn and Associates (2008) introduced the Framework for Engaging with Art, which considers art museum visitors within

typologies based on preferences for viewing works of art. These typologies are based on clusters formed in response to questions regarding an individual's comfort level looking at and discussing works, emotional response, interest in the back story or meaning for a work, curiosity surrounding materials and techniques used to create a work, the desire for straightforward insights to guide interpretation or unmediated viewing experience, enjoyment of performance-style connections to a work, and familiarity with art terminology. These frameworks are useful for conceptualizing museum visitation and visitor practices, though neither explicitly draws from established psychological research in order to define connections between larger constructs, i.e., self-efficacy, interest, and motivation.

One study conducted at five science museums does begin to examine museum learning and engagement with constructs common to educational psychology. Lewalter, Geyer, and Neubauer (2014) found that self-efficacy has strong predictive power on self-perceived levels of learning regarding nanotechnology content, whether their interaction with content was self-led by personal inquiry or led by a more formal presentation. The authors say that "besides situational factors, motivational and cognitive prerequisites of the visitors are important predictors for the start and level of the communication." (Lewalter, Geyer, & Neubauer, 2014, p. 172). Here, engagement was largely dependent on personal factors.

Engagement could be more deeply understood in relation to self-efficacy, interest, and motivation utilizing the specific construct of involvement, a sub-type of engagement as defined in the educational psychology literature (Reed, Schallert, & Deithloff, 2002). In education, low levels of self-efficacy have been found to be correlated with lower levels of involvement in several studies (Hong & Lin, 2013; Wang & Kennedy-Phillips, 2013). However, like the broad range of activities that constitute museum engagement, these studies also defined involvement in

disparate ways. Furthermore, they examined involvement over the course of extended periods of time. By defining involvement as a psychological state, as opposed to a sequence of habits or practices over the course time, psychological engagement can be reported on an artwork by artwork basis for viewers (Reed, Schallert, & Deithloff, 2002). Examining psychological involvement at museums rather than particular behaviors to indicate engagement allows for researchers to observe differences in response to a variety of interpretation techniques for one artwork, across visitor engagement typologies.

Art museum educators are also aware of this psychological nature of involvement, yet struggle to facilitate this form of engagement with visitors who associate engagement with a more physical interaction. Museum educator Patterson Williams (1982) explained this common conception.

When people compare going to the zoo or a push-button science museum with going to an art museum, they often complain, “But what’s there to do at the art museum?” This kind of question reflects a doubt that there is anything personally involving, or significant, that can occur when encountering art objects. It also reflects contemporary association of physical activity (doing something) with involvement. The involvement possible in encounters with art objects is of a contemplative nature. The activity possible in such encounters is of an interior nature involving, not physical, but mental and emotional activity.

Although my study did not record involvement directly, it did utilize these operationalized distinctions to clarify the relationship between psychological involvement and more general engagement. With transparency in regards to what processes engagement encompasses, museums may be better able to identify and maximize their impacts for visitors.

RESEARCH QUESTIONS

In consideration of contributing to the emerging base of research on interest, engagement, and self-efficacy in art in the context of museums, I addressed the following research questions:

1. How do feelings of self-efficacy influence visitor engagement with and interest in contemporary art?

In the field of formal education, examinations of self-efficacy in relation to art did not focus on engagement or interest (Garvis & Pendergast, 2010; Garvis et al., 2011; Welch, 1995). Within art museums, Randi Korn and Associates' (2008) Framework for Engaging with Art profiled visitors in terms of affinity toward certain art museum interpretive techniques and strategies, yet did not address self-efficacy, engagement, or interest on a holistic level.

2. How does the presence or absence of labels relate to self-efficacy, involvement and interest in contemporary art?

While existing literature emphasizes the benefits of a label as a means for communicating directly with a visitor in support of self-motivated learning (Serrell, 1996; Tilden & Craig, 2010), no studies have examined the process of using a label in relation to self-efficacy, interest, and involvement in the context of contemporary art.

3. What are common attitudes toward interactive museum experiences among individuals without extensive art background knowledge?

Evidence shows ties between perceptions of prior knowledge and self-efficacy (Garvis & Pendergast, 2010; Garvis et al., 2011; Schunk & Parjares, 2009; Schunk & Usher, 2012; Welch,

1995), and self-efficacy and subsequent involvement (Hong & Lin, 2013; Wang & Kennedy-Phillips, 2013) in formal educational contexts; for museums, Serrell (1996) discussed the importance of a variety of modalities to engage a wide audience, and Williams (1982) and Simon (2010) each argue for psychological involvement and active participation respectively.

These questions were large and all encompassing. My decision to utilize a mixed-methods framework was due to the variety of intents I had in creating this study. First, I wanted to add to the body of literature on self-efficacy and interest by broadening the scope of settings and contexts in which the constructs have been researched. Comparing quantitative self-efficacy and interest scores between groups of individuals allowed clear-cut, general, and broadly transferrable findings. Likewise, crafting a set of custom scales for self-efficacy and interest in an art interpretation context could lead to broader transfer of these concepts into the realm of art education. Second, I hoped to garner more understanding about these constructs in relation to common and emerging interpretive modalities used in art museums, particularly for infrequent museum visitors. For added understanding of visitor responses to informal education tactics and techniques, a qualitative approach was most appropriate. The result is a both broad investigation of self-efficacy and interest in contemporary art and a focused test of the hypothesis that having added information, either in the form of a label or in existing high background knowledge, significantly improves feelings of self-efficacy and interest in contemporary art.

METHOD

PARTICIPANTS

The study was divided into two sets of participants in order to compare differences in self-efficacy and interest. One set of participants were recruited within the museum because these participants were likely to have greater feelings of interest and stronger self-efficacy in an art museum setting than the general public. The second set of participants were recruited using the University of Texas Educational Psychology Subject Pool in order to represent those who might not regularly visit a museum or are unlikely to engage frequently with contemporary art. Participants were required to be 18 years old and older.

Set A: Museum Visitors

The target population was visitors who already attend the Blanton Museum of Art. These participants were recruited on regular weekend days and were intercepted as they approached the gallery in which the study took place.

Set B: Focus Group Students

Focus group participants were representative of those who may not regularly visit museums and were recruited using the University of Texas Educational Psychology Subject Pool. These students were pre-screened to ensure they had little background in visual arts and a low frequency of engaging with contemporary art. Subject pool members were excluded from the study if they reported viewing contemporary art more than three times in the last year or if they self-reported neutral, agree, or strongly agree to either of two statements: "I have a formal

education background in visual arts (I have studied studio art, art history, design, photography, graphic design, etc.)” or “I am a practicing visual artist, either by profession or by hobby”.

Table 1. Subject pool participant pre-screen responses

Question	Response Option	Freq.	%
How many times in the last year have you viewed Contemporary art (in a museum, gallery, showing, art auction, etc.)?	1-3 viewings	48	65.8
	Never	25	34.2
I have a formal education background in visual arts (I have studied studio art, art history, design, photography, graphic design, etc.)	Disagree	34	46.6
	Strongly Disagree	39	53.4
I am a practicing visual artist, either by profession or by hobby.	Disagree	18	24.7
	Strongly Disagree	55	75.3

Subject pool participants also completed demographic items in order to be included in any study for the University. Eighty-six percent of the subject pool was within the typical undergraduate student age range of 18-22 years old. There were fewer freshman and sophomore underclassmen (20.5%) than juniors (26.0%) and seniors (45.2%). Over half of the sample was White (57.5%), 16.4% was Asian-American or Pacific Islander, 13.7% was Latino, Chicano or Hispanic, and 4.1% was African-American or Black. Another 4.1% indicated they were multi-ethnic, and only one person (1.4% each) said they were Middle-Eastern/Arab-American, Other, or preferred not to answer.

Demographic data for museum visitor participants was not acquired; however, a national study by Reach Advisors (2010a, 2010b) collected demographic information for 8,354 visitors at 19 art museums across the United States. They reported 65% of art museum visitors were over the age of 50 and that visitors to art museums have the highest education level of all museum types, with 86% completing at least a college degree. Ethnically, art museums were less diverse than the overall sample, with 92% of respondents identifying as White. The subject pool participants

included in this study were meant to provide voice for groups who do not regularly visit museums. Based on national demographic information, subject pool members were much younger and more diverse than typical art museum visitors.

GROUP ASSIGNMENT

Each individual from these two participant groups was randomly assigned to a label treatment group or control group with no labels. For both groups, random assignment was controlled so as to result in equal groups. In the visitor group, this meant that for each day of data collection, I split my time in half. The first day, the first half of the 4-hour shift was spent gathering label participants. After two hours, the assignment switched to control for the following set of participants during the second half. The next session began the first half of the shift with either Label or Control, depending on which was behind in number of participants. Although not an ideal form of assignment for study design, this technique took into consideration the practicality of applying or removing label covers on three artworks for each participant and worked to minimize disruption as much as possible for non-participants within the museum environment. Furthermore, because waves of participants came through at unpredictable times, I used the group with the lowest starting number at the beginning of the day to ensure that group assignment remained relatively equal throughout the study.

For subject pool participants, group assignment was assigned in advance of the study meeting time and based on anticipated attendance. Again, this choice was not ideal, but it did allow subject pool members to discuss their experience as a group immediately following their visit during the focus group. Group assignment depended on whether or not the previous session's participants had adequately balanced the assignments, since many did not appear for their

assigned study time. Therefore group assignment could change as close to 10 minutes before a study if it was determined that one group was much smaller than the other group at that point in time.

Table 2. Participant breakdown by group assignment

Total Participants Initial N= 160 Adjusted N=136	Label Initial N=81 Adjusted N=65	Control Initial N=79 Adjusted N=71
Set A: Museum Visitors Initial N=89 Adjusted N=73	Initial N=46 Adjusted N=35	Initial N=43 Adjusted N=38
Set B: Subject Pool Initial N=71 Adjusted N=63	Initial N=35 Adjusted N=30	Initial N=36 Adjusted N=33

*adjusted N is a result of incomplete quantitative data on the three main personal response measures.

RECRUITMENT

Set A: Museum Visitors

Museum visitors were recruited as they crossed the threshold to the Meredith Family E-Lounge in the Blanton Museum of Art. The first person who entered the room was approached with the phrase, “Would you participate in a research study to help museums?” After working with the participant and once I had returned to the interception spot, I resumed asking the first person who entered the room to participate. I estimate that the refusal rate was 20%, or about one for every five visitors asked; however, I did not record refusals.

Table 3. Museum attendance numbers and percentage participating in study

Visitor Group	Day	Total Museum Attendance	Participants	%
V1	Fri., October 10, 2014	418	7	2%
V2	Sat., October 11, 2014	339	17	5%
V3	Sun., October 12, 2014	255	12	5%
V4	Fri., October 24, 2014	530	11	2%
V5	Sat., October 25, 2014	477	15	3%
V6	Sun., October 26, 2014	262	8	3%
V7	Sat., November 01, 2014	181	9	5%
V8	Sun., November 02, 2014	172	10	6%
Total		2634	89	3%
			Average %	4%

Set B: Focus Group Participants

Focus group participants were able to sign up for the study if they qualified based on their responses to the prescreening questions (Appendix A). Focus group participants met the researcher in the lobby of the Blanton during the time slot they had selected.

STUDY LOCATION AND TIMELINE

The study took place in two University of Texas at Austin buildings. Those in the visitor set spent time in the Sussman Gallery of the Blanton Museum of Art while participating in the study. Participants from the Subject Pool also began in the same gallery of the museum but then traveled by foot to the Jorge P. Sanchez Building to participate in a focus group interview following the gallery portion.

Data collection began on October 8, 2014 and continued through November 14, 2014. Visitor data collection occurred on Fridays, Saturdays, and Sundays in order to take advantage of high-

traffic days in the galleries. Focus group sessions were available at a variety of times and days throughout the week.

Obtaining Informed Consent

Museum Visitors received a consent form that did not discuss recording or their participation in a focus group. Focus Group Participants received a consent form asking for their consent to be audio recorded and for their participation in the experiment and the focus group. This is the only location where participants' names were recorded, and consent forms were immediately stored separately from any data in order to ensure the names could not be tied to responses. Participants were assigned a number that was included at the top of their study materials and used to reference them in the focus group recordings.

Compensation

Museum visitor participants were not compensated. I provided a business card to those individuals who requested to learn more about the study's findings. Because focus group participants were recruited through the Educational Psychology Subject Pool, they were entitled to receive 1.5 hours of study participation credit as required by their course. If a participant failed to attend the study, no credit was assigned.

Risks

There were no known risks for participating in the study beyond possible apprehension associated with speaking with me and other participants about perceptions of contemporary art during the focus group. Throughout the discussion, I repeated frequently that there are no wrong ways to experience art, and that all views were welcomed and encouraged. Visitors who

encountered the three study artworks without labels were provided access to the label text following their completion of the study in an adjacent gallery space. Focus group participants without label access in the gallery read the label text during the focus group meeting. Participants were allowed to discontinue their participation at any time; none did so.

MATERIALS

Works in the Sussman Gallery were made available for use in this study via my personal connections with staff at the Blanton Museum of Art. These connections were forged over the course of a one-year internship with the Blanton Museum of Art's Education Department. Admission to the museum was not compensated because those asked to participate either came to the museum of their own volition (and had already been to the admission desk by the time I approached them about the study) or they were University of Texas students, which entitled them to free museum admission. Supplies such as painter's tape to mark the floor beneath artworks included in the study, paper to cover labels, clipboards, pencils, and paper for the survey were supplied by me, and an audio recorder and meeting space for focus groups was made available through the University. Transcriptions were done by hand using Inqscribe and Listen N Write Free. Analyses were conducted using Excel and SPSS statistical software.

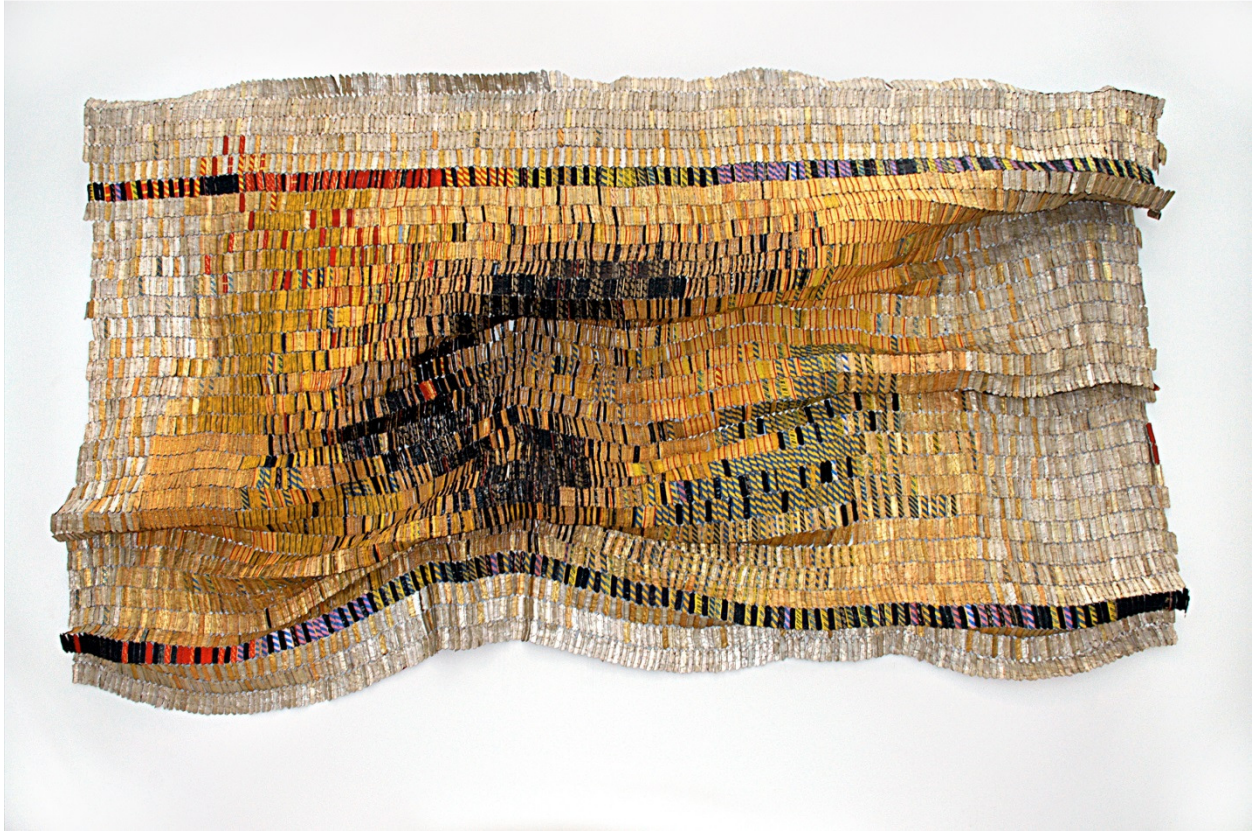
ARTWORKS AND LABEL TEXT

Artworks were selected based on several criteria. First, I wanted to choose three artworks in the same gallery for ease of data collection and observation of participants. Second, because artworks rotate on a somewhat regular basis, I selected works that were confirmed by the Blanton Curatorial Assistant of Modern and Contemporary art to remain in the gallery

throughout the time frame of the study. Last, I consulted the Curatorial Assistant and Gallery Assistants for their input on typical visitor response to particular pieces. I hoped to include one work that is typically favored and seems easy to connect with (artwork A), one that is attention grabbing yet does not seem as simple and straightforward (artwork C), and one that frequently evokes frustration and resists a quick answer (artwork B). The Blanton's Curatorial Assistant for Contemporary Art and several gallery assistants confirmed that these were common visitor responses to the selected works. All artwork images, photographs, label text, and concepts presented were used with permission from Blanton Museum staff.

Figure 1. Artwork A

Artwork A:



Blanton Museum of Art Label Text (Fall 2014)

El Anatsui

Born Anyako, Ghana, 1944; active in Kumasi, Ghana, 1965–1969;

Winneba, Ghana, 1969–1975; Nsukka, Nigeria, 1975–present

Seepage, 2007

Aluminum and copper wire

Promised gift of Jeanne and Michael Klein, PG2009.1

Anatsui celebrates the beauty and possibility found in everyday materials. After flattening the aluminum wrappers from local Nigerian-brand liquor bottles and folding their edges, the artist and his team of assistants use copper wire to tie the small strips of metal together. The time-intensive process transforms what would otherwise be discarded materials into undulating and reflective hanging sculptures. Echoing the patterns of kente cloth—a Ghanaian fabric used for religious and ceremonial occasions and made by male weavers such as Anatsui’s father and brother—the work links traditional and modern African life. *Seepage* references the historical importance of alcohol in Africa, where it was an imported product exchanged by colonial traders for ivory, gold, and slaves. Further, the large volume of wrappers necessary for a sculpture of this scale suggests the high rate of alcohol production and consumption faced in modern Africa and throughout the developing world.

Figure 2. Artwork B

Artwork B: *2244 Módulos* by Isabel Del Río

Interpretation challenge level: Difficult



Blanton Museum of Art Label Text (Fall 2014)

Isabel Del Río

Born Santiago, Chile, 1956; active in Santiago

2244 Módulos [2244 Modules], 1997

2500 plaster bricks

Gift of the artist, 2005.197

In *2244 Modules*, Del Río physically registers the passage of time. Over a period of six months, she tasked herself with making several one-inch thick plaster tablets every day. The number of units completed daily varied according to how much time the artist had available to create them. Del Río's efforts resulted in 2244 tablets, each stamped with the date it was produced and organized into stacks recording each day's labor. The hours spent in apparently mindless repetition suggest a futile obsession and a desire to find a rational order, a desire with special resonance in post-dictatorship Chile. Although at first glance *2244 Modules* may recall a precise and mathematical minimalist sculpture, the handmade quality of the tablets and the obsessive nature of the project suggest a more existential and personal concern.

Figure 3. Artwork C

Artwork C: *Sternenfall* by Anselm Kiefer

Interpretation challenge level: Medium



Blanton Museum of Art Label Text (Fall 2014)

Anselm Kiefer

Sternenfall [Falling Stars], 1998

Mixed media on panel

Gift of Mr. and Mrs. Thomas B. Martin, Jr.

Born 1945, Donaueschingen, Germany; 1966-69, Freiburg; 1969-70, Karlsruhe; 1970-72, Düsseldorf; 1972-92, Hornbach, Germany; 1992-present, Barjac, France (with extensive travels to Europe, US, Asia, and Middle East)

Over the past three decades, Kiefer's reflections on myth and history, culture and nature, as well as our conflicted perceptions of memory and morality have had a significant impact on artists and audiences across the globe. Like much of Kiefer's work, *Sternenfall* is at once an extremely tactile object and a representation of intangible, philosophical ideas. Its encrusted surface resembles a close-up view of the earth, while the painted outlines of constellations and references to astronomical numbering systems powerfully evoke the infinite space of the cosmos.

EXAMPLE ACTIVITY

During the focus group, I also showed participants a slideshow with images of an interpretive hands-on activity and asked for their opinions. The activity was developed by the Family & Community Programs department at the Blanton Museum of Art for the Explore UT event in April 2014, and all images were provided by museum staff. Below are the images of the slides the focus group discussed.

Figure 4. Slides for example activity

Slide 1:

Charting Time

How do you really spend your time? The answer may surprise you!



Isabel del Rio, 2244 Módulos [2244 Modules], 1997

Slide 2:

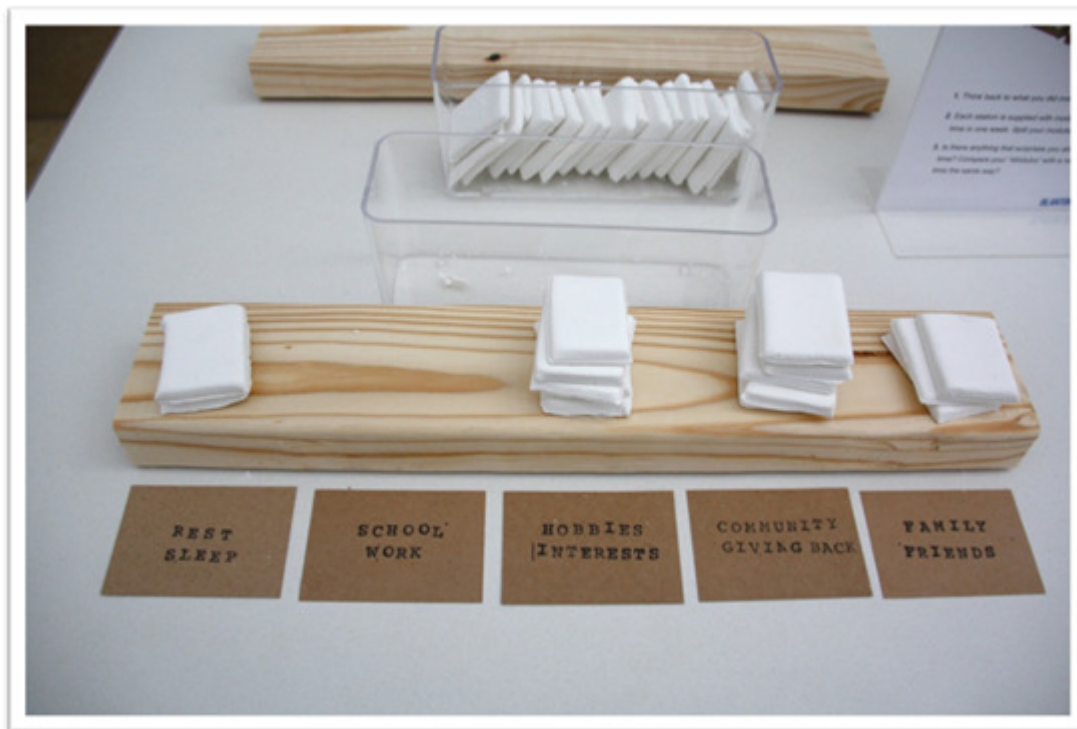
Charting Time

How do you really spend your time? The answer may surprise you!

1. Think back to what you did over the last week.
2. Each station is supplied with 16 modules to represent the amount of time in one week. Split your modules between the categories listed.
3. Is there anything that surprises you about the way your spent your time? Compare your "16 Módulos" with a neighbor. Did you spend your time the same way?

BLANTON MUSEUM OF ART

Slide 3:



MEASURES

John Falk's visitor motivation identity cards (2008) were printed and administered according to the original protocol. These cards appeared unaltered in order to maintain fidelity with the original instrument (see Appendix B). These data, although collected, were not used in this report.

All other study measures were designed specifically for this project. Select contemporary art background questions created by Granell, Segura, and Winner (2014) were used to divide visitors based on prior knowledge and experience in a museum setting. The General Self-Efficacy scale by Schwarzer and Jerusalem (1995) was the main basis for the interpretive self-efficacy measure used in this study, with questions adapted to fit the study's particular research questions and context. A recent study with 19,120 respondents from 25 countries found internal consistency of the General Self-Efficacy Scale to be $\alpha=.86$ and the United States sub-sample of 1,594 participants showed internal consistency of $\alpha=.87$ (Scholz et al., 2002). Two unique scales, Art Interpretation Self-Efficacy and Art Interest, were developed for this study and are included in Appendix F. As an exploratory study, use of custom scales is acceptable; further refinement based on their psychometric properties is necessary in future work.

Both self-efficacy and interest scales were deemed to have sufficiently acceptable internal consistency for research purposes (Cronbach's $\alpha_{\text{Self-Efficacy}}=0.698$, Cronbach's $\alpha_{\text{Interest}}=0.843$).

Detailed reliability information for each of the three artworks viewed is provided in Table 4:

Table 4. Scale reliabilities for each artwork

Artwork	Psychological Phenomena	N	Cronbach's Alpha	N of Items
A	Self-Efficacy	136	.692	5
	Interest	136	.789	5
B	Self-Efficacy	136	.727	5
	Interest	136	.848	5
C	Self-Efficacy	136	.648	5
	Interest	136	.847	5
All	Self-Efficacy	408	.698	5
	Interest	408	.843	5

Within the questionnaire, participants were also asked to select their preference for how museums could present ideas about art from a list of 16 various interpretive strategies. These options were largely adapted from categories described by Wikening and Chung (2009) in a study that surveyed interpretation preferences with living history museum visitors. Some options have been added, eliminated, or adjusted to reflect contemporary art appropriate interpretation methods. See Appendix E for specific questions.

Cleaning the Data

Several items and measures were useful in determining whether museum visitors had followed directions. Occasionally, a participant did not address the correct artwork, as evidenced by their written description to open ended items in the questionnaire. For example, words like *car paint*, *cowboy*, and *glowing* clearly fit with a different artwork nearby in the museum space, but not logically with any of the pieces included in the study. My research assistant and I made note of these seemingly unrelated descriptors or responses and used them as a basis to remove the case from the study.

Other measures were excluded due to lack of reliability in data collection methods. Time spent in gallery, number of works viewed, and read optional labels were excluded due to consistent and frequent misunderstanding of directions. Participants were asked to view all three required works, then any optional additional works in that space they would like to see, and then to return to the researcher after a completed viewing in the gallery. The researcher noticed that many left the gallery to see works in adjoining rooms or viewed only the required works and then returned to the gallery after completing the study. When asked “How many works did you view?” many replied with “All of them, but I just glanced,” which further complicated the measure. It was unclear if a glance while walking past should be included as seeing the artwork.

PROCEDURES

SET A: MUSEUM VISITOR PARTICIPANTS

In-museum participants were intercepted and recruited at the entrance to the Meredith Family E-Lounge at the Blanton Museum of Art. They were provided a baseline questionnaire made up of John Falk’s visitor motivation identity card sort (not used in this study), an adaptation of Schwarzer and Jerusalem’s (1996) General Self-Efficacy scale, and scales designed particularly for this project found on the “pre” questionnaire (see Appendix). Participants were pre-assigned to either the label group or the no-label group and briefed on the remaining procedures.

Both Groups

Participants were timed while in the Sussman Gallery and asked to spend as little or as much time with the works as they wished. They were required to approach three specified artworks (either with or without labels) as designated with tape markings in the shape of letters on the

floor. At each of these three works, participants filled out a personal response measure (see Appendix D) that consists of questions particularly crafted for this study (also adapted from the General Self-Efficacy scale by Schwarzer & Jerusalem, 1996). When participants finished experiencing the gallery, they were asked to return their three personal response measures and fill out a final questionnaire, with questions tailored to address participation preferences and particular methods they used to engage with the works.

No-Label Control Group

For this group, I covered the labels on the three specified works of art. After completing their final questionnaire, I offered the participants the labels on a piece of paper.

Label Group

Participants were asked to read the labels of the three specified works of art before filling out the personal response questionnaire.

SET B: FOCUS GROUP PARTICIPANTS

The study also featured a focus group with participants from the University of Texas Educational Psychology student subject pool. Focus group participants were pre-screened to eliminate those with extensive contemporary art familiarity (see Appendix A). Those selected had not recently visited contemporary art showings, had little formal educational background in the visual arts, and did not consider themselves visual artists (see participant demographics for focus group participant makeup).

Focus group members followed the same process as the participants in the visitor interception set, with a few minor differences. The first was that Falk Motivational Identities were not assessed during the initial questionnaire because their visit was an assignment for a class. Because visiting the museum was not entirely out of choice, this measure would not accurately describe their motivation for coming to the museum. The second difference is that each focus group member participated with up to seven other participants at the same time. They received the same label/control assignment as the other members of the group due to facility and time considerations. I also restricted focus group members to a maximum of 20 minutes in the gallery, though a strict time limit was not imposed. The final and most major difference was the addition of a focus group interview in the University's College of Education Sanchez Building at the end of the museum visit. Participants were asked questions concentrated on their preferences in the gallery, their use or lack of label use, their feelings of self-efficacy, and other possible ways to engage with Contemporary art. I conducted and audio recorded all focus group sessions.

Below are the questions posed during the focus groups in sequential order:

1. What did you think of the art you saw in the Museum today? (go through each of the three required pieces, and other works as well)
2. When you were looking at the art, how important were the labels to you?
3. For Control group only: How did not having labels influence your experience with the three required pieces? [provide label text] What do you think about those pieces now? Do you still have any questions about the piece that the label didn't answer for you?

4. What purpose do labels serve? What kind of information do you think should be on a label?
5. Imagine that next to *2244 Módulos* by Isabel del Rio there was a station where you could stack clay slabs to show how you allocated your time in the last week [show slides for interpretive activity and read directions aloud]. Would you participate in this activity? What would you get from this experience?
6. What do you think that museums can do to make Contemporary art more interesting for people who haven't studied it in school and are not artists?
7. If you were going to choose to go to a museum, what would you hope to find inside? Would you go alone or with someone else?

QUANTITATIVE ANALYSIS METHODOLOGY

Data were entered into Qualtrics survey software by me and two assistants directly following data collection. Research assistants noted any missing data, illegible handwriting, and potential procedural errors in a spreadsheet as data entry was underway. We cleaned the data stemming from this spreadsheet.

EXCLUSIONS OR ADJUSTMENTS TO THE DATA

Of all respondents, 25 were missing one or more responses to scaled items on the survey. These participants were dropped from the quantitative analysis. Other respondents were also missing responses to open ended questions. Because these particular qualitative data are not being addressed in this report, these participants' responses to scales remained included in the analysis.

One museum visitor participant was assigned to the label group, but filled out the personal response sheets before reading the labels. This participant was re-grouped into the control group due to the lack of following study directions.

In analyses that compare low versus high prior knowledge, two participants (V5.6, V1.6) were dropped due to incomplete prior knowledge scores.

ANALYSIS PROCEDURES

After cleaning the data, items that required reverse coding were flipped and adjusted. Then, mean scores on all self-efficacy and all interest scale items were calculated for each individual. Likewise, individual mean scores for self-efficacy and interest were calculated for each artwork.

Individuals were also sorted into a high or low prior knowledge group based on responses to prerequisite questions regarding art visitation practices. These four items asked participants to self-report number of contemporary art viewings, number of visits to an art museum, whether they identified as an artist, and the extent of background they had in formal art training. Each item was scored on a 1-5, scale, and then averaged across items to give each individual a prior knowledge score. The neutral score of 3 and above were sorted into high, and those who fell below 3 were sorted into low prior knowledge.

Table 5. Prior knowledge distribution by group assignment

Prior Knowledge	Label	Control
Low Prior Knowledge N=114	N=52	N=62
High Prior Knowledge N=20	N=12	N=8

All 63 focus group participants were sorted into the low prior knowledge group, which demonstrates the effectiveness of the prescreening questions. For museum visitors, 20 were considered high prior knowledge (28%) and 51 were considered low prior knowledge (72%).

Several analyses were run using SPSS, including:

- Reliability analysis
- One-sample T-test between self-efficacy and interest
- Pearson's correlation for self-efficacy and interest
- Regression between self-efficacy and interest
- ANOVA for label or control and self-efficacy
- ANOVA for label or control and interest
- ANOVA for label or control and artwork means for self-efficacy
- ANOVA for label or control and artwork means for interest
- ANOVA for label or control and artwork means for self-efficacy with low prior knowledge, subject pool participants only
- 2x3 ANOVA for label or control and artwork means for interest, with low prior knowledge, subject pool participants only
- Random selection of 20 low prior knowledge visitors to create comparison subsample of high and low prior knowledge visitors (Excel was used to generate random numbers)
- ANOVA for high or low prior knowledge and self-efficacy
- ANOVA for high or low prior knowledge and interest
- 2x3 ANOVA for high or low prior knowledge and artwork means for self-efficacy
- 2x3 ANOVA for high or low prior knowledge and artwork means for interest

- 2x3 ANOVA for visitor or subject pool participant and artwork means for self-efficacy
- 2x3 ANOVA for visitor or subject pool participant and artwork means for interest

An alpha level of .05 was used for all statistical tests.

QUALITATIVE METHODOLOGY

All qualitative data reported here were gathered from the 16 focus groups conducted with subject pool participants.

EXCLUSIONS OR ADJUSTMENTS TO THE DATA

One focus group recording was not transcribed due to content. This group (FG3) had only one participant who reported that she found the museum visit very exciting and had been planning to visit the museum for fun on her own. As she left the study, she asked to be contacted by email in the case any additional studies needed to be conducted related to art viewing at the Blanton Museum. After listening to the audio clip, I determined that this interview did not address the concepts from the perspective of a low background visitor. I decided not to transcribe the recording or include the participant for lack of adherence with the intended purpose of the focus group.

PROCESS

My two research assistants² and I transcribed focus group recordings and analyzed the transcripts using thematic analysis and open coding. After listening to and transcribing two focus groups, I developed an excel sheet broken up into the following categories based loosely on the structure

² Both research assistants were undergraduate students in the School of Social Work, receiving internship credit for their involvement with the project. Neither had extensive prior museum or art experience.

of the focus group questions and anticipated information gathered: Personal Response, Questions and Information Sought, Response to Label, Label Practice, Interactive Activity, Suggestions for Increased Interest, and Museum Practice. Transcribers coded key statements and explanatory quotes into these categories for focus groups FG1-FG8, FG10, FG11, FG13, and FG14. For focus groups FG 9, FG12, FG15, and FG16, my assistants and I used an abbreviated note-taking process while listening to the audio file and transcribed any unique or particularly well-phrased concepts that arose.

Within these main categories, certain codes were developed based on frequent occurrences during FG1-FG8. In addition to conferring between research team members about common concepts that arose, I kept notes on particularly revealing themes and quotes that stood out in order to inform the emerging coding system. This notes system helped to refine codes that were used as a basis for the second step of analysis.

In the second step for the qualitative component, my research assistants and I cross-coded quotes pulled from the transcriptions. For each category listed above, the three research team members received a set of quotes from a focus group that they had not transcribed and sorted them into the established codes that were created with my listening notes. If quotes did not fall into the established code categories, a new code was created and indicated in a separate column. Team members established a new code dictionary, with which the group came to a consensus on newly established elements and examples of these occurrences. Once all statements had been coded, individual researcher's coding documents were combined for each of the seven established categories. Frequencies of codes were summed for all focus groups. Sums were not intended to be all-encompassing frequency counts, but rather were used as guidance to help me know what had been discussed most in the focus groups.

Finally, codes were assessed to pull common themes and associations and to add nuance and multiple perspectives to the topics discussed. This assessment process took place during the writing of the Results section, so each topic was carefully considered and examined from all presented angles. Here, I consulted with one of the research assistants to ensure that results accurately reflected discussions and perspectives shared throughout the focus groups and to minimize any potential researcher bias.

RESULTS: QUANTITATIVE

SELF-EFFICACY AND INTEREST RELATIONSHIP: FULL SAMPLE (VISITORS AND SUBJECT POOL)

The relationship between self-efficacy and interest was tested for all participants (N=136) by running a Pearson's Correlation. A significant, moderate correlation was found, with a value of $r=0.402$ ($p<0.01$, two-tailed).

LABEL VS CONTROL: FULL SAMPLE (VISITORS AND SUBJECT POOL)

In order to test the hypothesis that added information in the form of a descriptive label would help increase self-efficacy, and therefore interest, an ANOVA was run for label ($n=65$) versus control ($n=71$) with mean self-efficacy as dependent measure for all participants (N=136). The outcome was not significant ($F=2.898$, $p=0.091$). Another ANOVA was conducted for label versus control with mean interest as dependent measure. The outcome was not significant ($F=0.004$, $p=0.947$)

In order to garner more detail, ANOVAs were tested for label and control, with self-efficacy means and interest means for each of the three artworks. However, none of the tests proved significant.

Table 6. Test of label and control on self-efficacy for full sample

Artwork	F	p value
A_SEMean	2.556	.112
B_SEMean	3.318	.071
C_SEMean	.693	.407

Table 7. Test of label and control on interest for full sample

Artwork	F	p value
A_Interest Mean	.682	.112
B_Interest Mean	.008	.927
C_Interest Mean	.588	.445

Although self-efficacy and interest means were consistently slightly higher for label groups, this was not significant finding.

Table 8. Descriptive statistics for self-efficacy and interest for each artwork

Artwork	LorC	Mean	Std. Deviation	N	
A Low Challenge	Self-Efficacy	Label	3.31	.65	65
		Control	3.13	.67	71
		Total	3.22	.66	136
	Interest	Label	3.94	.59	65
		Control	3.84	.72	71
		Total	3.89	.66	136
B High Challenge	Self-Efficacy	Label	3.14	.72	65
		Control	2.91	.76	71
		Total	3.02	.75	136
	Interest	Label	3.39	.83	65
		Control	3.38	.89	71
		Total	3.39	.86	136
C Moderate Challenge	Self-Efficacy	Label	3.25	.63	65
		Control	3.17	.58	71
		Total	3.21	.60	136
	Interest	Label	3.86	.67	65
		Control	3.95	.66	71
		Total	3.91	.67	136

PRIOR KNOWLEDGE

Prior knowledge was another variable tested for its impact on self-efficacy and interest when interpreting contemporary art. The following analyses address the effects of prior knowledge when interpreting contemporary art.

Low—Subject Pool Only

To examine effects of label support for self-efficacy and interest on individuals with low prior knowledge, subject pool participants responses were analyzed as a subsample (n=63; label n=30; control n=33). Because only subject pool participants were pre-screened for prior knowledge, their subsample had a balanced label/control assignment and fewer individual differences than if the low-prior knowledge visitors were included in the analysis.

In order to test if a label's effect on self-efficacy and interest was significant for individuals with low incoming prior knowledge, two 2x3 ANOVAs were conducted. The first examined label or control and individual means of self-efficacy for each artwork. The results were not significant, indicating that for low prior knowledge individuals, having a label does not significantly increase interpretive self-efficacy.

Table 9. Test of label and control on self-efficacy for low prior knowledge subject pool

Artwork	F	p value
A_SEMean	3.413	.70
B_SEMean	.652	.422
C_SEMean	.404	.527

The 2x3 ANOVA for label or control and individual means of interest for each artwork also produced results which were not significant, indicating that for low prior knowledge individuals, having a label does not significantly increase interest.

Table 10. Test of label and control on interest for low prior knowledge subject pool

Artwork	F	p value
A_Interest Mean	1.091	.300
B_Interest Mean	.225	.637
C_Interest Mean	1.627	.207

Table 11. Descriptive statistics for low prior knowledge subject pool

Artwork	LorC	Mean	Std. Deviation	N	
A Low Challenge	Self-Efficacy	Label	3.21	.71	30
		Control	2.88	.73	33
		Total	3.04	.73	63
	Interest	Label	3.94	.56	30
		Control	3.81	.56	33
		Total	3.88	.58	63
B High Challenge	Self-Efficacy	Label	2.87	.72	30
		Control	2.72	.83	33
		Total	2.79	.77	63
	Interest	Label	3.19	.94	30
		Control	3.30	.91	33
		Total	3.24	.92	63
C Moderate Challenge	Self-Efficacy	Label	3.08	.74	30
		Control	2.97	.64	33
		Total	3.02	.68	63
	Interest	Label	3.75	.63	30
		Control	3.96	.68	33
		Total	3.86	.66	63

Prior Knowledge Comparison-- Visitors Only

To compare effects of prior knowledge on self-efficacy and interest, another subsample (n=40) was created using visitors only. Since subject pool members were pre-screened to have low prior knowledge only, there were no high prior knowledge subject pool members. The prior

knowledge comparison sample consisted of all high prior knowledge visitors (n=20) found within the cleaned dataset. The group had 12 high prior knowledge visitors who were assigned to the label condition and 8 in the control condition. A matching set of low prior knowledge visitors were selected using a random number generator in excel. Of the low prior knowledge visitors, 12 participants were randomly chosen from the label condition and 8 participants were randomly chosen from the control condition.

With this sample, an ANOVA comparing high and low prior knowledge and self-efficacy was significant at the .05 level (df=1, F=10.211, p=.003, p<.05, R²= .212). This indicates that those visitors with high prior knowledge had significantly higher mean self-efficacy scores than those visitors with low prior knowledge.

Table 12. Descriptive statistics for high vs. low prior knowledge for self-efficacy

Visitors	Self-Efficacy	Std.	N	Std.	95% CI	
	Mean	Deviation		Error	Lower Bound	Upper Bound
Low Prior Knowledge	3.19	.40	20	.087	3.01	3.36
High Prior Knowledge	3.58	.38	20	.087	3.40	3.76
Total	3.38	.43	40	.062	3.26	3.51

A 2x3 ANOVA for prior knowledge and self-efficacy means for each artwork did indicate a significant interaction depending on which work of art was addressed. Prior knowledge was a significant predictor of self-efficacy for artworks A and B, but not for artwork C. Interestingly, A and B were considered the artworks with the most easy and most difficult challenge levels, while C was intended to result in mixed opinion and moderate challenge. For artwork A, high prior knowledge groups reported a mean of 0.43 points higher in self-efficacy than groups with

low prior knowledge ($p < 0.05$). For artwork B, on average, high prior knowledge groups reported a mean self-efficacy score of 0.47 points higher than groups with low prior knowledge ($p < 0.05$).

Table 13. High vs. low prior knowledge for self-efficacy

Artwork	F	p value	R^2
A_SEMean	6.615	.014*	.148
B_SEMean	7.208	.011*	.159
C_SEMean	3.833	.058	.092

The same analyses were conducted for levels of interest. An ANOVA comparing high and low prior knowledge and individual mean interest was not significant at the .05 level ($df=1$, $F=.307$, $p=.583$, $p > .05$, $R^2 = .008$). This indicates that prior knowledge is not significantly related to interest for visitors. Likewise, a 2x3 ANOVA did not demonstrate any significant findings for prior knowledge impact on interest means for each artwork ($p > 0.05$).

Table 14. High vs. low prior knowledge for interest

Artwork	F	p value
A_Interest Mean	.761	.388
B_Interest Mean	.002	.967
C_Interest Mean	.258	.614

Table 15. High vs. low prior knowledge descriptive statistics for self-efficacy and interest in visitor subsample

Artwork	Prior Knowledge	Mean	Std. Deviation	N	
A Low Challenge	Self-Efficacy ³	Low PK	3.15	.46	20
		High PK	3.58	.59	20
		Total	3.37	.57	40
	Interest	Low PK	3.97	.59	20
		High PK	4.14	.64	20
		Total	4.06	.61	40
B High Challenge	Self-Efficacy ⁴	Low PK	3.14	.52	20
		High PK	3.61	.59	20
		Total	3.38	.60	40
	Interest	Low PK	3.72	.75	20
		High PK	3.73	.79	20
		Total	3.73	.76	40
C Moderate Challenge	Self-Efficacy	Low PK	3.27	.52	20
		High PK	3.55	.37	20
		Total	3.41	.47	40
	Interest	Low PK	4.09	.58	20
		High PK	4.19	.66	20
		Total	4.14	.62	40

DIFFERENCES BETWEEN VISITORS AND SUBJECT POOL

Tests of the homogeneity of variances between visitors and subject pool participants produced significant results for self-efficacy, indicating differences between score variance for visitors and subject pool participants in self-efficacy for all artworks and overall self-efficacy ($df_1=1$, $df_2=134$). However, interest scores did not significantly differ by participant type.

An ANOVA held consistent with this finding and showed significant main effects for differences in visitor and subject pool participants for self-efficacy ($df=1$).

³ Significant differences were found for self-efficacy this work of art

⁴ Significant differences were found for self-efficacy this work of art

Table 16. Tests of homogeneity of variance and analysis of variance (ANOVA) for visitor and subject pool participants

Artwork	Construct	Levene Statistic	p value	F	p value	R ² for ANOVA
A Low Challenge	Self-Efficacy	5.367	.022*	8.938	.003*	.063
	Interest	2.124	.147	.030	.862	.000
B High Challenge	Self-Efficacy	3.949	.049*	12.040	.001*	.082
	Interest	2.321	.130	3.295	.072	.024
C Moderate Challenge	Self-Efficacy	8.872	.003*	12.008	.001*	.082
	Interest	.020	.889	.666	.416	.005
Total	Self-Efficacy	5.497	.021*	15.472	.000*	.104
	Interest	.312	.577	1.803	.182	.013

Mean values demonstrate consistently higher self-efficacy for visitors than subject pool participants (mean differences range from 0.332-0.429 points).

Table 17. Descriptive statistics for ANOVA between visitor and subject pool participants

Artwork	Construct	Visitor Mean	Visitor Std Dev	Sub Pool Mean	Sub Pool Std Dev
A Low Challenge	Self-Efficacy	3.37	.56	3.04	.73
	Interest	3.90	.73	3.88	.56
B High Challenge	Self-Efficacy	3.22	.67	2.79	.77
	Interest	3.51	.79	3.24	.92
C Moderate Challenge	Self-Efficacy	3.37	.47	3.02	.68
	Interest	3.95	.67	3.86	.66
Total	Self-Efficacy	3.32	.46	2.95	.63
	Interest	3.79	.57	3.66	.51

RESULTS: QUALITATIVE

OVERVIEW

Low-prior knowledge subject pool participants participated in a 20-45 minute focus group discussion immediately following their gallery visit. They were asked to discuss their experience of the works as a group, facilitated by the researcher. For control groups, labels were supplied for the works and participants were asked about their experience of the works without having labels. Focus groups were also shown an interactive activity to help conceptualize alternative possibilities to a label and to garner more information about the ability of innovative tools to foster interest development for low-knowledge, low frequency adult visitors. Lastly, focus groups were prompted to share any suggestions they had for museums that want to make contemporary art appealing for visitors like themselves.

PERSONAL RESPONSE TO ARTWORKS

Participant responses to artworks were closely tied to the interpretation and information found on the label. For those without labels, not having access to supplementary material influenced interpretations. Because of the close tie between the two, both responses to labels and artworks are presented in this section. However, more elaborate discussion of label use and qualities will be addressed in a later portion of the paper.

Major themes emerged in reference to self-efficacy and interest when interpreting art. These were based in the search for meaning and aesthetic properties of an artwork.

SEARCHING FOR MEANING

When a participant mentioned a preference for an artwork, it was commonly due to making a personal connection or approaching a work from an interpretive lens. Interpretations tended to be highly personal, from reminders of vacations, personal achievements or milestones, and philosophical viewpoints.

I noticed all the dates, I thought of them like stacks of paperwork. They looked like work I had to do!

Yeah, I mean anytime you talk about the universe, it's going to be pretty deep because it's huge. I mean, these stars don't even have names. That's how big the universe is. We can't name everything. So it's interesting enough.

Participants also described appreciating pieces for which they could envision an interpretation with a broader scope.

It was kind of dark. I mean, for some reason, the first thought was Holocaust and the things on the board represented victims/prisoners. And the ones that fell were like people who died. That's what I thought at first. But when I looked back, I was like this is the universe isn't it? So, that's what I thought about the first one.

Some participants mentioned enjoying the context itself or referenced information from the label while describing why they thought a piece was interesting.

Yeah I usually don't find art that interesting but I liked how they had historical context behind it. It brings more meaning to the piece.

I liked how [C] had a rough surface. I know it said it resembles like the earth, but whenever you look up at the sky you never think of anything rough.

When an interpretation or meaning was too obscure, participants reported a lack of appreciation for the work. Low self-efficacy for interpretation was tied to a lower interest in the work, rather than being a welcomed challenge. These visitors were frustrated with the work and were not interested in spending extended time with the piece.

[I liked] B least because I just can't figure it out

I first saw the star constellation one and I really enjoyed it and ... I felt a very peaceful feeling within myself. And as I progressed and I saw the plaster stacks last, I became a little more anxious or frustrated because I wasn't able to quite conceptualize and understand.

Furthermore, the idea of the art being arbitrary arose when visitors expressed lack of interpretive self-efficacy.

I felt kinda overwhelmed because it could mean so many things. With all the stacks it's kind of crazy. You don't know what it is or what scale it's on. It's an overwhelming piece.

I think I just didn't understand the pieces that well. And I guess, the one that made sense to me was the black one. It looked like it was a constellation map or a star map, but other than that I didn't understand what was going on, especially with the one with the slabs. I don't know why that was in the art museum. I feel like it was just taking up space.

With access to interpretive meaning, participants felt more comfortable with a piece and were more interested in the work. This meaning could stem from personal interpretations or from ideas sourced from labels. Participants consistently reported that of the pieces used in the study, their favorite works were ones that reminded them of something in their personal lives, that they were able to make a connection with in a more high-level capacity. When interpretation felt obscure or inaccessible, participants reported frustration, anxiousness and irritation with a piece.

THE ROLE OF AESTHETICS ON INTERPRETATION

Participants are comfortable engaging with and interpreting works that appeal to their aesthetic preference. Aesthetics had a major weight on forming opinions about works of art. Some judgements simply referred to personal preference in artistic style or a particular composition.

I thought the aluminum was really cool. How abstract it was. How they shaped it is what I was intrigued by.

That was fine. Just too bland for my taste

It just doesn't appeal to me. ...what I'm seeing is the materials. Just because you put six months into making a brick doesn't make it art. I thought the other pieces were more visual and that's what I liked about them.

Visitors who appreciated the visual aspects of a work typically did not reference needing additional support to make those judgements. They easily made assessments of the piece and rooted these judgements in aesthetic elements.

I thought C was interesting, if you come up close to it, and you look up at the whole painting, it looks like chaos, but if you step a couple feet back, you can see it's actually constellations. So, if you just stare at, you look at each glass shard, you think, what is this. But then if you take a step back, you see it's chaosed order.

So I thought the shiny one [A] was a dragon with dragon scales. I kind of really like that.

However, for some, aesthetic draw also lead to a curiosity to learn more about the piece and brought them to reference the label.

I was drawn to it because of the simplicity of it. It was the only thing in the room that was white, and it was the only thing in the room that didn't really look like art, so I went to read it to know more about what it was, so that was the one I spent the most time with because I found the description more interesting.

When low self-efficacy was present, participants also resorted to using visual elements of a piece to help explain the difficulty they encountered. They felt limited to superficial judgments, and provided reasoning based on aesthetic observations and preferences

A was the most confusing for me. It just looked like a bunch of metal tied together and folded.

The tin one was frustrating. I don't really have any background in visual arts so the black one with all the stuff on it and the one with the stacks with the five pieces of stone reach out to me more because they had patterns associated with them, the patterns, and the shapes.

Participants with low self-efficacy struggled to offer an interpretation for the works they found difficult. Those who did make an interpretation attempt typically made comparisons based closely on aesthetic similarity.

The block one I didn't [like]. I was really confused by what it was. It looked like pieces of paper. It reminded me of an office of just stacks of pieces of paper.

Closely related to the aesthetic observations was the concept of artwork composition.

Participants frequently discussed being interested in specific materials used and the physical process of construction for each artwork.

I really enjoyed seeing the different textures... the bended metal can with wire; it's unbelievable how someone can formulate that entire piece of art by using simple objects. Same thing goes for C. To add constellations and shards of glass to represent the other constellations lost to the human mind, I just really enjoyed that.

The whole concept of using the alcohol bottles was really cool to me.

I liked the one with a... more of the creativity with color. With the flag [artwork A] it just shows... it took time making that and it was well thought of. That's what I liked about it.

Aesthetic components were a major driver of art interest and enjoyment. Aesthetic preference and observations act as some of the most basic and comfortable ways to make judgements about a work of art for low knowledge visitors. When meaning or interpretation is considered a challenge, visitors report preferences for aesthetics and make comparisons of artworks to other objects that they find visually similar. Lastly, visitors showed an interest in the works which used novel materials or appeared to require extensive effort in its construction.

PURPOSE OF A LABEL

Study participants brought up three main reasons for why they might use a label. Most commonly, they explained that they used the label as a framework to build an interpretation, as a way to check if they were right in their own interpretations, and as a way to get pointers or tips on what to look at when building an interpretation.

FRAMEWORK FOR INTERPRETATION

Labels create a framework for participants to build from. Although not statistically significant, label groups reported an average of .166 points higher self-efficacy than groups without labels. Focus groups commonly cited labels as a guiding framework for how to approach an otherwise imposing piece.

Interviewer: How important were the labels to you when you were looking at the art today?

P6: Very important. Without that, I would have thought that liquor one [artwork A], I wouldn't have known what to make of it. The labels really put everything in context. They give you sort of a basis of where to start your thoughts, and then you can go off from there. Pretty cool.

P3: Really important!.. Labels really help because you actually understand what you're looking at.

Causes of negative self- efficacy usually took the shape of lacking background knowledge that would be considered helpful for interpretation. Participants varied in how much they internalized this negative self-efficacy. Some were hesitant to speak up about not knowing how to approach a piece, while others were more comfortable admitting their difficulty with interpretation.

It makes sense to hear it from someone else. But just walking in with no art background, it's hard to interpret.

But I really appreciated that have some actual history on the panel because I don't have any knowledge of post-dictatorship or knowledge of Chile or anything.

I read labels because I don't have experience in interpreting art. Maybe if I was an art aficionado I'd not require the labels, but for now yeah, I need them to better understand what the artist wants to convey.

Focus groups who did not have labels described feeling as though they did not have a place to start when attempting to interpret a work. They explained that the feeling that a work is arbitrary is dispelled with guided interpretations.

Labels are important because it helps us formulate what an artist is trying to convey to us. We can just make up anything if we don't have one-- anything goes.

Participants also explained that labels help forge connections and fill gaps where they may be lacking in their own interpretations.

Yeah, I think labels are really helpful because you can interpret anything in a number of different ways, but I think context is really important. I just appreciate the idea of knowing what the artist had in mind because I think it fills in the gaps of what you see and what you're feeling and maybe it's the same as what the artist was feeling.

I think labels are essential at an art museum. The artist is trying to convey one thing, you're going to see something different, which is different than what someone else would see, so getting a story helps you interpret it, figure out what's going on.

CHECK IF I'M RIGHT

Participants appreciated using the labels as a way to compare against their own views of the pieces. They reference the label as a source of authority, and are pleased when they catch on to something expressed in the label. However, they also described feeling as though they had missed something when labels talked about an interpretation they did not reach on their own. In fact, it was common for participants to judge their interpretations as “right” or “wrong” when describing comparing against the contents of the label.

I kinda like A even more after reading the description. It's kinda what I anticipated the label to say so it was nice to have that confirmed... And as far as B, I thought it represented something completely different and it was just kinda disappointing.

I also completely misinterpreted B. I looked at it and saw city blocks. And instead it's about ... something about the futility of labor and existentialism and something like that.

I'll look at it and just wish that I could validate if what I thought was correct or not for some of them. Some of them I just didn't know.

More confident viewers explained they enjoyed comparing their interpretations to the label.

Well I think it's good to see the artwork first and then read the label and view it in a context of that to kinda see where the differences lie. Just be aware that there might be more than just one interpretation.

POINTERS AND TIPS

Participants also relayed that labels can help provide pointers and tips to create their own interpretations. These visitors are comfortable with making interpretations, but want a label to provide some guidance to help launch their thought process or point out key features they may miss otherwise.

The labels really put everything in context. They give you sort of a basis of where to start your thoughts, and then you can go off from there. Pretty cool.

Yeah, I definitely like the labels. It's like a guide because I don't know what to look for in the piece. So if I read the label, it explains what the artist was thinking. It helps me understand it.

I think the labels or other information would have been helpful, not so much because they explain it completely-- just because of how small they are, it's hard to tell you everything you might wanna know-- but it does give you like... just the title or the artist's country or time period, just gives you more pieces of information to help you try to figure out what's going on. It gives you more points to think about.

Most commonly, participants appreciated labels as a way to give them a framework by which to view the works, a method to check their interpretations against a voice of authority, and a method with which to gain pieces of information to help them craft their own interpretations. Throughout responses, participants seemed to vary on the degree to which they emphasized multiplicity of meaning and subjectivity in interpretation and the extent that they sought straightforward “facts” about the work. Specific information sought is addressed later in this paper.

LABEL PRACTICE

Visitors were asked about the ways in which they typically engaged with labels. Most visitors either used labels regularly or selectively. Those who were selective chose to read labels for certain works but not for others. The sequence by which visitors receive information from a label has an important relationship with their self-efficacy and interest in the artwork and has important outcomes influencing their interpretations.

DELAYED RELEASE OF INFORMATION

Because of the nature of the study, participants in the control group experienced the museum in a way that differs from the typical museum visit. They were required to view specific the artworks for the study without labels, discuss their interpretations, and then asked to read the labels and describe their reactions to the added information. This process led to an unexpected finding; participants repeatedly spoke of the added pleasure of a delayed release of information. This mirrors the practices that many explained they typically take for reading museum labels, as described in the view, interpret, read, view again model. For many, having this process induced seemed to prompt curiosity and deeper consideration of meaning on a personal level, alongside the frustration and anxiety that was expected during the design of the study. Participants who were not able to see labels during the gallery portion often expressed that they enjoyed the experience of not being able to see the label at first, and that it in fact helped them build confidence making their own interpretations, but appreciated the ability to eventually see label content.

I think I learned that if you look at the piece of art without knowing what's going on then you form your own perception about it, but later on, if you learn more, then it'll add

another layer of understanding about the piece in your own mind. Because I never thought to look at a piece of art and not know what was going on. It's what happened to you. I was looking at something and I didn't know what the artist was trying to say and what was being used, things like that. It was interesting because now I want to know. If you don't tell me, I'm going to look it up.

It just made me think a little more about the artwork than when I could see the label. I had to use my mind to think about what the artist is trying to say.

[With a label] you read it and then you know it. Me having to think through that made it more like, hit home, resonate.

SELECTIVE LABEL-READING

Participants explained that, since they have limited time while at a museum visit, they are selective when choosing which labels to read. They typically mentioned reading labels for artworks that they were drawn to aesthetically more so than artworks they found confusing or curious. Although a few did say that curiosity about a work they felt they did not understand would push them to read a label, many more said they wouldn't spend the time learning more about a work. Likewise, they said they might skim to answer specific questions or only read portions of the label

I normally don't look at the labels. I just look at the artwork and whatever catches my eye, I might start reading the label or look for that artist's different types of work.

If I'm at an art museum and I have a lot to do or if I'm more relaxed and I have the time, then I'm going to be a lot more apt to read the descriptions.

I typically always look at everything, but I only read the label fully if I have a question about it that I feel like will be answered. I had a question about the one that was made out of the bottles and cans, and I went to the label to read it, and it answered my question. ... if there's one I want to know more about, I'll read it, but if it's a painting I understand, I might just read the name, but I won't read the whole thing.

APPROACH MODELS TO VIEWING ART, AND WHERE LABELS FIT IN

View, Interpret, Read

Participants both in the control group and in the label group explained that their approach to interpreting art is to first view the work of art and try to gather bits of information concerning the piece, then to make connections with these observations to try to build meaning, and then lastly, reference a label to compare their thoughts against what is presented. Several also mentioned using the label as a way to gain direction for additional deeper looking and interpretation. Others explained they enjoyed using this approach to “check if they were right” with their interpretations or validate that they had identified key pieces of information.

I think it's very interesting to have your own interpretation and hear other's interpretations of the piece. Ultimately, I like the idea of making your own interpretation and then seeing what they're going for. I really like the historical context, and I really to see what the artist was thinking and why they were thinking it. Kind of going in their shoes.

I generally will look at the artwork first, get my own interpretation, and then just to go back and see what the general idea is of the artwork, I'll go read the label. So it's kinda cool having both perspectives of it. And more often than not, I see something I wasn't looking at initially. I definitely think you should have the label there, but I think it's cool to look at it without reading it first.

Glance, Read, View, Interpret

These participants heavily use labels as a way to build their understanding of what they are seeing. Visitors glance at the work, read the label, and then use the information from the label as a lens through which to view and understand the work. These participants commonly emphasized the benefits of having a framework from a label to assist in creating an interpretation or formulating an understanding of an artwork.

I read the label first, try to understand it, and then look at the artwork.

... like the tablets one, I was the only one who liked it, [group laughs] but I really wanted to know more about it, so I immediately went to the [label] to know what it was.

Glance, Move On

This is the approach most often employed when a visitor does not feel drawn to a work based on aesthetics, however, it may simply be used when a visitor has time restrictions or possibly when a visitor is checking off an iconic piece from their list of essential things to see. Here, visitors have low interest levels and are not driven to spend the time with a piece they initially see as uninteresting.

I think it depends on how interested I am in a piece. If I was just walking through there, I probably would not have read the label of the stacks, just because it doesn't jump out to me. The flag really jumped out to me. I really noticed it when I walked into the room. So I was like, hey - what is this about?

View, Interpret

Although it was uncommon, some participants indicated that they did not like to use labels at all, or that they only liked to see a portion of the label to fill gaps in their interpretation. A few explained that labels restricted or limited their thinking when making an interpretation of a work. Respondents that used this approach and appreciated the works had higher interpretive self-efficacy and didn't feel the need for the information on the label. However, several simply said they didn't use labels, and actually mentioned that they felt they would benefit if they changed their typical approach.

For me, labels are nice, but I actually like to look at art without having an influence of anything that's not your own. That's your own original interpretation of what you saw. When you see a label, it changes the way you see the piece. It's not your original thought. Labels and descriptions are nice too, to help you understand after.

I usually don't [read labels], but after today I probably will.

And I usually don't read those things at all. I think that's why I don't like art. Because in order to understand them, you have to read something beforehand. It's all the context of it.

WHAT KIND OF INFORMATION SHOULD BE INCLUDED ON A LABEL?

It's really frustrating to me when all [the label] says is the name, the date. Generously donated by so-and-so.

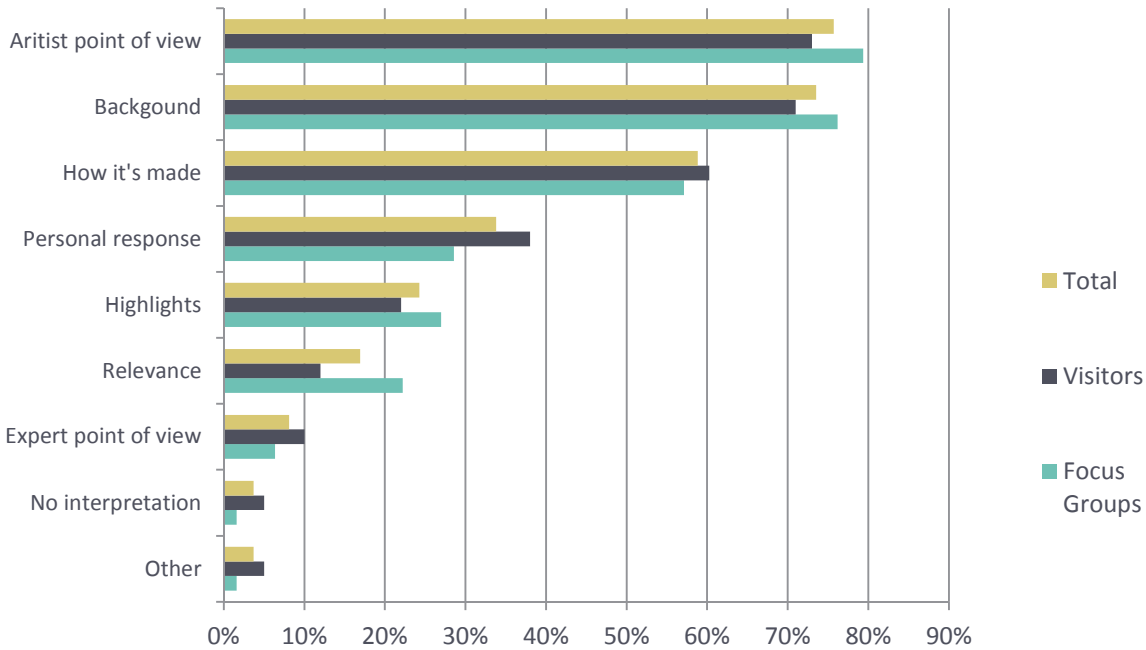
Interestingly, participants frequently mentioned they wanted more information from the label, beyond what was included. The following section addresses the topics and types of information participants said they were hoping to learn.

All study participants were asked to share their preferences for themes with the interest of formulating a consensus concerning label content. They provided with the following descriptions of topics museums could discuss in relation to contemporary works:

Figure 5. Descriptions of topics

1	Artist point of view	What the artist has to say about their work
2	Background	What context was this made in (time era, cultural influences, information about the artist)?
3	How it's made	Which materials were used and how it was constructed
4	Personal response	What memories, emotions, or thoughts come to mind when I look at this work?
5	Highlights	Where should I direct my attention to make sure I notice important parts of this piece?
6	Relevance	What this has to do with current events/issues
7	Expert point of view	What art experts have to say about this work
8	No interpretation	I would like to experience the work with no guidance
9	Other	

Figure 6. Most interesting topics for contemporary art



On the questionnaire following the gallery portion, participants were prompted to choose three themes they felt were most interesting when considering contemporary art. Although there were some differences between focus groups and visitors (most notably between the Personal response, Relevance, and Highlights categories), groups generally agreed on the most interesting topics a museum could discuss in reference to contemporary art. Topping the list were the categories “Artist point of view” with 76% of total study participants selecting this option, and “Background” with an overall selection rate of 74%. Following the two leading categories was “How it’s made” with 59% of respondents selecting this option⁵.

Focus groups were also asked the question of what to include on a label more directly during their discussion. The ideas which emerged from the discussion closely followed the above

⁵ In the other category, participants wrote in items such as, “what story is it telling”, “where the piece fits in a sequence of research pieces”, “the unknown factor”, and “I want BOTH the Artist & Expert point of view”.

structure, and provided more insight into some of the specific interests visitors had in relation to the works they saw in the galleries. Categories below were created via what was shared during the focus groups, but are closely related to the top choices from the questionnaire.

ARTIST'S MOTIVE AND MESSAGE

Resoundingly, participants spoke of wanting to hear about why an artist created a piece and what they intended their work to communicate. They considered an artwork to be a medium of discourse, and were particularly sensitive to the intent of the makers.

They didn't explain, like maybe this is more of an artistic thing that I can't really grasp but, why some of the tablet stacks were higher. Like, if there was any reasoning behind that. Just like, the particular order of the stacks. And, if she chose that material for a specific reason, like it has any importance to Chile or the cause she was talking about.

I was curious what the artist was thinking. So maybe their motives behind the art piece and did they encounter any struggles while creating it or did they change anything about it, and what did it signify to them.

Some participants explained their view that contemporary art in particular is imbued with hard-to-decipher meaning than more traditional, representational pieces which depict easily recognized forms (Esaak, 2015). Participants consider the artist's intent to be especially important for deeper connections with conceptually heavy pieces, and imply that representational or recognizable pieces require less interpretive complexity.

I think in the museum of modern art, the descriptions are important because, if you're looking at a portrait, it speaks for itself. I wouldn't be as invested to figure out who the person is. But when I walked up to the constellation picture and saw the shards of glass that had numbers on them, I wondered what that was about. So I had to read the description in order to find out what the artist was trying to convey.

I think it goes back to what you put on the label. If you are vague or don't give historical context or symbolism that the artist used it's going to be completely lost, particularly with contemporary art. Like with the Mona Lisa, everyone has a framework for looking at that. But for something a guy created 5 years ago, it's not the same. So the detail you put

in the description, doesn't have to be an essay, but here's what the artist was trying to do, I think that's really essential, especially for contemporary art.

There is an authenticity of the artist's voice which is incredibly valuable to visitors. In fact, several emphasized that they would like the artist to write the label themselves.

I feel like it's a lot of outside looking in, like what we think that the artist was trying to convey, but if you had a quote from the artist or something like that, that was more personal, maybe that could draw a deeper connection between the person that's looking at the art and the artist.

I just think it's really important that it's written by the artist themselves. I know I said this a lot, but I think it's very critical. It's cool someone can interpret his art for him. Back in high school, my English teacher would do that with books. That's not really what the author would say, that's what you want me to see in it, not what he's saying. I think people should be able to form their own opinions, and then maybe compare it to what the artist was deliberately trying to present.

REPRESENTATION AND MEANING

Although often accompanying the desire for understanding the artist's motive and message, visitors describing representation and meaning did not necessarily ask exclusively for the artist's perspective. These visitors were interested in meaning and representation of the work or elements of the work on a more general level.

For this museum, I think that the descriptions are pretty important because the art doesn't really speak for itself. There's always a lot of deeper meaning behind it so it's important to have a good description.

I looked at that same piece and I thought it was an angel with wings like black angel feathers. But then also I don't think the plaque really explained anything about what it was supposed to be. It just said it was a donation to the museum.

However, there were also converse ideas about including interpretations on a label. Although far less common in this group, some participants explained that they enjoyed the interpretive process and appreciated the ability to come to their own conclusions, rather than being guided to take on a certain perspective.

I agree that they should definitely have name of the art, date, location and some information about the artist. But I don't want it to tell me what to think about the painting or whatever the art may be. I want it to have information about it, like what it's made out of, how it was made, but... not what it represents. I want to decide that for myself. Cause I can arrive at something completely different than what the experts are telling you to think about it. And I think that's also valuable.

I liked seeing the label. But I didn't like how it tried to lead you towards one conclusion instead of what you think of the art itself. Or what I think of it. I'm just fascinated by the idea that people can see the same thing and have two totally different conclusions about it. And I think that's a valuable thing that should try to be encouraged.

ARTIST'S PROCESS AND ARTWORK COMPOSITION

Participants were also interested in the specific process involved behind creating the artwork.

Whether this process was psychological, like how an artist came to an idea or what considerations they made during its creation, or more physical, like what the day to day assembly involved, participants wanted to be able to relate to and visualize the work it took to craft a piece.

My favorite one was B, the grey blocks. I like them all because they looked like they took a lot of time to make, like they were really painstaking to do. I would like to know why an artist would take that much time to create such a thing.

I was curious what the artist was thinking. So maybe their motives behind the art piece and, did they encounter any struggles while creating it or did they change anything about it, and what did it signify to them.

More just about the artist's approach... do they stop for long periods of time, what gets them going again?

HISTORICAL AND CULTURAL CONTEXT

Many were interested in time periods and the greater context the work was made within. They considered these bits of information crucial for being a more knowledgeable art viewer and piecing together interpretive meaning.

... I could tell there were pieces of my own knowledge that were missing. Particularly the all black painting. There was a book, a flag that said freedom to the people with a

mountain lion or something on it. I could tell it's clearly referencing things that-- I just don't know what they are. So I felt like I was missing a lot of context.

... just the title or the artist's country or time period just gives you more pieces of information to help you try to figure out what's going on. It gives you more points to think about.

Others wanted to learn about the lives of the artists that created the works. They see importance in personal experience and its influence on shaping the works that artists produce.

I'd like to know a little about the artist.

I think the time period, and where the artist was from, is most important. What's their perspective on it, what life experience do they have.

Participants were intrigued by the broad range of cultures, heritages, histories, and personal experiences presented in each work of art. They were intrigued by and eager to learn about events and groups they had little experience with, and saw works of art as openings to awareness.

Throughout these particular subject matter interests, the role of the artist was upheld as supremely important and influential. Participants wanted first- hand information from the artist rather than analysis by secondary sources. Likewise, they were interested in the artist as a person. What factors in the artist's personal life experience led them to create this piece? What did they have in mind when they began the project? What considerations did they make and challenges did they face while working on this piece? What process did the artist go through, and why did they choose specific materials and techniques to construct the work? Although each work elicited certain questions more frequently than the others, the artist's perspective was central to the vast majority of participants' inquiries and curiosities, regardless of the piece.

INTERACTIVE ACTIVITIES AND CONTEMPORARY ART

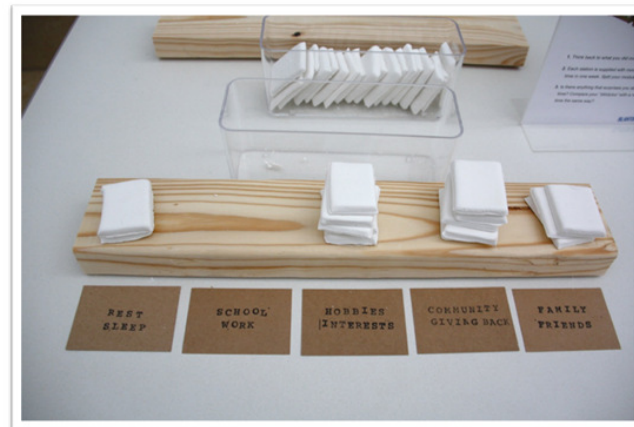
Public museums have the unique responsibility of reaching their audience on an educational level that art galleries and privately hosted festivals are not required to uphold. This educational aspect, though, presents unique opportunities to experiment with novel approaches to education in such an informal environment. Museums have embraced this niche, and as a whole, have been energized by the idea of educational progress in a free-choice setting. However, the divide between artifact and educational material seems clearer and starker in art museums than in institutions from other disciplines like science and history. Interpretive devices beyond the traditional label are used to different extents and various degrees of permanency depending on the museum. Museum professionals fall across the board on their beliefs about interpretives, although typically educational staff embraces alternative methods to engage visitors with a work and curatorial staff champions the power of a work and its placement among other pieces to tell a compelling story. These are not combative or diametrically opposed ideas, however, friction can arise without proper understanding of the value of each.

As an exploration into this idea of interactive activities and alternative interpretive devices in the art museum, focus groups were shown images of a temporary activity designed for a special event the museum hosted, geared toward middle school students. The activity took an alternative approach to interpreting artwork B, *2244 Módulos* by Isabel Del Rio, which had lowest self-efficacy scores and interest scores for both visitors and subject pool participants. The researcher explained the activity, which involved stacking white clay slabs on a wooden board signifying how much time the participant spent during the week on each of the 5 categories⁶. She then

⁶ Categories were: rest/sleep, school/work, hobbies/interests, community/giving back, family/friends

asked participants to share their thoughts about the interpretive device and whether or not they would participate if they had encountered it in the galleries.

Figure 7. Interpretive activity example for Del Rio artwork B



Interestingly, focus groups tended to take on the opinion of some of the first and most articulate speakers in a room. If a participant voiced dislike for interpretive devices, and referenced a childish nature, or uselessness of the activity, much of the group would agree with their perspective. However, if the first few participants to share their opinions were emphatically pleased with the interactive device, the majority of the group would discuss its positive aspects. The tendency to conform to the group mentality may speak to the uncommon nature of the interactive, which leaves visitors without established norms to direct them in who should or should not participate with interactives at an art museum. Furthermore, self-consciousness among art viewers may be higher with a physical, observable response rather than an internalized, silent reaction that is common practice in art museums.

PARTICIPATION

Focus group members shared whether or not they would participate with the interactive in a hypothetical scenario. Preferences fell into four different forms: would participate, would observe but not interact, would not acknowledge, and it depends or unsure. These categories were relatively stable, and the few participants preferences that did not fit into one of these categories simply did not explicitly share their preference during the focus group. The following table sums and shows the proportion of those who indicated a preference for their participation⁷:

Table 18. Participation preference for focus groups

Interactive Activity		Would participate		Would observe but not interact		Would not acknowledge		It depends or unsure	
Total		22	39%	15	27%	5	9%	14	25%
Label	Focus Group 1	0	0%	1	50%	1	50%	0	0%
Control	Focus Group 2	1	33%	2	67%	0	0%	0	0%
Control	Focus Group 4	2	100%	0	0%	0	0%	0	0%
Label	Focus Group 5	3	50%	2	33%	0	0%	1	17%
Control	Focus Group 6	1	100%	0	0%	0	0%	0	0%
Control	Focus Group 7	0	0%	2	40%	1	20%	2	40%
Label	Focus Group 8	2	50%	1	25%	0	0%	1	25%
Control	Focus Group 9	5	83%	0	0%	0	0%	1	17%
Label	Focus Group 10	2	33%	1	17%	1	17%	2	33%
Label	Focus Group 11	0	0%	0	0%	0	0%	4	100%
Control	Focus Group 12	3	50%	2	33%	0	0%	1	17%
Control	Focus Group 13	1	50%	0	0%	1	50%	0	0%
Label	Focus Group 14	2	40%	3	60%	0	0%	0	0%
Control	Focus Group 15	0	0%	0	0%	1	50%	1	50%
Label	Focus Group 16	0	0%	1	50%	0	0%	1	50%

⁷ n=66, four focus group participants did not explicitly state their participation preference. Therefore, if only one participant explicitly stated their preference, they would represent 100% of the votes for their focus group

Would Participate

Positive cognitive outcomes were prevalent in explanations behind why focus group members said they would participate with the interactive device. They cited increased understanding of the piece, deeper engagement, and higher interpretive self-efficacy. A few visitors even mentioned that they would appreciate the work more after using the interactive interpretive, or anticipate that it might shift negative opinions about a work to the more positive.

Those who would participate explained that the activity helps guide their conceptualization of the artwork. They said that participating would bring them a greater understanding of possible meaning in a work by giving them a way to actively engage with the piece. It should be noted that by the time focus groups were shown the interactive activity, all individuals had been given the opportunity to read the labels and discuss their own interpretations, so their comments on building understanding were retrospective rather than uninfluenced by prior discussions.

I'd definitely do it. I would organize the blocks because then you have that as a visual instead of just sort of, knowing your schedule, you can see it. And sometimes that can show you something you didn't know.

I think that I definitely would participate in it. It explains some of the things like why the stacks were made different sizes or different heights. So I would definitely understand that better.

Furthermore, they felt the activity would deliver a richer, deeper experience of the artwork via interaction. Several explained that it emulates being in the artist's shoes and gives them a way to personally connect to the artwork. They cited an interactive device would increase their involvement and engagement with a work of art.

I think it's cool. I think I would do it. I think it would add another level of sensory experience when you go to a museum. So, I would do it.

I actually like the interaction. It gives you a chance to be part of the art. Doing that would give me a sense of what she was doing, to kinda relive, be in that moment. I would do it. Like, I really would do it.

The discussion also touched on the interactive device working as a self-efficacy support for the participant's own interpretations.

I like it. I think it's interactive, it makes you simulate what the artist was doing and it makes you relate to the art in a different way. It makes you think.

I think it's a good way to visualize where your time goes [rather] than just think[ing] about it. It makes a lot more sense.

Would Observe, but Not Interact

The second largest proportion of focus group members said that they might look at the interactive device or watch other people interact with it, but they personally would not pick up the pieces and go through the directions.

Maybe I would run through it in my head, but I wouldn't actually pick up the tablet thingies and think about it and stack, stack, stack. I think it could be an activity that you could run in your head. But it's cool that would be interactive and more hands off for people who do like stuff like that. I personally don't think I would.

If I saw that I'd probably think about it in my own head but I don't think I'd actually go get out the tiles and put them on there.

While most agreed with the same benefits described by the participants that said they would interact, others explained reasons why they might not physically interact. Lack of interest in the specific activity itself was also a reason given, as was enduring social stigma or being disruptive in the environment.

Yeah, I'd definitely at least do it mentally, but the deciding factor on whether I'd actually go over and do it, is if there were other people there, or if it was quiet and I'd be then, the only person making noise. I feel like I'd be disturbing the other people. [Laughter] But yeah, I'd definitely do it, and I like that it'd get you involved rather than just a passive experience.

I wouldn't stack blocks by myself, out of fear of everyone else in the room seeing my blocks. Maybe if I was with someone else. I wouldn't want to stack also because I don't want to face the reality of how much time I spend sleeping and watching Netflix.

Would Not Acknowledge

There were also those who described not being interested in participating with the interactive activity. Several individuals said they wouldn't participate because they were comfortable in the space interpreting art in their own way. They spoke about not needing the help of an interactive activity to mediate their reaction to the work.

I like the works themselves. And my connection and the emotions I get out of it are enough for me. I don't know. I guess anything interactive doesn't tickle my fancy.

I'm just the type of person who would rather read something rather than do an interacting thing... I just like to do things on my own, like learn on my own and reading stuff, I don't need to do interactive activities to help me.

Futility of the process was another common reason participants were not inclined to physically participate. These participants hoped for an end product from an interactive, whether it was to create something that could be taken home at the end of a visit, or to help by providing information for a psychological study on time distribution. These individuals felt that, since their stacked slabs would not be recorded in any way and instead would be disassembled for another visitor to use, they might as well not go through the effort to participate.

I don't feel like there's any point to the activity.

I'm not sure that I would participate in this just because it wouldn't have a purpose or end goal. I would want a result. I guess I'm result-based. Maybe if I got a picture of it afterward if I could put in my photo album.

One other major concern was that the activity complicates the meaning of the artwork or even confuses the participant. Again, when focus groups were shown the interactive activity, all had read the labels and discussed their own interpretations. They said the activity oversimplifies the

work, tries too hard to be quirky, and places the focus on the viewer instead of the artist. Some thought the activity should act as a more literal translation of the label.

I feel like it oversimplifies the meaning of the meaning. And it would detract from my experience. I would rather read the label-a simple label, not with an [activity] trying to make it quirky.

I guess that's how I like to view art: how they [artists] like to express themselves. If I focus it on me, it doesn't seem mysterious or interesting.

I do feel like it almost misses the point of what the piece was, because it was talking about obsessively doing things again and again. Whereas this is sort of "how do you manage your time?" I feel like on another level it removes you from it....

Other reasons for not engaging with the activity were due to laziness while in the gallery and lines of visitors waiting to participate detracting from the beauty of the surrounding artwork.

It Depends/ Unsure

Focus group members with preferences in this category emphasized that they would participate in certain conditions, like if they brought kids or if there was no one else in the room. Most commonly, individuals said they would participate if they came with another person. They explained that the activity would be a unique way to interact with the art in a social capacity, and that it could facilitate conversations. However, if the individual were visiting the museum alone, the activity would not be as comfortable to use or feel like a useless exercise.

I also like thinking about who I'd be going to the museum with, to be able to compare among the people you know, seeing where their priorities are, but what they're actually prioritizing in their week, and then that could help you know where you need to make some changes.

I know if you go in with a friend, it'd be fun to do this activity. You feel like you're interacting with the art almost. And, I would participate in something like that. I think it's interesting.

Yeah, I'd definitely at least do it mentally, but the deciding factor on whether I'd actually go over and do it, is if there were other people there, or if it was quiet and I'd be then, the only person making noise. I feel like I'd be disturbing the other people. [Laughs] But yeah, I'd definitely do it, and I like that it'd get you involved rather than just a passive experience.

Closely tied to the idea of participation in a social scenario, was the idea that the activity only would appeal to a special population. Two populations mentioned were kids and people who weren't interested in the artwork.

Having just this there I feel like it would be great for kids or people who don't understand contemporary art to get more into it...

I feel like the interactive labels are targeted toward younger audiences like children or maybe school aged kids.

I really like how hands-on it is. I'm working as an elementary school teacher, and that's something students would love to do. I really love to do hands on activities. I'd enjoy it too-- having something to do that's hands-on.

Likewise, a portion of these individuals said they would not be interested in this particular interactive activity, but they might participate with a different type of interactive or an activity that relates to another artwork.

I think the one situation when I would find it interesting is if celebrity or someone I looked up to did it just so I can see how they spend their time.

I don't know for this particular piece if that were really be interesting if I brought kids for that. Because it's just white slates. But for another piece.... So it depends on the situation.

COGNITIVE RESPONSE: LEARNING AND SELF-EFFICACY

Across participants, many agreed that the activity helps guide their conceptualization of the artwork. By providing a way to actively engage, they said they would have a more salient way to understand the artwork and even relate it to their own lives.

I think it's a good way to visualize where your time goes than just think about it. It makes a lot more sense.

I think just looking at it, when you see all the tablets, you forget that it's an actual day.

It's not just random. It would make me think about which days she spent.

I really like the interactive process. It makes the artwork more memorable by doing it yourself

There were also concerns that an interactive device could be limiting by restricting personal interpretations or even lead a visitor to the wrong conclusions.

I like reading [the label] because I feel like the piece isn't about how I balance my time, it's about the artist's. Seeing it in their context in their situation is what it is for me. When I was reading it and seeing it, I liked that better than just with the physical.

However, people also voiced the opposite opinion—that having an interactive present would lead them to new questions and thoughts as a compliment to a label.

That's a great interactive tool. I think it should go with the label, not either-or, but I think that's a great way to start thinking, how he was doing it, whenever he was making that stuff, you know?

COGNITIVE RESPONSE: INTEREST AND OPENNESS

Attitudes about participation were shaped by individuals' existing perceptions of what a museum does or the types of behavior that are acceptable in a museum. Several indicated that their preconceived notions of a museum were challenged and described feeling that interactives would not fit within an art museum. They used words including, “sterile”, “don’t touch”, “serious”, and “focus” to describe the art museum in contrast with the hands-on environment of the science museum, where they say interactive activities are more standard.

In an art museum like Blanton, I don't think it would fit there. It's more of a grown up museum. It's like a viewing gallery. If I see that, it's more like a children's museum, or an interactive museum where you touch stuff, feel stuff, examine stuff, like a science museum more like. Art museums are a sterile environment where you just look and see, you don't really touch anything. It feels kind of adverse to what the [art museum] feels like.

I'm putting into this how culture and society has molded my mind to think of certain type of museums, so when I think a science museum I think it's going to be interactive-- there's going to be knobs to turn, things to do-- and when I think art museum I think quiet and turn your cell phone off and be serious. Art is a serious thing. It's not like science isn't. Not that it's not fun, but you don't expect activities. You expect to be within yourself in your mind thinking about the piece. One with the piece. I just personally don't think it fits.

For me, if I go to an art museum, it's all about the art. When I go to science museum, people want to push buttons or look through stain glass, I expect that. You can redo the Blanton in a new hip way that is more like a science museum, but I think the pervading view of art museum is that it is all about the piece. It's about taking in what other people have poured their life into. If I was there alone, I would want to focus on the art pieces more than anything.

Some focus group participants indicated that an interactive activity would draw their interest and increase the intrigue of the specific work. One said they would be glad to have an outlet to touch something while in the museum. For these individuals, the interactive component is magnetic and pulls them in to engage and interact.

We passed a hands-on station on the way up and I wanted to stop. I wanted to draw shapes.

IMPLEMENTATION SUGGESTIONS

Focus groups also weighed in on how they think art museums should incorporate interactive interpretive devices into the visit experience. The two main areas they emphasized were timing for participation and the activity's proximity to the work.

Participants agreed that the sequence or timing of participating with an interactive shaped the way a visitor saw an artwork; however, they were split on whether it was better to have both simultaneously or to see the work first and afterwards have an interactive opportunity. Those in favor seeing the work first argued for the ability to make your own judgements unshaped by the activity, but then to be able to add a new layer of understanding after gathering an initial

impression. This echoes the label practices of the View, Interpret, Read group and the overwhelming preference for a delayed release of information described by control group members.

For me it's important to see the artwork first. I want to make an artistic judgment, and then be able to relate it to something else.

There was also the idea presented that a collection of interactive activities available at the end of a visit to be used as a way to revisit the works in the galleries before a visitor leaves the museum. Those in favor of seeing the activity first or simultaneously with the artwork appreciated having the activity as a way to prime thoughts before seeing a work of art or to use as a point of reference while looking.

It could make looking at the artwork for the first time more valuable if you had done the activity first. Because then maybe you could understand, "oh, maybe this has to do with the artist's time."

Proximity to the artwork, although related to timing, was also a topic for debate. However, focus groups spoke more often of the benefits of having an interpretive device placed near an artwork rather than in another room. Most suggested placing the activity near the label. Benefits of having the activity in close range of the work were centered on the ability to focus on one piece and observe details.

You want it to be close proximity because if it's in another room, you might see something else that catches your eye, and you might forget what it was you were even looking at.

Those who said it should be further from the work were apprehensive about accidentally ruining the artwork itself while participating, changing the mood of the environment, or the activity invading the ability to form their own judgements about a piece.

It should be kinda close so you know it goes with that art, but I like how quiet art museums are and you can just be in your own head. If it was right there, people might be joking with their friends and it might distract from the other work.

If it were in a separate room with other activities, it's better because it's separate from the actual art so you can view or judge the art and then go and have these silly little activities...

The interactive activity was considered a unique and engaging way to connect on a personal level with an artwork and to reach understanding that was not otherwise accessible. Many of those who indicated that they would not physically participate described the benefits of reading the directions or seeing another person interact with the activity. Individuals enjoyed the idea of mimicking the artist's process and creating their own version of the piece, but were cautious the activity could make the piece "about me" instead of the artist; some were confused by adaptations the activity took, rather than being more directly tied to the label's explanation of the piece. They also said the activity would lead them to think about the artwork in ways they would not otherwise have considered, supporting their interpretive self-efficacy. Usually, these focus group members argued for the benefits of the interactive device accompanying the work like the more traditional interpretive label with the option of seeing the activity before or simultaneously with the work. Some even said the interactive activity would make them more interested in a piece they didn't initially like or would not have otherwise considered.

Hesitations or dislike of the activity usually stemmed from its imposition of a specific interpretation and transforming the museum environment. Some viewed the activity as making the museum more geared towards children and inhibiting the contemplative space they enjoy. They suggested if a museum wants to use interactive devices, they should be contained in a space removed from the piece so as not to disturb their viewing preferences.

SUGGESTIONS FOR INCREASING INTEREST IN CONTEMPORARY ART

To close, focus groups were asked to offer museums suggestions for ways to increase interest in contemporary artworks for people who do not regularly visit or don't consider themselves art experts. Ideas ranged from subtle adjustments in display techniques to restructuring the American public education system's approach to teaching about art. These varied ideas generally fell into three main categories: Participation & Events, Information, and Exhibition Practices.

PARTICIPATION AND EVENTS

Focus groups said that interactive activities in the galleries, like the one modeled, would be particularly intriguing for visitors who are unfamiliar with contemporary art. Their rationale included providing interpretive guidance and context and making a work more engaging, memorable, and relatable. They mentioned benefits for social groups to build a connection and introduce topics for conversation about a piece. Interactives were considered a way to better immerse and stimulate more senses, and to increase personal relevance and support self-efficacy.

I think stuff like this [interactive activity]. Honestly, that would help a lot. I've gone to museums and just not gotten it. So if there was something visual that gets you to participate, it puts it into more real-world today, how- it-effects-you type of context, then it would really help people like me who don't really interpret outside the box

I think interaction is really important. But it's also important to utilize the five senses. If they incorporated things you could touch or taste or smell or hear; those things are really cool. They help me relate to the artist or the artwork more.

I do have a natural aversion to museums. Just hearing the word, I go, "ahhhh..." But typically when I do go-- based off the encouragement of others-- I enjoy it and almost always get something out of it. But I do tend to like interactive museums much better, anything that can get you engaged.

I actually think an interactive innovative stuff is actually really effective because most people when they go to museums go not by themselves but with someone else at least. It encourages something that you could do with a friend or date. Like when they did that in

the Blanton where you could write on the walls, like that was a lot of that very similar to this. I think people got a kick out of that.

They also wanted to have the option to create their own artwork, in a studio-style environment.

They considered the museum a good space to gain exposure to a new medium or technique they saw in the galleries.

Having the opportunity to do your own contemporary art. Maybe just an area within the museum where you can do something. ...Creating your own artwork gives you insight to an artist. They're making something within them and having that same experience makes it relatable.

Hands on activities like this ... If people are coming to look at vases, set up a pottery wheel. Come try your hand at throwing clay.

I like the hands-on perspective. That's how I learn, to be able to touch things and do things myself, that helps me understand it better. I like that idea of having where you can create your own art, and even creating art with the same materials that the artist used. I think that would be really cool.

A few articulated that, for individuals who are not regular museum visitors, simply the act of getting in the door might spur a future interest. An event might draw them to a museum they would have never considered going to otherwise, and once there, they would realize an interest they did not expect. They also explained the value of marketing the museum, potentially with outreach in the form of interactive activities in the community, advertising, and via school curriculum.

I think it starts with educating the public about what art really is about or what art appreciation entails...Expanding beyond the world of the museum, and doing more experiential marketing outside museum walls to get people interested in a specific piece or bring them into the museum. Maybe they see this on the corner of South Congress, something interactive and then that brings them in to the museum next weekend.

Events and a relaxed environment also were popular suggestions from focus group members.

They said that evening events like those already hosted at many museums would motivate them

to come to the museum more often. Many mentioned food, alcoholic drinks, and music or activities to do would be a great pull for them to socialize while they see artworks.

I'd be more likely to go if there was some sort of event at the museum. Like food and wine. [laughs] Food, wine and art is good to me!

...just thinking of how to get young people involved, you have to do more of like a party. Art's usually quiet. Why not make it-- mix it up. Give it music, make it a big old-- make it something interesting and cool, have food trucks outside. Just make it like a big massive event.

I don't know if it would be something normal museum goers would do but you could host an event at the museum like a painting with a twist type thing but on contemporary art. And along with that give background of the actual art piece that you're painting--people would show up paint their own piece and it would be an event and they can give a background while other people are painting so it would be interactive but you would learn a lot.

A shift in the atmosphere was a common suggestion for making infrequent visitors feel at ease and more inclined to return. They explained that most art museums make them feel out of place. Suggestions to make the space feel friendly included adding music in the galleries, hosting parties and social events, and shifting the duties or persona of gallery monitors.

I think that museums can be kind of intimidating, especially modern art museums because I'm not really an art person, I don't know a lot about art, so going in there... I think if there was maybe a song that was playing with each piece of art, from that time period, or conveyed the emotion that the artist was trying to portray, I think I would feel more comfortable and be more prone to spend more time on that exhibit. Just because I would be like, "Oh, this is interesting. Why are they playing this song?"

Art's usually like, quiet place, you and your thoughts, but why does it have to be that way? You change, it's part of our generation. We're changing, there's music, there's more technology now, so why not get it toward that direction.

Yeah [host special events], just to get you involved. To show you it's not scary to go in to the art museum.

Art museums are stuffy. I feel like I'm being watched like a hawk and I feel really uncomfortable. If it was a more relaxed environment without letting people touch the art, like a happy medium, that would help....

Individuals in two focus groups mentioned they feel intimidated being watched by gallery monitors, and other members of the group were quick to agree. Often described as “guards”, participants shared that they felt hovered over and wary of getting in trouble. Using headsets to communicate and stiff, formal attire gave participants the impression that gallery monitors “*look like the secret service walking around.*” Study participants suggested more casual attire, and responded well to the idea of guides wearing a button that offers assistance and takes the focus off of watching for a slip-up. They were encouraged by the thought of seeing gallery assistants as a resource.

They don't seem to want you there, so it makes you feel uncomfortable. They almost have this pretentious air, like they know you're not an art expert. You can feel them judging you for not being an art expert...

Smiling would help a lot.

I definitely feel like dressing the part of the security guard turns you off, cause you always try to steer clear of them. Casual clothing could help a lot, or just the button that says “Ask me if you have any questions, I'm free to help”.

I had no idea the guards would know anything about art. But that's pretty cool because they're stationed everywhere. I would definitely go talk to one now that I actually know. I don't think there should be people who walk around and be like, “I know about art”. But if there's someone there and you can ask a simple question, I think that would be really cool.

Having a person available to guide looking was a common suggestion to make contemporary art more interesting for infrequent museum-goers. Some simply wanted a person in the room to help answer questions, while others thought a guided tour would help them know where to go and what to see.

Or even have people in the rooms to ask like, “Hey, what exactly am I looking at right now?” They could give you some ideas so your train of thought could expand from there, you know.

...the guide part, where if you had more questions about the artwork, maybe they could answer your questions rather than them asking you questions about what it is, because I don't like that either. You know, you get to ask the questions and get more information that's not on the label.

Having a tour guide could improve your experience. I know having some background definitely makes me appreciate it more instead of walking around lost.

INFORMATION

More information was also a popular suggestion for making contemporary art more interesting.

Ideas included providing more context for the work, making information presented more obvious or clear cut, explaining the artist's perspective or intent, having personalized recommendations at the entry, and providing materials to guide looking or interpretation with basic "hints" or "clues."

More context generally was one of the top suggestions in this category. They say that having added information gives the piece purpose and allows individuals to connect with the work, via heightened interpretive self-efficacy. Though most considered added information useful on a label, there were also suggestions for contextualizing artworks within the broader movement of art history to some extent as well.

If you are vague or don't give historical context or symbolism that the artist used it's going to be completely lost, particularly with contemporary art.... So the detail you put in the description, doesn't have to be an essay, but here's what the artist was trying to do, I think that's really essential, especially for contemporary art.

I think it would help to have a brief introduction to what you're seeing. For someone who doesn't really follow art, it's weird to just jump into art where we are now, when it's a culmination of what's gone on in the past that's brought us up to where we are now.

Sometimes the label has just who did it, when, and what it's called. And if you don't know a lot about it, you're like, "Why is this art?" My step dad, he's like, "How is this art, it's just splattered paint." But if there's a description, he'd be like, "Oh, I get it."

... having to think and read make it more interesting for people that look at a cube and ask, "Why is this here?" If they have a story, they can make sense of it with an art perspective. I think it makes it more interesting.

Along those lines, there was agreement that information should be more straightforward and broken down simply.

I think most of us that are not art majors would like someone to simply break it down to us. Art itself is very complex. Even taking humanities and an art class, I'm still not very comfortable deciding whether or not... you know, some of those aspects. So I think someone having just an art-for-dummies kinda thing would kinda help. [Group laughs, another agrees, "Perfect"]

These participants specifically thought that materials to help guide their looking could help make a piece more accessible. They wanted to be instructed in how to start with a piece, and provide a way to launch their thoughts. They said that during the gallery portion of the study, being prompted on the questionnaire to provide three words when looking at the work helped put them in an interpretive mindset, and this kind of trigger would help stimulate their thoughts with contemporary pieces. One participant said they thought the prompt could be in the form of a person available to guide the visit or a phone app.

... tell me what people are supposed to be thinking about. But before doing that, maybe a couple of seconds, real quick, like you said, those three words. What are the three words? 'Cause that helps. I can think, "What are those three words?" I can do three words. And then from there, get what it actually means.

Another suggestion was to have a personalized menu of what to see when a visitor enters the museum. One said that if a piece had been specifically suggested for a person based on their interests and preferences, they may be open to seeing works they would not be normally drawn to. Another expressed they felt lost and without direction in a museum space. With added structure, she was more comfortable moving through the galleries.

Bring in technology. Take a quick survey that pinpoints one specific gallery of your interest. After that your mind would be more open to checking out other art since you've seen art you like.

Giving you a path of what to do and see is what captivates me the most, but I don't go very often.

EXHIBITION

Remaining suggestions concerned selection of artworks and display methods. Particularly, participants were drawn to immersive art installations where they could touch and interact with the piece. They felt choosing pieces that are stimulating and engaging for a broad public were important for people unfamiliar with art.

...the hands on idea, like be able to immerse yourself in the art. I'd totally like to jump in where all the pennies are, and just be in it instead of be constricted.

I think it's important to include like certain types of contemporary art that are attractive to all audiences in order to get them involved in the museum. I know the Houston art museum has a white ring and you walk through it. There are always different lights. And as you enter different rooms, the lights change and it makes different shapes on the wall change. So that's really interesting to people who don't really understand the purpose of that. They also have a white tunnel that is part of the building that you walk through. It's just a white tunnel with laser beams. So, I don't know, things like that are interesting and make someone come back and delve into it a little deeper.

I know the Houston Museum of Fine Arts-- they have the spaghetti art that comes down-- it grabs a lot of attention. I know a lot of people like to see it because they can be a part of the art. They can just run through it. And I think that grabs people to go to the museum and check out other art. You just have to get them through the door.

Display techniques were also a consideration that participants thought could increase general interest in contemporary works. They said rotating permanent collections would bring them to the museum more often, and that making thematic gallery organization more apparent and integrated would help viewers have more context.

I guess it would also help if you changed up the art more often. I feel like I'll go to a museum and I'll stay for an hour or two, but then I feel like I've seen most of the things and that I won't really go back because I won't expect much to have changed in that time.

I think that these three ones we looked at are kinda similar... they're trying to convey something that they find wrong with their society. So if they had a song about rebellion or something playing, and they were in the same room, that would make sense.

Throughout the focus groups, participants wanted to have greater involvement with the pieces and weren't always sure how to get there. They spoke of increasing engagement through more access to information in a variety of formats and added guidance to increase interest. In their words,

[It would help] to engage with the piece more. I feel like a lot of times it's just sitting there, and there's a tiny little paragraph to read if you want, but otherwise, it's entirely on you to try to figure out what's going on. Which in some ways it's probably good, but for someone who's not interested, there's not a lot to work with.

SUMMARY OF FINDINGS

The role of self-efficacy in developing interest for contemporary art is evident, in both museum visitors and those who do not regularly visit museums. Quantitatively, interpretive self-efficacy was significantly positively correlated with levels of interest for all study participants, with an individual's mean self-efficacy scores at half a point lower than mean interest scores. Label groups did not show significant differences from control groups for self-efficacy or interest.

Prior knowledge also was significantly related to self-efficacy. Among museum visitors, high prior knowledge significantly predicted high self-efficacy, but prior knowledge was not a significant predictor for interest. For the artworks chosen as "low challenge" and "high challenge," high prior knowledge significantly predicted higher self-efficacy. Mean self-efficacy for the "moderate challenge" artwork also followed this pattern, but was not significant.

Subject pool participants showed significantly lower self-efficacy levels than visitors, but groups did not significantly differ in levels of interest. Based on the descriptions provided by focus

group participants, the following interpretive profiles were developed to indicate how factors likely influence resulting impressions of an artwork, related to varying outcomes or indicators for degrees of interest.

Figure 8. Interpretive profiles for infrequent visitors viewing contemporary art

Prior knowledge	Low	Low	Low	Low	High
Self-efficacy	Low	High	Low	High	High
Perceived Challenge of Artwork	High	High	Low	Low	---
Outcome	“Why is this here? What does it mean? What does the artist want me to know?”	“I’m not sure what this is, but it’s interesting. I’ll make my own meaning based on what I see.”	“This is beautiful, I like it.” “The way it looks reminds me of ____”	“This makes me feel ____ and it’s making me think about ____”	“I’ve seen art like this before, I recognize this and I belong here”

Supports for interpretation, like labels and a hypothetical interactive activity, were appreciated by those with lower self-efficacy levels and participants with high self-efficacy did not depend as much on these materials. Five interpretive approach strategies emerged while discussing how participants typically use labels during their museum visit. The practice of viewing, interpreting, and then reading the label was a popular approach strategy to artworks in museums. Confident participants considered labels a useful framework to build from, a resource to “check if I’m right,” and a way to gather added bits of information to guide their interpretation process. These viewers are fledgling interpreters. They see value in their own interpretations of a piece, but their hesitation about their own abilities, their search for more information, or curiosity about the institution’s interpretive approach usually guides them to the label after a period of time. The glance, read, view, interpret approach strategy group enjoyed using labels as a starting point.

They look at labels immediately for works they are attracted to and use the label to guide their looking. The view, interpret approach strategy was not common in the focus group, likely due to the group's demonstrated low-self efficacy. However, those who did utilize this technique fell into one of two groups. Some verbally demonstrated higher levels of self-efficacy, explaining that they enjoyed forming their own interpretation and were not dependent on a label to guide their thoughts. The other sub-set of this group appreciated the value supplied by labels, but did not utilize them regularly simply because they did not like to read. The final method was characterized by a glance, move on strategy. Most often, this approach was described as being used when participants were not attracted to or interested in a particular work of art, but may also be employed in scenarios not addressed within this study⁸.

Participants said they are selective about which labels they take the time to read, or skim labels to answer specific questions they might have about a work. Generally, participants disclosed that they were more likely to read a label if they were aesthetically drawn to the artwork. Works that did not draw their eye visually were not considered as interesting; therefore participants spent less time with those pieces and said they would be less likely to read their labels.

⁸ Some possible scenarios are when a visitor is on a limited time schedule or is viewing pieces that are considered iconic and a "must-see." No known research exists on these ideas.

Figure 9. Interpretation approach strategies

Approach Strategy	View Interpret Read	Glance Read View Interpret	View Interpret	Glance Move On
Self-Efficacy Level	Medium: Make own interpretations, but hesitant about abilities or looking for additional support	Lowest: Relies on label interpretation to understand artwork	Highest: Forms own interpretations or Not-applicable: does not like to read	Unknown: Not interested in the piece, does not engage with the piece extensively
Label Purpose	<ul style="list-style-type: none"> • to check personal interpretation • to gather hints • to answer specific questions 	<ul style="list-style-type: none"> • to begin interpretations • as a framework to guide thinking 	Does not use labels	Does not use labels

Again, feelings of self-efficacy were shared while describing preferred content for labels. Most popular was insight into an artist’s point of view, including their motives, inspiration, and intended message. Some participants shared that, for contemporary pieces in particular, meaning is especially difficult to decipher. They believe the artist has the ultimate authority in illuminating the message they cryptically convey through their work. Closely following artist’s point of view was background; participants were curious about historical, cultural, and geographical context to provide added understanding of a piece. Third most common was the artist’s process and materials. Participants liked to visualize the construction process and consider the effort an artist went through to create the work in front of them. Content desired for labels further highlights that individuals feel the need for greater guidance when looking at and making an interpretation for contemporary art, especially for those who use labels to guide or spur their interpretive thinking.

When presented with a hypothetical interactive activity in response to the “high challenge” artwork, participants were generally intrigued. The majority (39%) said they would participate with the interpretive activity and a quarter of the group said that they would observe it but not personally interact. Another quarter were unsure, or said they would participate in certain conditions, while the smallest proportion (9%) said they do not like interactive devices.

Participation was believed to lead to increased understanding of a piece, deeper engagement, and higher interpretive self-efficacy. Likewise, participants said they could see interactives as a way to make works more interesting if they do not initially draw their attention based on aesthetics. Barriers to participation included social stigma, disturbing the environment, and lack of interest in the specific activity. Some individuals shared that visiting with a social group or children would lead them to participate more than if they visited alone, that they liked interactives in general, but were not interested in the modeled activity, or that they would participate if the activity addressed a different artwork.

Major concerns over negative learning consequences were mostly voiced by those indicating high self-efficacy, arguing that an activity would take away from their ability to formulate personal interpretations; ironically, being unable to formulate a personal interpretation was a critical struggle for many participants in the focus group as they described lower levels of appreciation and interest in certain works. There were also complaints about the activity being futile. Some rationale behind skipping the activity was due to sharing materials in a public space and the fleeting lifespan of their efforts. These individuals were more interested in participating when there was a take-home product or if they were contributing to a study or helping the museum achieve a goal.

Learning goals and self-efficacy were generally thought to be supported by the activity; participants considered the process helpful for contextualizing the work within their personal experience and led them to new questions and considerations about the piece. Although many appreciated the related, but not replicating nature of the activity, some revealed that an activity which did not directly translate concepts presented on the label would confuse them. These participants were hoping for something that directly reflects what was written on the label to help them build a solid schema to view the work. Others voiced concern that an interactive activity would not fit in with their concept of what an art museum provides. They spoke of art museums as sterile, cold, quiet, serious spaces that are not conducive to touching, examining, making, or doing like they expect within a science or children's museum.

Finally, participants suggested ways museums could be more attractive and inclusive for people who do not regularly view contemporary art. Many said added participation, in the form of interactive activities and studio-style art making would make a work more memorable and engaging, and events with food, alcohol, and socializing would help to get them in the door. They also revealed that the art museum atmosphere can be intimidating, and some were particularly apprehensive about being watched by gallery monitors. Participants also said that designated museum staff in the galleries available to answer questions or direct looking, either as a guided visit or simply available to answer questions in the space, would encourage them to think about and appreciate works more deeply. Additional information, more straightforward insights, and a personalized menu of what to see were also offered as methods to make contemporary pieces more interesting for infrequent visitors.

Throughout participant responses and recorded data, self-efficacy proved to influence a visitor's perception of a contemporary artwork. Ensuring that self-efficacy for all visitors is high likewise

implies higher levels of interest for visitors—it is through this awareness that museums can serve both the groups that are already comfortable addressing a contemporary piece and those who find contemporary works inaccessible. Through efforts which support self-efficacy, visitors to the museum will be able to more fully appreciate all works a museum makes available.

DISCUSSION

KEY FINDINGS

Self-efficacy is an important factor in developing interest in an artwork. As anticipated with Hidi and Renninger's model of interest development, low self-efficacy seemed to thwart further pursuit of interest caused by the situational trigger of encountering an object in the museum. High mean self-efficacy scores were correlated with high mean interest scores, indicating self-efficacy is integral in relation to developing interest in contemporary art. Future research would benefit from delving more deeply into the process of interest development by identifying the distinctions between triggered and emerging maintained situational interest in contemporary art and further identifying supports for this transition in the museum context.

The study compared self-efficacy and interest for those who might not regularly visit a museum with visitors who came to the museum during their free time. Subject pool participants showed significantly lower self-efficacy levels than visitors, but groups did not significantly differ in levels of interest. This finding helps to back the idea that those visiting a museum by choice might have heightened self-efficacy due to accrued cultural capital and comfort in the space, as proposed by Bourdieu and Darbel (1991). What Bourdieu and Darbel did not anticipate, however, was that despite this lack of cultural capital, low museum experience participants did not significantly differ from self-imposed visitors in levels of interest. Instead, it might be that simply the act of encountering an artwork while in a museum setting drives some level of interest in the piece. In addition to incoming self-efficacy levels, it could be the depth of involvement with a work decreases in less experienced visitors, rather than their ability to find a piece interesting.

Discussions with focus groups revealed that the strategy with which a participant viewed a work considerably changed the way they perceived the piece, giving study of involvement even greater plausibility as a second factor in developing interest. As a result of study design methodology, just over half of participants viewed artworks without labels, discussed their interpretations as a group, and then were allowed to read the labels from those works. Often, these participants remarked that they really enjoyed the delayed release of information; being “forced” to consider a work on their own for a period of time allowed them to make more careful observations, formulate opinions and begin to interpret the piece, but being allowed to view the label provided reassurance and satisfied questions that arose during this viewing period. This order of behaviors mimics that of the view, interpret, read approach strategy, and may be optimal for building confidence in art interpretation.

Examining psychological involvement in conditions which delay the release of information could expand on existing research on scaffolding, which explains that an individual learns in situations which provide help from the social context as it is needed (Ko, Schallert & Walters, 2003; Wood, Bruner, & Ross, 1976). Within the Vygotskian Zone of Proximal Development, the more knowledgeable other leads a learner to internalize new knowledge (Wood, Bruner, & Ross, 1976). Recent research reevaluates this more knowledgeable other in a variety of ways which go beyond the typical teacher- student model (Lantolf, 2000; Donato, 1994; Trognon, 1993).

Resources like labels, interactives, and social opportunities in the museum may take the place of the more knowledgeable other. Although not tested in this study, is likely that reading a label results in deeper involvement, or engagement with a work, than a quick glance and move to a different artwork. Participants’ statements point toward a piece’s aesthetics as a situational

interest trigger, which is pursued at a deeper level of involvement by use of supplemental information, in this case, in the form of a label.

In the quantitative measures, labels did not show a significant influence on visitor's perceptions of self-efficacy or interest, however, their presence or lack thereof was certainly deemed important in relation to these constructs during focus group discussions. Individuals who do not regularly visit museums and have low prior art knowledge explained that low interpretive self-efficacy resulted in frustration while looking at pieces whose meaning felt inaccessible; in extreme cases, these participants described art they were unable to interpret as being arbitrary or worthless. In order to form judgements about a work, they relied heavily on their own personal aesthetic preferences.

Participants with high self-efficacy did not depend as much on labels. They expressed interest in a piece based on personal associations or philosophies. Confident participants considered labels a useful framework to guide thinking, a source of authority to use in comparison with personal interpretations, and a way to gather pointers or tips when looking at the piece to guide making interpretations. Study participants indicated an interest in understanding the artist's point of view, any relevant background context in which the work was formed, and the process and materials the artist used to construct the pieces.

In terms of how labels were or were not used, participants shared four different approach strategies when viewing a piece. Approach strategy choices were directly tied to the participant's levels of self-efficacy for interpreting a work and levels of interest. These approach strategies may be more deeply developed with additional research using more common museum visitors to refine the profiles.

Interactive activities were generally considered to be intriguing and participants reported they provide a unique method to understand an artwork on a deeper level. Those who were not amenable to an interpretive activity suggested they would either observe or ignore the activity. Examining whether findings on interactive activities hold up and remain consistent with different types of activities, installed participation opportunities rather than a hypothetical example, and in different group dynamics (i.e. with family or friends instead of alone for a class) may be next steps for understanding the role of interactive activities in museum learning.

A few indicated that the shift toward interactive activities would disrupt the calm atmosphere of the museum. This suggests that Recharger motivational identities, who seek the museum space as a source of rejuvenation and escape (Falk, 2011), may be the most at odds with the idea of interpretive materials in a museum. Others echoed this concern that the art museum environment would change, but that the current environment is uncomfortable and restrictive, which influences what behaviors they are comfortable engaging with in the museum. Furthermore, although uneasiness near gallery monitors only appeared in two focus groups, when it did come up, other participants were quick to agree. Clarifying the impacts of the museum environment on feelings of self-efficacy, and in particular, perception of gallery monitors and how they influence the looking experience, may be a future direction for self-efficacy research in museum settings.

When asked about ways museums could make contemporary art more interesting for those who do not generally view it, participants shared ideas about increasing their comfort level in museums. These ideas ranged from added participation, social events, and a casual museum environment which might draw them to contemporary pieces they would not view otherwise. They also said they would be glad to have additional information about each piece, more straightforward descriptions on labels, staff available to answer any questions they had., and a

personalized menu of what to see. Underlying this group of suggestions is the desire for more guidance throughout an art museum with contemporary works, much like a request for a knowledgeable other to make learning possible in the visitor's current zone of proximal development.

LIMITATIONS

There are several limitations within this study in being able to broadly address increasing interest and self-efficacy for those who do not normally view contemporary art. Using university students as a sub-group may have had unintended sampling effects; a comparison between self-efficacy in museum visitors and a random sample from the general non-museum-visiting public might be a more accurate and compelling assessment. However, art museums and museums in general find the college age group to be the most difficult to draw into their programs and offerings. It is this reason that using university aged participants to describe barriers to attendance, although a limited perspective, also represents one that is generally the least often incorporated in museum research.

Sparse research concerning museum-specific contexts and established psychological constructs lead to some restrictions for findings. The use of exploratory scales is a limitation since measures were not tested for validity or reliability outside of the study. Without prior psychometric development, these two unique scales for interpretive self-efficacy and art interest still require through testing to ensure they measure the constructs they seek.

Likewise the physical setting of the study imposed some limits. Traditional techniques to achieve random assignment were impractical in testing label versus control groups during the visit in the museum setting, and the use of paying museum visitors as participants led to varying degrees of

adherence to study instructions (e.g., not reading the labels even when they were assigned to that group, influence of comments from non-participant group members, etc.). However, this setting and group makeup is valuable and representative of most museum contexts which display contemporary art. Although the museum setting may not completely isolate participants and variables, data reflect the natural environment in which the studied constructs are intended to emerge. Essentially, results were meant explore feelings of self-efficacy and interest in a museum where other factors are not limited; gathering data in a similar environment is useful for making practical recommendations within that space.

Another critical issue with the study design is that required looking and responding to a questionnaire could act as a self-efficacy support on its own. All reports of self-efficacy were provided as the participant stood in front of the required artwork. The researcher noticed that participants, who were carrying around clipboards and contemplating each of the three pieces in both free-response and scaled items, generally spent more time in the gallery than other individuals in their group, occasionally came back later to view other artworks, remarked to the researcher or requested additional information about the piece, or asked to see the labels when a work's label was covered. Having a selected path, responding to simple driving questions, and having a sanctioned representative of the museum to interact with all were described as self-efficacy supports within the focus group. Likewise, imposing the view, interpret, read, approach strategy on the control group for subject pool participants may have led to deeper involvement with the works, and therefore, greater interest. Although there is no way to remove these factors from the results, it may be worthwhile to consider that these levels of self-efficacy and interest may in fact be inflated from where they would lie if a visitor were more organically reporting their self-efficacy and interest during their visit.

Finally, since challenge levels were ascribed by the researcher and museum staff, they are not necessarily reflective of *visitor* perception of challenge when viewing those artworks. Although generally, focus group statements tended to reflect the intended challenge levels, there were some who felt the reverse; they believed the easy challenge level work was actually the most difficult, and the most difficult was the simplest to consider. To clarify this relationship, future study participants should report their perceived level of interpretation challenge for each work and the iterative use of different contemporary artworks will help to discern whether level of anticipated interpretive challenge is truly an interacting factor for self-efficacy and prior knowledge. Furthermore, samples comparing prior knowledge groups were relatively small, and visitors were forced into a dichotomy (low or high prior knowledge). Deeper examination of distinctions between prior knowledge and self-efficacy could continue to clarify this relationship in a museum context.

IMPLICATIONS

Self-efficacy support is evidently a critical component to developing interest in contemporary art. Traditional support strategies, like labels for artworks, are only able to provide limited support for developing one's own interpretation of a piece. As interpretive interactive activities become more commonplace, museums must make every effort to ensure these activities embrace all ages and levels of education. Furthermore, art museums must understand the impact of what the environment communicates to visitors; museums should make efforts to ensure the physical space in which artworks are displayed do not feel judgmental or withholding of information, but rather are open to the variety of ideas and interpretations and freely supply content to foster these connections.

Museums must be open to hearing that their visitors find a piece frustrating. Actively searching out feedback regarding interpretive self-efficacy can help museums choose interpretive strategies for each piece and allows museums to offer appropriate assistance for launching an individual's interpretations. In order to host accessible, successful public exhibitions, rather than insular, specialized showings, art museums should take visitor self-efficacy into consideration during all aspects of the planning process.

With the direct connection between interpretive self-efficacy and interest in contemporary art clearly established, art museums can continue to refine interpretation techniques. Self-efficacy supports in art museums are of crucial importance for visitors who do not regularly view contemporary art and have low background knowledge. To reach and be a resource to its broader public, art museums must support visitor interpretive self-efficacy, particularly in regards to contemporary art.

APPENDICES

APPENDIX A: PRE-SCREENING QUESTIONS FOR FOCUS GROUP PARTICIPANTS

How many times in the last year have you viewed Contemporary art (in a museum, gallery, showing, art auction, etc)?

NOTE: In this study, the term *Contemporary art* refers to art created since 1960.

- Never
- 1-3 viewings
- 4-6 viewings
- 7-10 viewings
- 10 or more viewings

I have a formal education background in visual arts (I have studied studio art, art history, design, photography, graphic design, etc)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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I am a practicing visual artist, either by profession or by hobby.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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APPENDIX B: FALK VISITOR MOTIVATION IDENTITY CARDS

Museum Identity-Related Motivation Instrument.
© J.H. Falk 2008

EXPLORERS



FACILITATORS



EXPERIENCE SEEKERS


I was told that it is one of the best places to visit around here




This place is a landmark in this community



I wanted to be able to say that I'd been there



I wanted to have fun




PROFESSIONALS/HOBBYISTS

I was hoping to find out more about something in particular



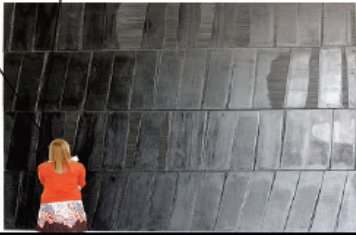
This is my hobby and I come all the time



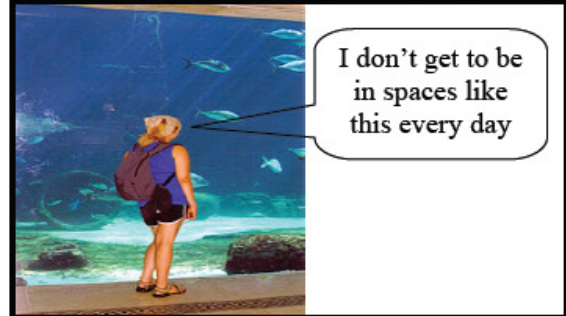
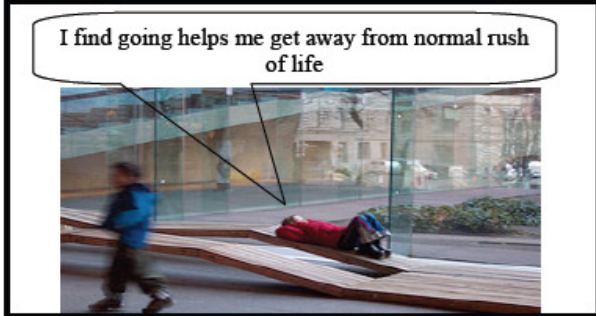
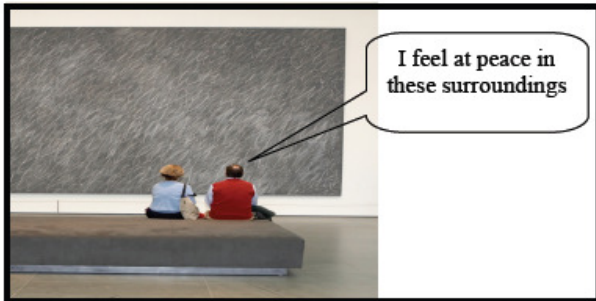
It relates to the kind of work I do and I find it useful



I'm quite knowledgeable but like to keep up with what's new



RECHARGERS



APPENDIX C: PRE-STUDY BACKGROUND QUESTIONS

Background knowledge & Experience measures:

During the last year, how many times have you visited a museum?

- € This is my first visit in the last year
- € 1-3 visits
- € 4-6 visits
- € 7-10 visits
- € 10 or more visits

How many times in the last year have you viewed Contemporary art (in a museum, gallery, showing, art auction, etc.)?

NOTE: In this study, the term *Contemporary art* refers to art created since 1960.

- € This is my first viewing in the last year
- € 1-3 viewings
- € 4-6 viewings
- € 7-10 viewings
- € 10 or more viewings

Self-Efficacy & Interest background measures:

In the grid below, please mark the extent to which you agree with each of the following statements:	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I have a formal education background in visual arts (I have studied studio art, art history, design, photography, graphic design, etc.)					
I feel comfortable making sense of Contemporary artwork					
I am interested in Contemporary art					
I am a practicing visual artist, either by profession or by hobby					
I am interested in art on a general level					
I am comfortable making sense of most art					

APPENDIX D: PERSONAL RESPONSE MEASURES FOR WORKS OF ART

In a few sentences, what are your impressions of this artwork?

What do you want to know about it?

What three words come to mind when you look at this artwork?

Is there anything else you would like us to know about this piece?

Interest and Self-Efficacy Scales for individual artworks

In the grid below, please mark the extent to which you agree with each of the following statements:	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I think this artwork is interesting					
I feel comfortable discussing this artwork with another person					
I want to learn more about art like this piece					
I have the skills & information needed to understand this artwork					
I am frustrated when I try to make sense of this artwork					
With enough thinking & close looking, I can “get” this artwork					
I don’t want to see more work like this					
My beliefs about this artwork are what really matter					
Artwork like this is inspiring					
I like to consider what works like this might be trying to say					

APPENDIX E: POST-STUDY QUESTIONS

Below are several themes museums discuss when talking about Contemporary art.

Please select **THREE** options that are most interesting to *you*.

- € **How it’s made**- Which materials were used and how it was constructed
- € **Background**- What context was this made in (time era, cultural influences, information about the artist)?
- € **Highlights**- Where should I direct my attention to make sure I notice important parts of this piece?
- € **Artist Point of View**- What *the artist* has to say about their work
- € **Expert Point of View**- What *art experts* have to say about this work
- € **Relevance**- What this has to do with current events/issues
- € **Personal Response**- What memories, emotions, or thoughts come to mind when I look at this work?
- € **No Interpretation**- I would like to experience the work with no guidance
- € **Other**-_____

Below are some ways that museums present ideas about art.

Please select **THREE** options that you personally would find engaging with Contemporary art

- | | |
|---|--|
| <input type="checkbox"/> Live demonstrations related to making art | <input type="checkbox"/> Guided visits or tours |
| <input type="checkbox"/> Live lectures related to work on display | <input type="checkbox"/> Talking with non-costumed staff in the vicinity |
| <input type="checkbox"/> Speaking with staff dressed in costume related to the work | <input type="checkbox"/> Audio tours |
| <input type="checkbox"/> Classes or workshops outside of the gallery | <input type="checkbox"/> Purchasing gift shop items |
| <input type="checkbox"/> Musical performances related to the work | <input type="checkbox"/> Dining experiences tied to work on display |
| <input type="checkbox"/> Hands-on art-making activities | <input type="checkbox"/> Hearing a recorded interview with the artist |
| <input type="checkbox"/> Reading text panels/ brochures | <input type="checkbox"/> Games related to the work |
| <input type="checkbox"/> Nothing at all | <input type="checkbox"/> Videos related to the artwork |

Engagement strategies & Overall Interpretive Self-efficacy

In the grid below, please mark the extent you agree with each of the following statements:	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I used background knowledge to build understanding of the works on display					
I felt comfortable making sense of the artwork I saw					
The works I saw made me think about the world around me					
To be honest, I didn't really like the art that I saw					
I considered how the works made me feel when I saw them					
The artworks I saw were confusing					
The artworks I saw were inspiring					

APPENDIX F: SELF-EFFICACY AND INTEREST SCALES (DEVELOPED SPECIFICALLY FOR THIS PROJECT)

Self-Efficacy Scale: 5 Items

In the grid below, please mark the extent to which you agree with each of the following statements:	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I feel comfortable discussing this artwork with another person					
I have the skills & information needed to understand this artwork					
I am frustrated when I try to make sense of this artwork					
With enough thinking & close looking, I can “get” this artwork					
My beliefs about this artwork are what really matter					

Interest Scale: 5 Items

In the grid below, please mark the extent to which you agree with each of the following statements:	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I think this artwork is interesting					
I want to learn more about art like this piece					
I don't want to see more work like this					
Artwork like this is inspiring					
I like to consider what works like this might be trying to say					

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