

## EMOTIONAL RESPONSE OF ARTISTS TO THEIR BEST PAINTINGS

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### ABSTRACT

The goal of this paper is to assess the magnitude and duration of emotional response of artists to their own best artwork. A group of 55 artists with extensive experience in juried art shows were asked to rate their emotional response and duration to their best paintings on a scale of 1 to 5. They were also asked to rate their level of art experience. The responses of a much smaller group of college undergraduates in a painting class were also evaluated. The data was then analyzed as a function of experience, age, gender and duration of emotional response. Effect sizes and confidence levels of 95% with lower and upper confidence intervals were calculated for the comparisons. The study shows that highly experienced artists show more emotion regarding their artwork and the duration last longer than less experienced artists. Furthermore, age and gender of the artist make a difference in the level of emotion. The implications of this research to art education is also addressed.

**Key Words:** Emotional Response, Artwork, Art Education, Visual Arts.

### 1. INTRODUCTION

The subject of paintings that evoke varying types of emotions has been thoroughly researched since the seventeenth century. Since then, there were many papers on emotional response to artwork but the author will focus on recent papers that are relevant to this research. Freedberg (1989) reached conclusions regarding the immediate perception of an image and the emotional responses to it. More recently, Freedberg (2012) cited that The Art & Neuroscience Project of the Italian Academy for Advanced Studies in America at Columbia University has been established to encourage investigation of responses to works of art – visual, literary, and musical. New developments in the cognitive neurosciences have greatly illuminated the neural function of such responses. It is cited that the observation of specific categories of visual stimuli induces the activation of the observer's cortical motor system. In particular, Umilta (2012) showed, both in monkeys and humans, the observation of motor acts and gestures activate their motor representations in the observers' brain. The perception of visual artworks begins with the visual analysis of the stimulus, which then undergoes further processing. There is an "aesthetic experience" likely based on biological mechanisms that are influenced by factors such as the context, individuals' interest in the artwork, prior knowledge, and familiarity. This means that neuroscience plays a key role in the evaluation of the emotional response to artwork.

Silvia (2005) describes how appraisal theories of emotion address the study of aesthetics. In particular, he showed that appraisal theories provide new directions of emotional responses to art

beyond the emotions of interest and enjoyment. In another paper, Silvia (2012) develops a model of aesthetic experience that is found in appraisal theories of emotion. He noted that emotions develop from subjective understandings of art and showed that there is an expansion of esthetic states. On the other hand, Konecni (2015) offers a different viewpoint in his examination of the status of emotion in the domain of paintings. He cited that paintings do not provide genuine emotions in viewers since the associations and memories are fully engaged. This research demonstrates that there are controversies associated with the emotional response.

Eskine, Kacinik, and Prinz (2012) examined the effects of emotion and physiological arousal and their role in aesthetic experience in paintings. Students were subjected to conditions of fear, happiness, high and low physiological arousal, and then exposed to selected paintings. They were then asked to rate their emotional experience. Fear was the only factor found to significantly increase sublime feelings. Markovic (2010) investigated the relationship between aesthetic experience and other emotional qualities judged in paintings. The aesthetic experience included 8 factors ranging from exceptional to awe to unspeakable, while the emotional qualities included 14 factors ranging from lovely to angry. The aesthetic feeling is defined by an individual's fascination and a feeling of as significant relationship with the painting. Furthermore, he cited that the aesthetic experience is not reducible to pleasure or attraction, but it can be associated equally with both pleasant and unpleasant paintings. The type of emotional response is important but in this paper the focus will be on the level of such response.

There are two papers that are relevant to art education. D'Onofrio and Nodine (1981) evaluate a specific model of aesthetic development. The results of children's response to questions about four paintings provide support for four stages of aesthetic appreciation. Stage one is characterized by favoritism, stage two emphasizes beauty and realism, stage three is focused on expressiveness, stage four goes into a deeper understanding of style and form. Children were increasingly able to recognize and appreciate the point of view of the artist as they got older. The paper suggests that art educators may wish to focus art instruction on the four stages of aesthetic appreciation which are closely tied to cognitive development. It should be noted that aesthetic appreciation could be an initial step in developing an emotional response.

Freedman and Wood (1999) focused on the ways in which a group of high school students responded to fine art and other forms of visual culture. Three emergent themes of student response were discussed: a) purposes of visual imagery, b) interpretation of visual images, and c) relationships between visual images. The results of the study indicate that student responses to popular visual culture may aid in our understanding of their responses to fine art.

In an earlier paper, Musa (2014) analyzed how the degree of emotional response one experiences in music might be replicated in a painting. The goal was to identify critical factors that generate an emotional response in a painting. The process of recognition of an art form was defined and results of experiments by neuroscientists were outlined. The personality profiles of artists and the general viewing public were identified and common elements were highlighted. The results show that the emotional response was high and dependent on many factors. Subject

matter was critical and effective use of light can have as much of an impact as color. This may be of value to art educators in the development of their courses.

In a follow up paper, Musa (2016) analyzed the type of emotional response to paintings that specifically generate an awe sensation and identified the critical characteristics of such paintings. Four paintings that provided an awe sensation to the author were initially selected. Experiments were then conducted involving individuals with various backgrounds including a subset of art students and some provided their personality profile scores. The data was analyzed for the degree of awe sensation as a function of age, gender, formal training in art, and personality profile. Effect sizes and confidence level of 95% with lower and upper confidence intervals were calculated for the comparisons. More specifically, the awe sensation was greater with females than males, with younger participants, and with those that have formal art training. Students with Openness personality profiles provided the greatest correlation and lowest with Neuroticism personality. These results may aid educators to motivate students to appreciate the degree of high level of emotions that art can provide.

In a more recent paper, Musa (2018) analyzed the type and degree of emotional response to graphic designs. Four graphic designs were selected for the analysis. Experiments were then conducted involving 132 individuals with various backgrounds including a large subset of students taking art and graphic design courses. The participants were asked to rate each graphic design and the data was analyzed for the type and degree of emotion as a function of age, gender, and level of exposure to graphic designs. Effect sizes and confidence level of 95% with lower and upper confidence intervals were calculated for the comparisons. More specifically, the emotional response varied considerably depending on the type of message of the designs, age, gender and level of exposure. The rationale for the variations was also provided. This research may assist educators in the development of a curriculum in graphic design.

## **2. EXPERIMENTAL PROCEDURE**

As mentioned earlier, the goal of this paper is to evaluate the magnitude and duration of emotional response of artists to their best paintings. The definition and choice of best is left to the artist. It is true that the definition of best by one artist is different from another. It is possible that one artist may consider best as the painting that received the highest award. Another artist may feel that the one that sold for the most amount of money from his/her collection. The author was fortunate to have a painting that was selected for the show and therefore was able to ask the artists to participate in the survey. They agreed without any hesitation. A group of 55 artists with extensive experience in juried art shows and sales of their artwork were asked to rate the magnitude of their emotional response to their best paintings on a scale of 1 to 5 (1: none, 2: below neutral, 3: neutral, 4: above neutral, 5: maximum). They were asked to rate the duration of the emotional response on a scale of 1 to 5 (1: minutes, 2: hours, 3: days, 4: weeks, 5: months). They were also asked to rate their level of experience in artwork on a scale of 1 to 5 (1: nominal, 2: basic, 3: intermediate, 4: advanced, 5: expert). In addition, they provided their age with 1 for below 50 years and 2 for above 50. The reason for this choice of age bracket instead of a more detailed age distribution is that some of the artist may not feel comfortable about such refinement. Furthermore their gender was also recorded. The data was then analyzed as a

function of experience, age, gender and duration of emotional response. Effect sizes and confidence levels of 95% with lower and upper confidence intervals were calculated for the comparisons. The objective was to assess the magnitude and duration of their emotional response to their own best paintings. Is the high or dopamine rush short lived? The rating of their own experience in artwork is important to determine if highly experienced artists are more emotional of their artwork and possibly critical of it? Furthermore, does age and gender of artist make a difference in the level of response?

### 3. ANALYSIS

Analysis of the data on the magnitude of emotional response shows an average of 4.62 out of 5 with a standard deviation of 0.65, which indicates a significant level of emotion. The duration of the emotional response shows an average of 3.93 out of 5 with a standard deviation of 0.51, which demonstrates a duration that lasts weeks. The level of experience in artwork of the group shows an average of 3.8 with a standard deviation of 0.49, which places the artist roughly in the advanced category. The number of the artists in the age category of below 50 is 7 and those above 50 is 48. The gender of the group shows that 42 were females and 8 were males.

Effect size is a quantitative measure of the magnitude of the experimenter effect. The larger the effect size the stronger the relationship between two variables. The effect size and 95% confidence levels were then determined utilizing Hedge's g statistic for the difference between the two means as shown by the formula

$$g = (y_1 - y_2) / s_p$$

with  $y_1$ ,  $y_2$ , and  $s_p$  denoting the mean of sample 1, the mean of sample 2, and the pooled standard deviation.

The formula for the pooled standard deviation is

$$s_p = \sqrt{[(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2] / [(n_1 - 1) + (n_2 - 1)]}$$

with  $s_1$  and  $n_1$  denoting the standard deviation and number of observations for sample 1, respectively, and  $s_2$  and  $n_2$  denoting the standard deviation and number of observations for sample 2, respectively.

The effect size for magnitude of emotional response versus duration was 1.17 with a lower confidence interval (CI) of 1.06 and upper CI of 1.28. This show that there is a high correlation between magnitude and duration of emotional response. Likewise, the effect size for the magnitude of emotional response versus experience of the artist was 1.42 with lower CI of 1.31 and upper CI of 1.54. This shows even a higher correlation. This implies that the more experience the artist has the greater the emotional response. In other word, experience makes a difference! Based on additional 1 on 1 interviews of the artists, it appears that the experienced artists have greater knowledge of the significance of their artwork and its impact on the viewer having participated in many juried art shows and produced many painting that were sold at these

shows. As a result they are in touch with their emotions when it comes to producing their best artwork. In fact some of the artists elaborated on their high level of emotion to their best paintings. Others highlighted the fact that their emotions begin with the process of selecting the subject matter and preparation of the art well before the painting is completed. Based on the 1 on 1 interviews, it also appears that the subject matter of the painting plays an important role in the magnitude of the emotional response. In the case of duration of emotional response, some artists indicated that it occurs every time they look at their best paintings and it lasts for years. A comparison of duration versus experience shows an effect size of 0.26 with lower CI of 0.17 and upper CI of 0.35. This is a nominal difference perhaps due to the perception that experienced artists are closer in touch with their emotions about their best paintings and the duration of that emotion as explained above.

Now let us consider the age factor. The above 50 individuals had an emotional response with an average of 4.67 and standard deviation of 0.71, while the 7 individuals whose age is below 50 had an emotional response with an average of 4.29 and standard deviation of 1.60. A comparison of the two age groups showed an effect size of 0.44 with a lower CI of 0.21 and upper CI of 0.66. It is a medium effect according to the categories of Cohen. It is clear that the older group produced slightly higher level of emotional response perhaps due to their greater exposure to artwork over their lifetime.

As for the gender factor, the magnitude of the emotional response of the 42 females was 4.64 with a standard deviation of 0.75, while the 13 males had an average of 4.54 with a standard deviation of 1.30. The effect size was 0.11 with lower CI of -0.13 and upper CI of 0.35 which is nominal. This shows that gender does not matter when it comes to magnitude of emotional response to own best paintings. This was a surprising result since there is a perception that females are closer in touch with their feelings than males. But when it comes to magnitude of the emotional response there is no difference.

The author then wanted to explore the methodology with a much less experienced and different age group who are interested in art. A group of 8 undergraduate students in a painting course were then asked to rate the magnitude and duration of their emotional response to their best paintings. They were also asked to rate their level of experience in artwork. The same criteria and range of parameters was given to this much smaller group as was done for the professional artists. Analysis of the data on the magnitude of emotional response shows an average of 3.63 out of 5 with a standard deviation of 1.19, which indicates above neutral level of emotion. The duration of the emotional response shows an average of 3.38 out of 5 with a standard deviation of 1.16, which demonstrates neutral duration that lasts days. The level of experience in artwork of the group shows an average of 3.13 with a standard deviation of 1.12, which places the students roughly in intermediate category.

It is clear that students at the undergraduate level demonstrated significantly less emotional response than experienced artists and also less duration of response. This to be expected due to their limited level of experience in artwork and knowledge of the critical elements of paintings. It

will take time and dedication to refine their skills and achieve the high level of expertise necessary for producing high quality paintings.

The challenge of art educators is to motivate the students to improve their skills and enable them to be technically proficient. Many educators believe that their role is to encourage students to be good enough in artwork so as to have ultimately a lifetime of joy. There are significant rewards in the pursuit of art including personal gratification, sense of accomplishment, relaxation and happiness. This kind of research maybe of some value in the development of core curriculum and standards in visual arts. It provides some inputs to the creative process of art, which nurture many aspects of curiosity, creativity and innovation, communication and collaboration. A summary of the statistical analysis of the 55 respondents is shown in the following table.

**Table 1. Summary of Statistical Analysis**

Outcome Measure	M1	N1	SD1	M2	N2	SD2	Effect Size	Lower CI	Upper CI
Emotional Response vs Duration	4.62	55	0.65	3.93	55	0.51	1.17	1.06	1.28
Emotional Response vs Experience	4.62	55	0.65	3.8	55	0.49	1.42	1.31	1.54
Age: Above 50 vs Below 50	4.67	48	0.71	4.29	7	1.60	0.44	0.21	0.66
Duration vs Experience	3.93	55	0.51	3.8	55	0.49	0.26	0.17	0.35
Gender: Female vs Male	4.64	42	0.75	4.54	13	1.30	0.11	-0.13	0.35

The rationale for the focus on emotional response to one’s own best paintings versus masterpieces by famous artists is the desire to assess the emotions associated with personal artwork. There is a lot at stake here for the artist in terms of pride, major accomplishment and potential sale of the artwork in a show. It is well known that there is a definite high when one achieves a major accomplishment such as a graduation, job promotion, birth of a baby, etc... The question is there a similar high when one completes their best painting. Based on the responses to the survey and the statistical analysis, the answer is in the affirmative.

**4. SUMMARY**

The magnitude and duration of emotional response to own best paintings was assessed. In addition, the variation of emotional response as a function of experience, age and gender was determined. The magnitude of emotional response to own best paintings was shown to be significant. Likewise, the duration of this response was also significant and lasts for weeks. The 55 artists who participated in this effort have a level of experience in the advanced category. The age distribution of the artists is 7 under 55 years and 48 above 50 years old. The gender of the group shows that 42 females and 8 males. The effect size with 95% confidence was high for magnitude versus duration of emotional response. This means the greater the magnitude of emotion the longer is the duration of response. Likewise, the effect size for magnitude of emotion versus experience was also high. This implies that the greater the experience the artist has the greater the emotional response.

The effect size for the age variation shows a medium effect and the older group experienced a higher level of emotion response perhaps due to their greater exposure to artwork over their lifetime. The effect size for the variation in gender was nominal. This shows that gender does not matter when it comes to magnitude of emotional response to one's own best paintings.

The response from the limited number of undergraduate students to the survey verified that their emotional response is significantly less than that of experienced artists and also less duration of response. This to be expected due to their limited level of experience in artwork and knowledge of the various styles of paintings. It will take time and dedication to refine their skills and achieve the high level of expertise necessary for producing high quality paintings.

It is evident from this study that the magnitude of emotional response varies with duration, experience, age and gender of the artist. An explanation of the major differences was highlighted in this paper. Based on the feedback from some of the artists, the subject matter of the artwork is a key factor in the magnitude of the emotion. A more thorough examination by neuroscientists is required to determine the nature, magnitude and duration of the emotional response in the brain.

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Author declares that he has no conflict of interest.

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