

Do Positive and/or Negative Stimuli Temporarily Effect Aesthetic Preferences?

Ross Gendels
Behavioral Ecology

“One man’s garbage is another man’s treasure” is an American proverb. It is another way of saying that people have individual preference. While this proverb is meant to be reassuring to the populous of individual, preferential Americans, the proverb tends to send my mind in a loop - What is garbage? What is treasure? What makes a person like treasure when another person thinks that the treasure is garbage? The phrase, which is referring to human preference, reminded me of a very specific question which I hear multiple times every day - “What do you think of this piece?”. During critiques at school I am asked to translate my preferential and idealistic aesthetic views into positive and negative advice. Many a day have I seen a piece of work during a critique and contemplated whether I would say something different if the activities prior to the class had been different. Would my garbage one day be treasure another day? - another hour? - another minute? How can my aesthetic preference (my perception of garbage and treasure) be changed due to either positive or negative stimuli? To answer this question I must first poise myself with the task of doing research as to what psychologically constitutes an “aesthetic experience” (Leder. 2004). While searching for viable hypothesis as to what constitutes an “aesthetic experience” I came across the study of neuroaesthetics. According to Marcus Pearce from the International Network for Neuroaesthetics “The main objective of neuroaesthetics is to characterize the neurobiological foundations and evolutionary history of the cognitive and affective processes involved in aesthetic

experiences and artistic and other creative activities.” (Pearce. 2011). The discovery of this study led me to the startling conclusion that there is in fact no concrete answer as to what defines an aesthetic experience. Philosophers such as Plato, Kant and Winkelman have all theorized as to what constitutes an aesthetic experience and even with new technology such as fMRI’s an exact answer has not yet been found (Zeki. 2011). An experiment performed by Nadal Forsyth suggests that visual complexity is an indicator of aesthetic preference (Forsythe. 2011). Edward Vessel and Vava Rubin recently tested subjects and found in their tests that that when exposed to familiar artwork versus abstract artwork individual observers found pieces of art with familiar objects more aesthetically pleasing. Rubin and Vessel completed this study through a method of testing called the “Single draw paired comparisons method” This method is a modification of a standard paired comparison method. Images were shown one at a time and observers were requested to compare each new image to the immediately preceding image (Vessel, Rubin, 2010). In a similar study completed by Paul Hekkert aesthetic preference was tested on artists and non-artists. The conclusion of the experiment resulted in data which led researchers to believe that “artists” attach more aesthetic preference to originality than “non-artists” (Hekkert, 1996). After looking at all of these different hypothesis and conclusions as to what constitutes an aesthetic experience it is clear that the answer is still a mystery. While this thought gave me much

trouble, I was extremely happy to find an experiment done in 1982 by Alice Isen and Thomas Shalke which is extremely similar to the experiment which I plan to complete. Alice Isen and Thomas Shalke completed a study on the effect of emotional state on the evaluation of preferential, neutral and non-preferential photographs. The emotional state of the participants was controlled by good and bad test scores. Isen and Shalke then had the three groups of participants (good test score, bad test score and no test score) rate the photographic slides. The concluding results came back as Isen and Shalke had expected. The participants with the negative stimuli rated the photographs harsher than the control group (with no stimuli) and the positive stimuli group (Isen, Shalke, 1982). Isen and Shalke's experiment provided me with great insight into possible methods of testing as well as methods of inflicting positive and negative stimuli. Another researcher who gave me great insight into my impending experiment was Vladimir Konecni. Konecni believes that aesthetic preference and even aesthetic creation is effected by what he calls social variables. He defines these variables as, "stimuli which emanate from people's everyday behavior in common social "micro-situations" or episodes. I propose that such variables can have powerful effects on the aesthetic choice of individuals exposed to them, in part because of the pronounced emotional states they induce. Moreover, the aesthetic choice in question could be something as simple and mundane as selecting one phonograph record or radio station over another. It would seem that an adequate psychology of art must take into account not only novelties and vogues in the creation of art, but also changing styles, settings, and objects of aesthetic appreciation (Konecni, 1978). In order for my experiment to be valid I must have my participants rate art which has a variety of styles, settings and objects. Based off of an experiment performed

by Dorothee Augustin and Helmut Leder I must also take into great consideration the level expertise my participants have in the field of art. The researchers found that a higher level of expertise in art will lead to a different way of aesthetically processing a piece of art (Augustin, Leder, 2006). It has become very clear that in order to answer the question of whether or not positive and/or negative stimuli temporarily effect aesthetic preference I must be extremely consistent in the type of people I choose for my participants as well as the type of art I include in my slides.

In order to properly answer the question: Do positive and /or negative stimuli temporarily effect aesthetic preferences? There are several different results and predictions that must be considered.

1. Stimulus will cause an analogous rating of artwork (a positive stimulus will lead to a higher rating and a negative stimulus will lead to a lower rating).

If presented with a positive stimuli the participant will assess the given artwork with a more positive evaluation.

If presented with a negative stimuli the participant will assess the given artwork with a more negative evaluation.

2. Stimulus will cause an analogous rating of artwork (a positive stimulus will lead to a lower rating and a negative stimulus will lead to a higher rating).

If presented with a positive stimuli the participant will assess the given artwork with a more negative evaluation.

If presented with a negative stimuli the participant will assess the given artwork with a more positive evaluation.

3. Stimulus will not cause any change in the rating of artwork.

If presented with a positive or negative stimuli the participants assessment of given artwork will not change.

Materials

The following materials are necessary in order to address the question “Do positive and/or negative stimuli temporarily effect aesthetic preferences?”.

Three groups which each contained twenty participants – **The control group** (not given any stimuli), **the negative stimuli group** (participants introduced to a negative stimuli) and **the positive stimuli group** (participants introduced to a positive stimuli).

In order to introduce the participants to positive or negative stimuli I made a quiz which contained semi-difficult art history related questions (Figure 1).

The participants will be presented with a slide show which contains Eighteen unrecognizable pieces of art. The slide show is methodically organized so that Twelve ambiguous slides will come first, then three aesthetically pleasing slides mixed together with three aesthetically unpleasant slides. The ambiguous slides come first so the participant is not initially swayed by the bipolar aesthetics of the aesthetically pleasant and aesthetically unpleasant slides. The aesthetically pleasant slides and the aesthetically unpleasant slides are together at the end so the participant does not experience a run of all aesthetically pleasant slides followed by a run of all aesthetically unpleasant slides. The slides which are selected as being aesthetically unpleasant, aesthetically ambiguous and aesthetically pleasant were decided using the results from an earlier study which, in this case, can be called Study A. Study A, asked Twenty participants to rate Thirty different pieces of artwork using the same rating system (One through Eight) which is implemented in this particular study. Using the average ratings from Study A, I was able to select artwork for this experiment which the participants from study A pointed to as being the most unpleasant, ambiguous and pleasant pieces of artwork.

A rating sheet which contains Eighteen blank

spaces, each of which the participant can use to record his/her rating of the artwork presented to them. I created a digital rating sheet in Google Docs (Figure 2) which the participant was able to complete on an iPad. I found this method most efficient because the ratings of each participant were separated by group and sent to a spreadsheet.

While I found giving the participant a digital method of rating to be more efficient then giving them a physical rating sheet, giving the participants a rating sheet on a piece of paper will work fine but will take longer in the when the ratings need to be transcribed to excel.

Note: Whichever method is used on one participant should be used on all the participants.

Method

The Control Group

When introducing the participant to the experiment he/she was told that they will be “Participating in a two step test which may be used to formulate the curriculum of a new art history class”. The participant was then given the quiz and told, “The quiz will be collected and graded after its completion. Unfortunately the results cannot be shared”. Once the participant finished the quiz it was collected and the participant was asked to “Please wait a few moments while your results are processed”. After two minutes of pretending to grade the quiz the participant was asked if he/she was, “Ready to take the second and final part of the test?”. The participant was then brought into a room and given an iPad which had the rating system pre-loaded on the screen and ready for the participant to use. The participant was then told the instructions for the second and final part of the test. They were told something along the lines of, “I am going to put on a slide show that will present you with Eighteen different pieces of art. You are going to have to rate each slide based on your aesthetic preferences towards the featured piece. To rate the slides you are going to

choose a number One through Eight which correlates to your aesthetic preference. For example, giving the piece a One would mean you found it aesthetically unpleasant, giving it a Four would mean you found the piece aesthetically average or ambiguous, and giving the piece an Eight would mean you found the work aesthetically pleasing. You can record the ratings for each slide using the rating system on the iPad. To use the rating system all you have to do is tap One of the Eight checkboxes which each corresponds with a single number rating. If you decide to rate a piece Four you tap the checkbox which says Four. Once you are done rating the slide you should hit the button labeled "Next" which will bring you to a new series of checkboxes labeled One through Eight. To prevent you from getting lost, every slide is labeled in order with a number that corresponds to the number of each question on the iPad. On the final slide, the button which says "Next" will instead say "Submit". If the slide show is over you should click that button. Once you have submitted your ratings please let me know and I will collect the iPad." After the directions were explained the participant then began the slide show and was watched from afar at a comfortable distance until he/she submits the ratings.

The Positive Stimuli Group

When introducing the participant to the experiment he/she was told that they will be "Participating in a two step test which may be used to formulate the curriculum of a new art history class". The participant was then given the quiz and told, "The quiz will be collected and graded after its completion". Once the participant finished the quiz it was collected and the participant was asked to "Please wait a few moments while your results are processed". After two minutes of pretending to grade the quiz the participant is introduced to a positive stimuli and asked, "Out of curiosity.... did you do well in art history? Because you did extremely well on the

test and your score was actually much higher than most people who take this." After the participant was told how well they were asked if they were "Ready to take the second and final part of the test?". The participant was then brought into a room and given an iPad which had the rating system pre-loaded on the screen and ready for the participant to use. The participant was then told the instructions for the second and final part of the test. They were told something along the lines of, "I am going to put on a slide show that will present you with Eighteen different pieces of art. You are going to have to rate each slide based on your aesthetic preferences towards the featured piece. To rate the slides you are going to choose a number One through Eight which correlates to your aesthetic preference. For example, giving the piece a One would mean you found it aesthetically unpleasant, giving it a Four would mean you found the piece aesthetically average or ambiguous, and giving the piece an Eight would mean you found the work aesthetically pleasing. You can record the ratings for each slide using the rating system on the iPad. To use the rating system all you have to do is tap One of the Eight checkboxes which each corresponds with a single number rating. If you decide to rate a piece Four you tap the checkbox which says Four. Once you are done rating the slide you should hit the button labeled "Next" which will bring you to a new series of checkboxes labeled One through Eight. To prevent you from getting lost, every slide is labeled in order with a number that corresponds to the number of each question on the iPad. On the final slide, the button which says "Next" will instead say "Submit". If the slide show is over you should click that button. Once you have submitted your ratings please let me know and I will collect the iPad." After the directions were explained the participant then began the slide show and was watched from afar at a comfortable distance until he/she submits the ratings.

The Negative Stimuli Group

When introducing the participant to the experiment he/she was told that they will be “Participating in a two step test which may be used to formulate the curriculum of a new art history class”. The participant was then given the quiz and told, “The quiz will be collected and graded after its completion”. Once the participant finished the quiz it was collected and the participant was asked to “Please wait a few moments while your results are processed”. After two minutes of pretending to grade the quiz the participant was introduced to a negative stimuli when asked, “Well, I actually have a question for you.... I hope you aren’t offended by me asking but - did you do well in art history? Your score came back pretty low and it’s not often that participants score that low. Anyways, moving on... Are you ready for the second part of the test?” The participant was then brought into a room and given an iPad which had the rating system pre-loaded on the screen and ready for the participant to use. The participant was then told the instructions for the second and final part of the test. They were told something along the lines of, “I am going to put on a slide show that will present you with Eighteen different pieces of art. You are going to have to rate each slide based on your aesthetic preferences towards the featured piece. To rate the slides you are going to choose a number One through Eight which correlates to your aesthetic preference. For example, giving the piece a One would mean you found it aesthetically unpleasant, giving it a Four would mean you found the piece aesthetically average or ambiguous, and giving the piece an Eight would mean you found the work aesthetically pleasing. You can record the ratings for each slide using the rating system on the iPad. To use the rating system all you have to do is tap One of the Eight checkboxes which each corresponds with a single number rating. If you decide to rate a piece Four you tap the checkbox which says Four. Once you

are done rating the slide you should hit the button labeled “Next” which will bring you to a new series of checkboxes labeled One through Eight. To prevent you from getting lost, every slide is labeled in order with a number that corresponds to the number of each question on the iPad. On the final slide, the button which says “Next” will instead say “Submit”. If the slide show is over you should click that button. Once you have submitted your ratings please let me know and I will collect the iPad.” After the directions were explained the participant then began the slide show and was watched from afar at a comfortable distance until he/she submits the ratings.

Results

The average rating of each slide given by the participants from the control group, the positive stimuli group and the negative stimuli group are displayed in **table 1**. A visual analysis of this data in bar graph form is shown in **figure 3**. Every set of three bars on the x-axis are illustrative of one slide in the slide show. The graph shows that the positive stimuli group gave the highest ratings for each slide. The control group and the positive stimuli group had comparable and at times overlapping results. The participants of the control group gave the highest rankings of slides for slide 11 and slide 16. On slide 3 the participants of the control group and the participants of the positive stimuli group both gave an average ranking of 4.9. The participants in the negative stimuli group gave the lowest average ranking per slide in every instance. As seen in **table 2** the negative stimuli groups average rating which was 0.70 points lower then the control group and 1.17 points lower then the positive stimuli group. The overall average rating given by the three groups is represented in **table 2**. The control group had an average rating of 4.46 points, the positive stimuli group was 4.93 points and the negative stimuli group was 3.76 points. Figure

4 represents the averages shown in **table 2** in the form of a bar graph. As shown in figure 4 the positive stimuli group gave the highest overall ratings, the control group gave the next highest, and the negative stimuli group the gave the lowest overall ratings.

Discussion

The results of the experiment confirm that stimulus will cause an analogous rating of artwork (a positive stimulus will lead to a higher rating and a negative stimulus will lead to a lower rating). The participants that were told they did well on the quiz rated the slides higher then the participants who were told that they got a low score and the participants who received no stimuli at all rated the slides with an average rating that stood in between the average rating of the positive and negative stimuli groups. It is important to recognize that all of the participants when introduced to a positive or negative stimuli fell into the positive stimuli group or the negative stimuli group. There were no participants who when introduced to a negative stimuli rated the artwork similar to a participant who was introduced to positive stimuli. This clear separation seen between the positive stimuli group, negative stimuli group and the control group shows how easily ones opinion can be changed. And how similar the opinions of those who experienced the same stimuli may be. This similarity between individuals in the groups can be seen in figure 3 when looking at the height difference of the different groups bars.

The results also show that the average ratings given to each slide in the negative stimuli group are farther in relation to those of the control group than the positive stimuli groups average ratings given to each slide in relation to the control groups. This suggests that the negative stimuli presented to the participants had a greater impact on the participants then the positive stimuli presented did. This says

something about the tendency in human beings to focus on the negative rather then the positive. This also raises the question as to whether or not the negative stimulus was more negative then the positive stimulus was positive.

Looking at the results and the experiment as a whole it is amazing to see how little control we have over the decisions we make. The results of the experiment only raise more questions on human nature. How often are we introduced to stimulus which influence our decisions? Is a decision ever a true decision made without the influence of something from your past? The experiment has answered the question I posed at the beginning of the paper which asked Would my garbage one day be treasure another day? The answer to this question is yes. My garbage one day could in fact become my treasure another day.

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Appendix

Figure 1

What figures or monuments jointly represent spiritual force, symbols of peace, and religion? *

☒ Dolomite

☐ Obelisk

☐ Crowns

☐ Buddha figures

☐ All of the Above

What Italian artist used swaddled babies in ceramic wreath tondos as the subject of his art? *

☒ Brunelleschi (1377-1446)

☐ Andrea della Robbia (1437- 1528)

☐ Luca della Robbia (1399/1400-1482)

☐ Donato Donatello (1738-1820)

What French artist used a image of a lion watching over a sleeping man as act of giving peace? *

☒ Gustave Flaubert

☐ Emile Zola

☐ George Sand

☐ Honore Balzac

☐ Henri Julien Felix Rousseau

Match a well known shape or symbol for peace with it's artist. *

Which match best fits the symbol used by ---?

☒ Diamond by Noland

☐ Spiral by Miro

☐ Dove by Picasso

☐ Love by Indiana

Which of the following architects designed a symbolic building, The Tower of Peace, for UNESCO, in Paris, France? *

☒ Margaret Helfand

☐ Louis Kahn

☐ Tadao Ando

☐ Katherine Diamond

☐ Donald Clinton

This is the quiz which the participants were given in order to introduce the positive and negative stimulus.

Table 1

	Control Group	Positive Stimuli Group	Negative Stimuli Group
Slide 1	4.6	5.05	3.55
Slide 2	4.15	4.50	3.55
Slide 3	4.9	4.90	4.10
Slide 4	4.5	5.40	4.55
Slide 5	4.4	5.15	3.70
Slide 6	5	5.30	4.00
Slide 7	4.2	5.15	3.65
Slide 8	4.8	5.05	4.30
Slide 9	4.3	5.30	3.65
Slide 10	4.65	5.15	3.30
Slide 11	4.95	4.90	3.85
Slide 12	4.15	5.10	3.45
Slide 13	4.35	4.95	3.70
Slide 14	4.25	5.15	3.75
Slide 15	4.35	4.50	4.30
Slide 16	4.85	4.60	3.65
Slide 17	3.85	3.85	2.80
Slide 18	4.05	4.80	3.90
Average	4.46	4.93	3.76

The Average rating of each slide from the control group, the positive stimuli group and negative stimuli group.

Figure 2

Please Rate the Following Pieces of Art Work

* Required

Please Rate on a Scale of Your Aesthetic Preference *

1 2 3 4 5 6 7 8

The Least Visually Appealing ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ The Most Visually Appealing

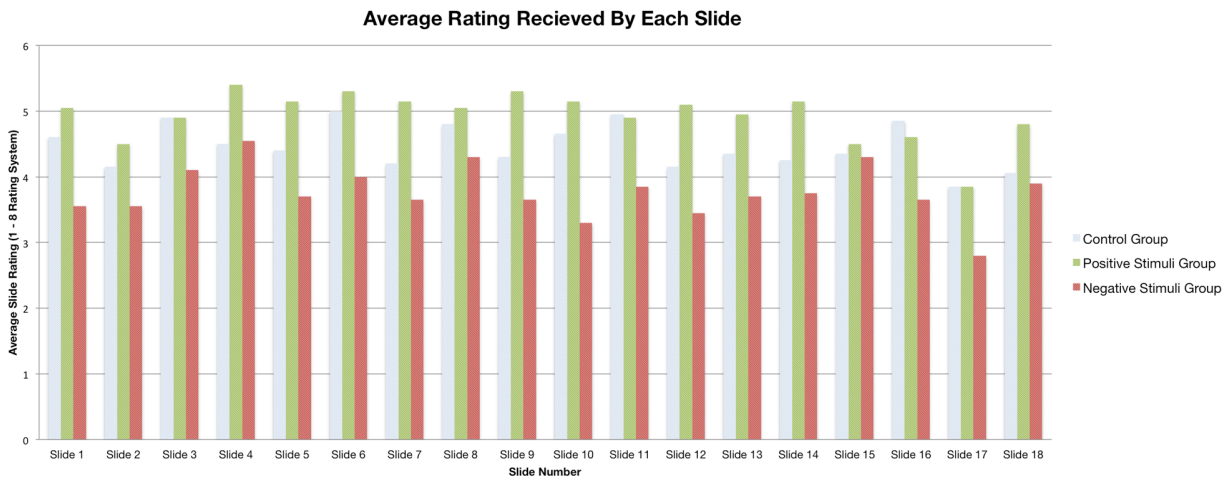
« Back Continue »

An example of the rating system given to the participants on the iPad.

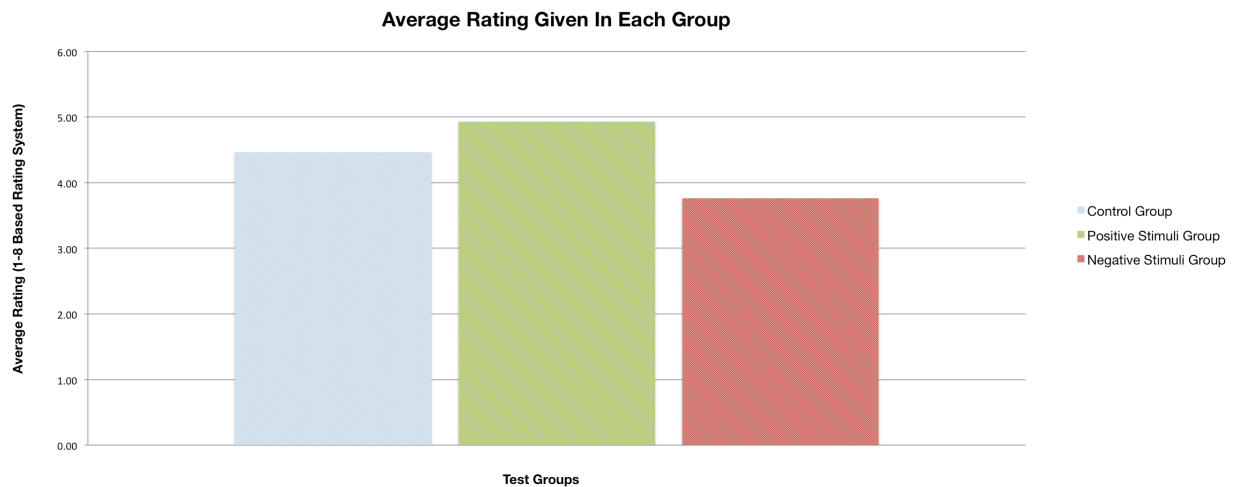
Table 2

	Control Group	Positive Stimuli Group	Negative Stimuli Group
Average	4.46	4.93	3.76

The Average overall rating given by the participants in the control group, the participants in the positive stimuli group and the participants in the negative stimuli group.

Figure 3

Bar graph depicting the average rating of each slide from the control group, the positive stimuli group and negative stimuli group. The blue bars represent the control group, the green bars represent the positive stimuli group, the red bars represent the negative stimuli group.

Figure 4

Bar graph depicting the average overall rating given by the participants in the control group, the participants in the positive stimuli group and the participants in the negative stimuli group. The blue bars represent the average overall rating given by the control group, the green bars represent the average overall rating given by the positive stimuli group, the red bars represent the average overall rating given by the negative stimuli group.