

Non-stimulating tradition

The Effect of Temperament on Painting Art Preferences

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This study examined the effect of temperament on preferences for painted artwork. Our preferences are determined by different personality traits. The study presented here was a replication of the current study of Terror Management Theory (TMT) with the structures of temperament as individual differences. The results showed significant differences in preferences for traditional and modern art, depending on the degree of harmonization of the temperamental structures. Sanguines and melancholics in the no fear condition evaluated modern art most highly, however in the fear condition they evaluated traditional art most highly. This effect confirms the importance of individual differences and the situational variability of preferences in art.

There is a lot of research about how personality affects preferences for art. Researcher suggests that people's aesthetic preferences differ depending on their personality structure, including temperament. Is it possible that preferences for modern or abstract painting are related to their temperament? Could these preferences change under the influence of fear? Finally, is it possible that biology determines what we like in a particular context or situation? Are our preferences so variable?

Burt (1933) and Eysenck (1940) were among the first who studied personality preferences in art. They found that inborn temperamental factors could influence on what kind of art will be more preferred. In recent years the studies of Furnham & Avison (1997), Furnham & Walker (2001), Zwiegenhaft (2008) and Axelsson (2007) investigated the relationship between personality and preferences for art in broader terms, mainly preferences for music and photography.

Chamorro-Premuzic, Furnham, Reimer (2007) argued that in most of the research in this field there is a lack of appropriate measurement tools, or a common taxonomy of art. That is why the researchers classified art as simple and complex art; representational and abstract art; representational and surreal art (Furnham & Walker 2001).

All these early studies may be criticized for lacking the possibility of standardization, by conducting meta-analysis and comparison of different research results. But from the 1990s researchers started to apply the theory of the Big Five (Chamorro-Premuzic, Furnham, Reimer 2007), which assumes that personality is a structure consisting of five traits: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Costa & McCrae 1976). Other personality dimensions that were measured include: conservatism, schizothymia, tolerance for ambiguity, and sensation seeking (Furnham & Avison 1997). Studies in which the NEO-FFI inventory was used (Zawadzki, Strelau, Szczepaniak, Śliwińska 1998) show that openness to experience is significantly associated with aesthetic preferences, however openness to experience is not associated with evaluation of art (Chamorro-Premuzic & Furnham 2004). Openness explained a large part (33 percent) of the variance in the preferences for paintings. In these studies researchers also paid attention to other variables, such as intelligence, although intelligence affected only the evaluation of artistic value, not the preferences. The same authors, in other studies, have shown that people who preferred representational art were significantly more conciliatory and conscientious, while higher performance and appreciation of art were associated with

openness to experience. It should be noted, however, that in this study researchers did not take into account flexibility of temperament, that could affect preferences under the influence of changes in the environment.

The Big Five factors, except for openness, rarely explained more than 10 percent of the variance (Chamorro-Premuzic, Furnham, Reimers 2007). Other studies indicated relationships between conscientiousness, thrill and adventure seeking, and a preference for representational art; and relationships between disinhibition and neuroticism, and pop art and a preference for abstract art (Furnham & Walker 2004). Test results show that openness to experience was associated with appreciation of all three types of art (representational, abstract, pop art), and that it was inversely correlated with a preference for abstract art. Moreover, regression analysis showed that sensation seeking explains more variance than the Big Five factors. Other publications suggest that sensation seeking is related to a preference for surrealist art and a lack of preference for representational art (Furnham, Avison 1997).

These studies show that sensation seeking and adventure seeking explain most of the variance, placing themselves at the two ends of the scale of modern and traditional art. Therefore it seems worthwhile to pay attention to the variables related to the desired level of stimulation, to adequately explain art preferences.

Given the findings from the research cited above we assumed that temperament is the main factor that affects preferences in paintings, so we are not pioneers. For a theory of temperament we chose Strelau (1999), who suggested that temperament refers to formal and relatively unchanging personality traits. His Regulative Theory of Temperament (RTT) concentrates on formal aspects of behavior comprising energetic and temporal characteristics: sensory sensitivity, emotional reactivity, endurance and activity (energetic aspect), and briskness and perseverance (temporal aspect) (Strelau 2006). Strelau also suggested that a specific combination of these traits divided people into four types of temperament: melancholic, sanguine,

phlegmatic, choleric. Phlegmatic and choleric temperamental structures are not harmonized, because people with such temperaments are not able to ensure the right dose of stimulation, whereas sanguine and melancholic are harmonized and people with these structures are able to ensure the optimal dose of stimulation. These assumptions show that temperament, by regulating the flow of mental stimulation and resistance, may have some indirect impact on preferences for visual stimuli, including the paintings.

Many authors have suggested a strong relationship between art and different types of emotions and moods. It is worth noting that the RTT also refers to an important emotional component. Konečni's (2008) in-depth analysis of the relationship between music and emotion suggested that emotions such as joy, sadness, anger and fear are present in response to music only if these emotions are related to personal behavior, or associations such as dancing, or whistling. In conclusion, the researcher argued that the most authentic, but at the same time the most rare states in responses to music may be: aesthetic awe, being moved and thrilled. His conclusions correspond with the previously quoted statement of Furnham and Walker (2001), who suggested that sensation and adventure seeking may be related to art perception and stimulation seeking. This in turn is related to the bodily responses to fear for example. TMT (Terror Management Theory) focuses on the implicit emotional reactions of people that occur when they are confronted with the psychological terror of knowing they will eventually die (a large dose of stimulation) (Solomon 2004). TMT researchers have shown that making mortality salient to research participants will lead to changes in behaviors and beliefs that seemingly protect their worldview and encourage striving for self-esteem. We assumed also that different forms of paintings could lead to changes in human beliefs, especially when such art is threatening in some way and thus more stimulating.

To summarize all of the above, we assumed that every work of art has the potential to stimulate. In this study we treated Traditional Art as less complex and less stimulating, while Modern Art we treated as more complex

and more stimulating in accordance with the assumptions of the TMT (Landau, Greenberg, Pyszczynski, Martens 2006). We assumed that when we induce fear in people, there is a change in art preferences, because of the increased dose of stimulation. We also assumed that anxiety can cause insecurity feelings, which may lead to preferences in more traditional and familiar art, whereas lack of anxiety may lead to the appreciation of unfamiliar and complex art. TMT assumes an impact on individual differences, but the authors of the theory studied only differences in personal need of structure (PNS) and they studied a decrease in preferences for modern art that is too abstract and senseless.

We were interested in how our art preferences could change and what that depends on. The Assumptions of the TMT inspired us to explore whether temperament affects paintings preferences and whether fear could affect those preferences, depending on degree of harmonization of temperamental structure. Therefore, we expected that evaluation of paintings will vary between the no fear condition and fear conditions. This dependence will be particularly evident for harmonized temperaments such as sanguine and melancholics, because we assumed that people with such temperamental structure are able to keep an optimal dose of stimulation.

These hypotheses were tested by the Temperament Inventory (FCB-TI), developed by Strelau and Bogdan Zawadzki, to probe the relationship between temperament (as a regulator of stimulation) and art preferences. Temperament was used for taxonomic purposes, namely to divide participants into four groups: melancholics, phlegmatics, sanguines, and choleric (Zawadzki & Strelau 1997). These categories indicate the reactivity and activity of participants, which locates them on the sensation seeking and adventure seeking scales. We predicted that individual temperament and fear level will have a significant influence on people's preferences depending on the situation. Referring to the previously cited studies (Furnham & Avison 1997), we suggest that a low-reactive person may show a preference for more stimulating art, for example modern art. However this dependence may be

moderated by a harmonized or non-harmonized temperament (Zawadzki & Strelau 1997), which is related to the ability to provide the proper, optimal dose of stimulation.

Method

Participants

The Participants comprised 120 student volunteers (80 university students and 40 high school students; age range was 16 – 26 years; $M = 19.87$, $SD = 2.13$; 67 women and 53 men). We recruited respondents during their daily activities in schools and colleges.

Materials

The study measured the temperament traits, anxiety characteristics, and the level of preference for the presented paintings. To measure temperament traits we used *The Formal Characteristics of Behavior – Temperament Inventory* (FCB-TI), developed by Jan Strelau and Bogdan Zawadzki (Strelau & Zawadzki 1997). In turn to measure fear we used the *State-Trait Anxiety Inventory* (STAI), developed by Charles Spielberger and Gorsuch (Strelau & Zawadzki 1995). To arouse fear in participants we showed them a short movie (2.18 min.), that included horrible scenes from advertisements, music videos and horror; in the no fear group we showed a neutral movie, that lasted 2.18 minutes as well, which was part of the movie of Alfred Hitchcock's 'North by North-West'.

A slide-show of 15 images was selected to be complex, abstract and classic. As a result, images fall into three different categories, on the basis of the dominant features they have in common: general topics, convention or style. It is assumed that each of the categories is the source of a different kind of stimulation. We used these paintings in the following categories:

Traditional / Conventional

Image 1. Pieter Boel, *Large Vanitas still Life*

Image 2. Ignacy Henri Theodore – Fantin Latour,
The Rosy Wealth of June

Image 3. Theodore Rousseau, *Fontainbleau*

Image 4. Titian, *Portrait of the Man*

Image 5. Eugene Brudin, *Laundresses by a stream*

Cubism

Image 1. George Braque, *Le Portugais*

Image 2. Juan Gris, *Bottles and knife*

Image 3. Pablo Picasso, *Sitting naked woman*

Image 4. George Braque, *Blue Bird*

Image 5. Philip Absolon, *Cassie thinking about Cubism*

Modernist

Image 1. Gilbert and George, *Bloody Mooning*

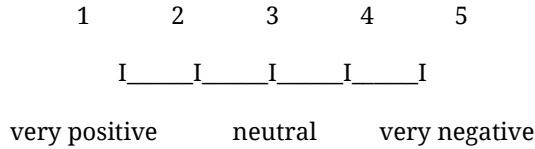
Image 2. Andy Warhol, *Skull*

Image 3. Salvador Dali, *Premonition of Civil War*

Image 4. Francis Bacon, *Figure with meat*

Image 5. Andy Warhol, *Heinz Box*

To examine the assessment of objective attractiveness we used a survey designed for this project which includes 15 items. The survey recorded the level of preference for a presented work of art using the *5 point Likert scale*. Participants rated the items' global preferability on a scale from 1 (very positive) to 5 (very negative), for example:



Procedure

Participants were randomly assigned to one of the experimental conditions, by means of drawing white or red cards. Drawing a red card assigned them to the fear group and drawing a white card assigned them to the no fear group. Subsequently participants completed *The Formal Characteristics of Behavior – Temperament Inventory* (FCB-TI). Here is a sample of questions from the inventory: *I always feel even a soft breeze, I am able to do two things at the same time, I can see stars in the night sky, I can listen to music while reading.* Participants had to answer all questions yes or no. Before completing the inventory every student heard the following instruction:

Participation in this study is voluntary, you can stop it at any time. Some of the experimental impacts, [] which you will be subjected to may arouse different emotions in you. Every tasks [] will be explained. If you have any questions or concerns, please ask the experimenter. Make sure you sign all of the sheets you receive.

After completing the inventory of temperament we asked students to watch a short movie: aversive or neutral, depending on the experimental group to which they were assigned in advance. The movie was played by the experimenter each time. Each of the respondents listened to the audio track with headphones at the same volume level.

Later we asked respondents to complete the first part (X_1) of the *State-Trait Anxiety Inventory* (STAI), for the current emotional state. Next, participants watched a slide-show, [] consisting of 15 images and evaluated them in a questionnaire containing 15 items on a 5 point Likert scale.

We informed the participants what the true purpose of the study was only if they expressed curiosity. Then we explained that the study concerns the analysis of the impact of different types of stimulation on sensory and emotional sensitivity.

Results

Preliminary analyses. We first computed the internal consistency of the five traits of temperament as well as the three kinds of art. Mean correlation of the temperament traits between briskness, activity and art preference ratings was $r = .19$ ($p < .05$). There was no significant correlation between traditional art preferences and other kinds of art preferences (modern and abstract) $p = .281$, which means that these preferences are independent. The correlation that supported our predicted and theoretical suggestions was the negative relation between preference ratings of modern art and level of *State-Trait Anxiety Inventory* (STAI) $r = .34, p < .001$.

Table 1 Correlations Between The Formal Characteristics of Behavior (Temperament Traits) and Art Preferences

Variable	1	2	3	4	5	6	7	8	9
1. Briskness	-	-	.18*	-.40**	.43**	.32**	-	.19*	.19*
2. Perseverance	-	-	.27*	.48**	-.32*	-	-	-	-
3. Sensory sensitivity	.18*	.27**	-	-	-	-	-	-	-
4. Emotional reactivity	-.40**	.48*	.08*	-	-.44*	-.42*	-	-	-
5. Endurance	.43**	-.32*	-	-.44*	-	-	-	-	-
6. Activity	.32**	-	-	-.42*	-	-	-	-	.27*
7. Traditional art	-	-	-	-	-	-	-	-	-
8. Abstract art	.19*	-	-	-	-	-	-	-	.25**
9. Modern art	.17*	-	-	-.19*	-	.27**	-	.24*	-

* $p < .01$. ** $p < .001$.

We predicted that participants with a non-harmonized temperament in the fear condition would rate Abstract and Modern art as worse, and Traditional as better than participants with a harmonized temperament in the fear condition. We also predicted that in the no fear condition there would be no differences between participants' level of temperamental harmony. A mixed analysis of variance (ANOVA) showed that the mean effect of art preference for a harmonized temperament was significant, $F(2,94) = 13.62, p < .001, \eta^2 = .23$, which means that independently from the experimental condition, the kind of art had a significant influence on preferences.

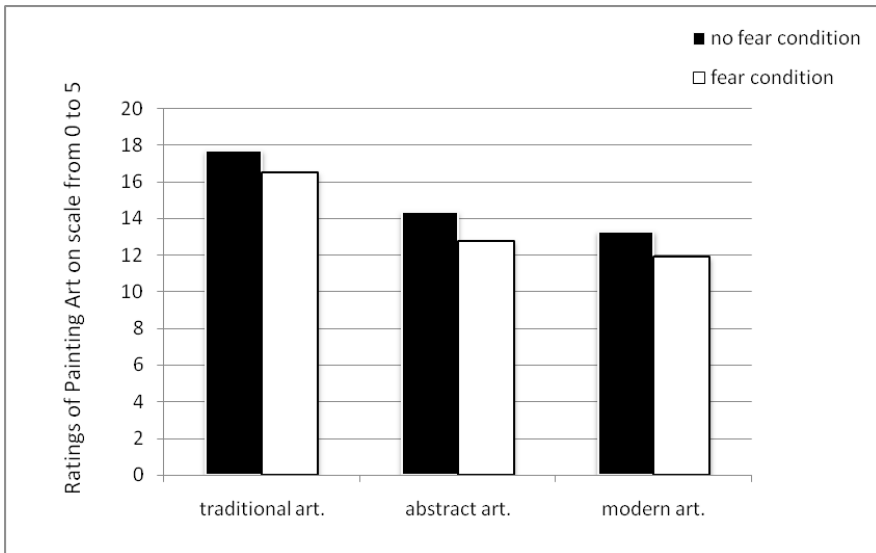


Figure 1: Ratings of paintings on scale from 0 (very positive) to 5 (very negative) for a non-harmonized (phlegmatics and choleric) temperamental structure.

ANOVA also showed no significant effect in the fear condition, $F(1,47) = .87, p = .357$. We got a significant interaction effect of both factors – kind of art and experimental condition, $F(2, 94) = 9.12, p < .001, \eta^2 = .16$, which means that preferences were dependent on experimental condition. Participants with a harmonized temperament in the no fear condition rated art always the same independently of its kind, whereas in the experimental

condition they rated traditional art as better ($M = 18.91, SD = 1.15$), rated abstract art as worse ($M = 15.22, SD = 1.37$), and modern art worst ($M = 11.65, SD = 2.17, p < .05$). This shows that experimental condition influenced art rating, but only for abstract and modern art ($p < .01$). In the case of traditional art, art preferences were the same independently of experimental condition ($p = .469$).

In case of participants with a non-harmonized temperament, we also got a statistically significant main art effect, $F(2, 42) = 13.20, p < .001, \eta^2 = .9$, which means that independently of the experimental condition, kind of art influenced its rating. The Main experimental condition effect wasn't significant, $F(1, 21) = .91, p = .352$. The Interaction effect of these two factors not significant either, $F(2, 42) = .03, p = .975$. Participants with no harmonized temperament structures rated art the same independently of experimental condition. They rated traditional art better ($M = 16.50, SD = 3.15$), whereas they rated abstract and modern art worse ($M = 12.75, SD = 1.15$ and $M = 11.87, SD = 2.05, ps < .05$).

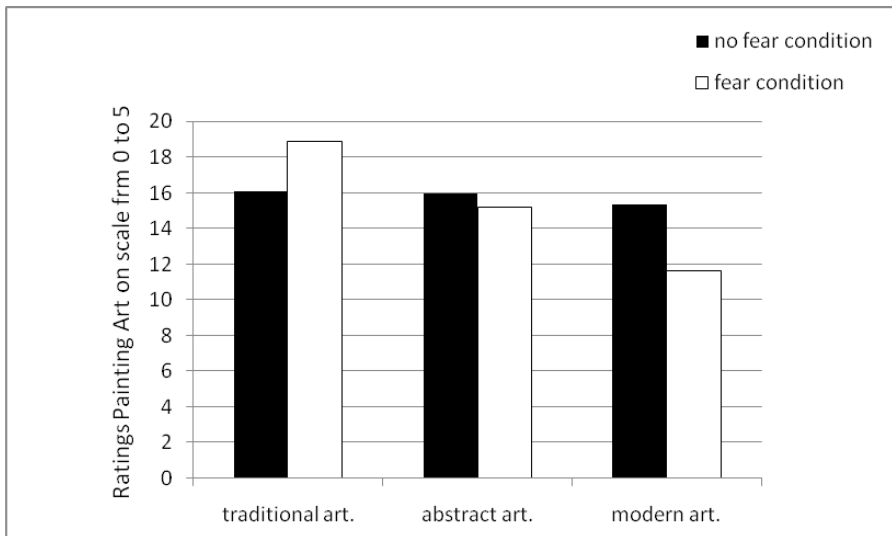


Figure 2: Ratings of paintings on scale from 0 (very positive) to 5 (very negative) for a harmonized (melancholics and sanguine) temperamental structure.

Discussion

As has already been discussed in the introduction, there is a long history of studies of art preference psychology, but this history is not thorough. So far, researchers have not analyzed temperamental art preferences, so we took this topic up in our study.

The purpose of this study was to test how different levels of harmonized temperament structure affect paintings preferences. We assumed that the temperament and fear level of the individual will have a significant influence on preferences depending on the situation. Moreover, we suggested that a low-reactive person may show a preference for more stimulating art, for example modern art. This dependence, however, may be moderated by harmonized or non-harmonized temperament. We predicted all of the above according to the TMT (Terror Management Theory) (Solomon, Greenberg, and Pyszczynski 2006), which led us to think that activating a fear of death in participants would allow us to investigate temperamental differences in art preferences. We also assumed that the particular temperament type, understood as biologically determined structure (Strelau 2006), would affect art preferences.

The assumed link between temperament and preferences for art seems to be inconclusive and to depend on situational context. In the no fear condition there was no relationship between temperament and preferences, which means that temperament type did not differentiate participants with reference to their art preference. This fact may indicate the influence of other factors such as personality or intelligence (Chamorro-Premuzic, Furnham, and Reimers 2007).

Preferences of the non-harmonized temperaments (choleric, phlegmatic) did not differ between fear and no fear conditions, which may be caused by the low flexibility of these types. This degree of flexibility, or lack of it, characterized people who are not able to ensure themselves the appropriate dose of stimulation. In our study, paintings was such a source of

stimulation: modern and abstract was highly-stimulating, while traditional art was less stimulating (Strelau & Zawadzki 2007). In contrast, the harmonized temperament (sanguine, melancholic) type reactions were situation dependent. In the no fear condition, there was no difference in preferences, while in the fear condition, we observed growing appreciation for traditional art whereas appreciation for modern art was decreased. This may be caused by the flexibility of a harmonized structure of temperament and the ability to ensure the appropriate dose of stimulation.

We observed differences between sanguine and melancholics as well. In the fear condition melancholics preferred modern art less whereas sanguines preferred traditional art less. But this distinction between sanguines and melancholics is not clear. Lower preference for modern art in the fear condition in melancholics quite clearly demonstrates their need to reduce stimulation. But is the increase in sanguines' preference for traditional art an attempt to moderate the level of stimulation? This question still remains open. Does traditional art cause an increase or decrease of activation? If an increase, why does this effect not occur in the no fear condition? It seems that the answer to these questions requires further research in this paradigm.

In relation to TMT (Terror Management Theory) we can say that not only do differences in the PNS (personal need of structure) affect the perception of art, but also differences in temperament have a huge influence on it. It seems that there is a declining appreciation for not only meaningless art, but for the meaningful as well, as the works of art used in our study have themes, and figural and meaningful elements. In The TMT researchers also did not anticipate an increase in preference for traditional art, which we noted in our study. The TMT researchers also rejected activation as a possible explanation for changes in the perception of art, arguing that only the fear itself, not simply arousal leads to changes in art preferences. In agreement with Strelau (2007) we assumed that arousal and level of stimulation in the experimental situation affects how respondents react to individual art.

To prove what type of stimulation really affects the perception of art further research should be conducted.

Referring to Konečni (2008) on the different emotions induced by music, it seems interesting to reflect on whether the fear raised in our study by film and the emotions raised by the art share a certain class of emotions, something close to being moved and thrilled. These emotions could correspond Zuckerman's theory of sensation seeking and be associated with dimensions of temperament. The fact that watching a film that induced fear influenced how respondents perceive the different qualities of art can support this thesis.

In Strelau's RTT (Regulative Theory of Temperament), each temperamental type specifically perceives different types of stimuli and so they behave differently. The results of our study confirm this relationship. In the experimental condition, the respondents reacted differently depending on how the movie was evaluated. On the other hand, the results do not confirm the criticism of Strelau's aesthetic emotion which would link to behavioral arousal. The results show rather that a relationship between them is possible, or that the factors of the activation level can also affect the perception of art. This confirms our early predictions that art, despite the artistic values, also provides stimulation and affects the level of activation. The division into pleasant, aesthetic and aversive emotions may not coincide with the aesthetic range of emotions experienced in no fear conditions, but research shows that aversive emotions can affect how art is perceived and evaluated.

Another possible conclusion that can be drawn from this study is that there is no permanent taste and preferences could be situation dependent. The fact that we perceive art differently in terms of fear and no fear situations, may have some implications for art therapy. Do the lowest preferences of modern art for all temperaments in the fear condition, and a negative correlation between modern art and STAI (State-Trait Anxiety Inventory) results suggest that it is not worth to invite a contemporary artist to a psychiatric hospital?

In summary, the temperament may mediate changes in our preferences when we are frightened or highly stimulated. Any analysis of the impact of temperament must take into account the situational variability of the optimal dose of stimulation, as is shown in the results of this study.

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