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Who's interested in contemporary paintings with semantic and syntactic violations?

Abstract

Contemporary art often contains disruption of form and content, here operationalised as syntactic and semantic violations. The presented research examined whether violated paintings evoke interest in viewers and who in terms of personality and expertise would be interested in this type of art. Expert (N=37) and naive viewers (N=56) appraised 20 paintings (divided into four groups, i.e. no violation, single syntactic or semantic violation, and both violations) and filled in measures of Big Five and Need for Closure. In general, conflictual paintings evoked more interest in viewers, however the effect was significant only for syntactic violations. No interactions between types of violation, individual differences, and appraisal were observed. Expertise did not predict reaction of interest. In turn, we found that individuals high on Openness and Need for Closure and low on Neuroticism experienced more interest towards contemporary paintings.

Keywords: semantic and syntactic violations, contemporary paintings, interest, individual differences

Kto jest zainteresowany współczesnym malarstwem zawierającym niespójności semantyczne i syntaktyczne?

Streszczenie

Sztuka współczesna często zawiera celowe zakłócenia formalne i treściowe. W niniejszym tekście zostały one zoperacjonalizowane jako niespójności syntaktyczne i semantyczne. Prezentowane tutaj badanie miało na celu określić czy niespójności w obrazach wzbudzają zainteresowanie widzów, a także które charakterystyki widzów w kontekście cech osobowości oraz wiedzy eksperckiej będą predyktorami zainteresowania tego typu sztuką. Eksperci (N=37) oraz laicy (N=56) oceniali 20 obrazów podzielonych na cztery grupy (tj. bez niespójności, zawierające tylko jeden typ niespójności: semantyczny lub syntaktyczny, oraz zawierające oba typy niespójności),

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a następnie wypełniali kwestionariusz Wielkiej Piątki oraz Skalę Potrzeby Poznawczego Domknięcia. Wyniki badania wskazują, że obrazy zawierające niespójności wywołują większe zainteresowania odbiorców, jednak ten efekt jest istotny wyłącznie w przypadku niespójności syntaktycznych. Nie stwierdzono interakcji pomiędzy typem niespójności w obrazie, różnicami indywidualnymi oraz dokonanymi ocenami obrazów. Ekspertyza nie była predyktorem zainteresowania. Natomiast wysoka otwartość na doświadczenie, wysoka potrzeba domknięcia poznawczego oraz niska neurotyczność okazały się predyktorami zainteresowania współczesną sztuką wizualną

Słowa kluczowe: niespójności semantyczne i syntaktyczne; współczesna sztuka wizualna; zainteresowanie; różnice indywidualne

Introduction

Contemporary visual art provokes a variety of emotions in viewers, to name only a few: interest, astonishment, indifference, or even anger (e.g. Silvia, 2007, 2010). What seems to make contemporary art so powerful is its potential to violate the rules established in classical aesthetics, including expectations toward a painting's form and content. Amongst many different types of violations, which could be found in contemporary paintings, our focus concerned syntactic and semantic violations. These violations cover quite a broad spectrum of means that artists use to experiment with, respectively, form and content in the visual art of the 21st century. The linguistic terms of syntax and semantics were first used in the context of visual perception by Biederman, Mezzanotte & Rabinowitz (1982). They were then expanded by Vö & Henderson (2009, 2011) and Vö & Wolfe (2013) in the studies on real world scene perception, and lately transferred into the field of art perception (see Ganczarek, Pietras & Rosiek, submitted). Syntactic violations refer to inconsistencies in the paintings' form such as: lack of spatial context or its insufficient clarity, various artistic styles combined in one work, or undefined form within a work, as in for example *Come topi* by Annalisa Fulvi. In turn, semantic violations refer to inconsistencies in content, such as atypical relations between objects placed in a scene, or the presence of an object which has little or no reference to the global meaning of the scene, as in for example *Bombs (At Dinner)* by Scott Rider (for more details see Ganczarek, Pietras & Rosiek, submitted).

Interest is one of the possible reactions to the experience of violations in contemporary art. According to Silvia (2005, 2010), the emotion of interest stems from an appraisal of two particular components – the first one is related to the stimulus (how novel, unfamiliar, or complex it is), the second to one's coping potential (am I capable of understanding it). The latter is what differentiates interest from confusion. A viewer may be interested when he or she is able to comprehend a stimulus or may feel confused when lacks

such an ability. In our study, we focused on how interest can be evoked when viewing conflictual art. Just as the appraisal structure of interest contains two assessments, of the stimulus and of the coping potential, this study focuses accordingly on two research questions: 1) do violations in visual art evoke interest? and 2) what kind of viewer characteristics predict interest in violations in art? When it comes to the appraisal of stimuli, conflictual art is per definition more unfamiliar, complex, and novel. Consequently, we hypothesise that H1: the presence of violations (either semantic or syntactic) in visual art is experienced with more interest.

When it comes to the second dimension of appraisal – the coping potential – two types of viewer characteristics seem to play a role: expertise and individual differences. Studies on empirical aesthetic have shown that experts, in comparison to naive observers, concentrate more on formal aspects of paintings (e.g. Augustin & Leder, 2006; Cupchik & Laszlo, 1992), appreciate stylistic information more (Leder, Ring & Dressler, 2013), and might experience less difficulties in the reception of the formal level of contemporary art (Szubielska, Niestorowicz & Bałaj, 2016). Therefore, expertise provides the tools for easier visual syntax processing, leading to greater interest. Accordingly, we hypothesise that H2: expertise is a positive predictor of interest when it comes to paintings with syntactic violations.

Individual differences, on the other hand, might play a relevant role in the case of semantic violations, which seem to be less demanding for viewers because their processing doesn't rely only on art-specific knowledge and training. Instead, individual differences in the tendency to tolerate ambiguity (that paintings with semantic violations contain to a greater extent) might be more relevant. The construct which directly describes this particular individual difference is the need for cognitive closure (NFC). The high NFC individuals experience discomfort in situations lacking clear order and structure (Webster & Kruglansky, 1994), which makes these subjects prone to dislike art that misses close-ended solutions (Wiersema et al., 2012). As far as behavioural tendencies are concerned, high NFC individuals would rather abort viewing conflictual art where a clear meaning isn't readily obtainable (Pelowsky, Markey, Forster, Gerger & Leder, 2017). Therefore, we hypothesise that H3: NFC is a negative predictor for interest when it comes to paintings with semantic violations.

Furthermore, some Big Five personality traits could well characterize an individual's ability to deal with conflictual stimuli in art in general, regardless of the specific type of violations. Openness to experience is associated with preference for complex, challenging, and contemporary art (e.g. Feist & Brady, 2004; Furnham & Walker, 2001). Neuroticism, however, positively correlates with a preference for simplistic art (Furnham & Walker, 2001).

This leads us to hypothesis that: Openness is a positive predictor, whereas Neuroticism is a negative predictor of interest when it comes to violations in art, regardless of violation type (H4 and H5 respectively).

Method

Participants

Ninety-three subjects ($M_{age} = 29.2$; $SD_{age} = 9.4$), recruited from a group of senior year students and academic staff of universities and fine art academies, took part in the study. The sample consisted of 37 experts (12 males) with an art-related education (fine arts, history of art) and 56 naïve (23 males) participants without an art-related education (social science and technical science).

Procedure

Participants viewed 20 digital copies of contemporary paintings (images adjusted to 1920 x 1200 pixels) on a 24" monitor in the laboratory as part of a broader procedure. Paintings were divided into four groups of five paintings each, i.e. no violations, semantic violations only, syntactic violations only, and both types of violations (for more details for the selection of paintings see Ganczarek, Pietras & Rosiek, submitted), and presented in a random order with no time limitation. Subsequently, participants indicated whether they had previously seen each painting and what emotions each one of them evoked. To this aim, they could choose multiple items from a list of 14 emotions (e.g. interest, surprise, sadness, anxiety, joy, confusion). Presented, is our focus on "interest" which was the most frequently indicated emotion in our study (see Table 1).

Additionally, subjects filled two questionnaires, i.e. the NEO Five Factors Inventory (NEO-FFI; Costa & McCrae, 1992; Zawadzki, Szczepaniak & Strelau, 1995 for the Polish adaptation) and the short version of the Need for Cognitive Closure Scale (NFC; Kossowska, Hanusz & Trejtowicz, 2012). Finally, they answered a set of questions about demographic variables and art exposure.

Results

The data was analysed using R (R Development Core Team, 2017) and the R package lme4 (Bates, Maechler, Bolker & Walker, 2015). The occurrence of interest (0 or 1) was the dependent variable. Given that it was a dichotomous measure, a generalised mixed effects model was run with the use of

Table 1 Frequency of emotions in reaction to paintings

Emotion	Count	Percent
Interest	880	49.11
Anxiety	553	30.85
Surprise	405	22.60
Confusion	340	18.97
Serenity	306	17.07
Dislike	250	13.95
Boredom	242	13.50
Sadness	218	12.16
Awe	168	9.37
Joy	168	9.37
Chills	149	8.31
Disgust	123	6.86
Being moved	111	6.19
Anger	89	4.96

Observations = 1792

glmer function with the binomial distribution. The full model included the following fixed effects: syntactic and semantic violations, expertise, NFC total score, as well as NEO – FFI Openness and Neuroticism scores, familiarity, and participant age. Both expertise and NFC scores were entered in interaction with types of violations in order to test our hypotheses. Openness to experience and Neuroticism were also added as single effects. We controlled for familiarity (previous exposure to a given image) and participant age, as these variables play a role in aesthetic preferences (e.g. Francuz, Zaniewski, Augustynowicz, Kopiś & Jankowski, 2018; Chamorro-Premuzic, Reimers, Hsu & Ahmetoglu, 2009). We included random effects of stimulus and participant which allowed to account for the repeated measures design. In order to test the models' assumptions, we checked for linearity of the continuous predictors with the logit of the dependent variable, multicollinearity of

Table 2 Prediction of interest from generalised linear mixed-effects model

Fixed effects	Interest			
	<i>b</i>	<i>SE</i>	<i>z</i>	<i>p</i>
Intercept	0.42	0.34	1.25	.21
Syntactic violations ¹	0.66	0.28	2.37	.02*
Semantic violations ¹	0.51	0.28	1.82	.07
NFC	0.19	0.08	2.19	.03*
Openness	0.21	0.08	2.53	.01*
Neuroticism	-0.18	0.09	-2.05	.04*
Age	-0.03	0.01	-3.29	.001**
Syntactic x Semantic violations ¹	-0.64	0.39	-1.62	.81

Reference category: no violation; signif. codes: $p < 0.001$ '***', $p < 0.01$ '**', $p < 0.05$ '*'

the predictors, and over-dispersion of the model. For a better comparison of the models' coefficients, the continuous predictors were scaled and the grand mean centred. Initially, the full model was performed. Subsequently, we evaluated simpler models by eliminating predictors that decreased models' goodness of fit. The resulting models were compared with likelihood-ratio tests. In the final model (for details see Table 2), familiarity, expertise, as well as NFC score interaction with type of conflict were dropped, because they did not significantly predict the occurrence of interest and did not improve the models' fit.

The final model revealed that syntactic violations are associated with an increased interest. A similar trend is visible for semantic violations, however, the significance p -value level was not reached. Moreover, while Need for closure and Openness to experience are positive predictors of interest, Neuroticism predicts a decrease in interest. Importantly, all of these predictors influence interest in all of the paintings, irrespective of the existence of violations or their type.

Discussion

Results suggest that the presence of violations in art leads to an increase of interest in viewers, however, this effect is greater and significant only for syntactic violations. A similar effect was found by Vö & Henderson (2009) in the studies on scene perception. They reported that although both types of

violations lead to an increase in visual attention, it is the violation of syntax that captures attention more. What makes syntactic violations so interesting? One possible explanation might be that syntactic violations are less common. For example, viewers might be more used to semantic violations because they are widely employed in advertisements or popular culture, whereas syntactic violations seem more art-specific. The lower familiarity of syntactic violations would thus increase interest because such stimuli would be evaluated as more novel. However, both types of violations might be evaluated as novel, unfamiliar, and complex, evoking interest consistent with the appraisal approach (Silvia, 2010). This result is also in line with studies showing that ambiguity in art boosts interest (Jakesch & Leder, 2009, Jakesch, Leder & Forster, 2013).

Apart from the characteristics of paintings, we also tested whether viewer characteristics would influence the reaction of interest. The second component of appraisal leading to interest is the assessment of one's ability to understand the stimuli. That is why art expertise and individual differences were included, as they might play a role in moderating the coping potential of viewers. The results present a complex picture. We found that art training, surprisingly, doesn't predict interest in paintings with syntactic violations or in paintings in general. As we controlled whether paintings were previously seen by the participants, we excluded that the obtained result was simply an effect of the experts' prior knowledge of the works, which may have produced a lack of novelty. Experts are more interested in complex art (e.g. Crozier, 1974; Locher et al, 2001; Leder, 2018), but the effect of training does not affect their interest in simple pictures (Silvia, 2006). The plausible explanation could be that the stimuli we used was not complex enough for the experts, reducing differences usually observed between more and less experienced viewers.

When it comes to the need for cognitive closure, no interaction between the level of this variable and semantic inconsistencies was found. In turn, NFC appeared to be a general predictor of interest in art, but contrary to the expected direction. It was the high-NFC individuals who were actually more interested in contemporary art. Our hypothesis was based on previous studies showing high NFC individuals' dislike for abstract and open-ended paintings (e.g. Wiersema, van der Schalk & van Kleef, 2012). However, as NFC is a construct which is composed of five different sub-components manifesting in different ways, its direct link with reactions to art is far from being clear cut. We might speculate that discomfort with ambiguity or close-mindedness would rather hinder interest in complex art. On the other hand, a preference for order and predictability could de facto encourage and motivate viewers to persistently search for the hidden meaning in conflictual art, making it finally more comprehensive, and as a result more interesting.

Certainly, more studies precisely linking this multi-faceted construct with aesthetic preferences should be undertaken in the future.

Furthermore, the study revealed that Big Five traits as Openness and Neuroticism could serve as predictors of interest in contemporary art (regardless of violation type or its presence). These findings are consistent with previous research on personality and aesthetic preferences, while showing the role of interest in explaining these preferences. The question, for further investigation remains, whether experiencing greater (by Open individuals) or less (by Neurotic individuals) interest in contemporary art stems from the appraisal of stimuli or rather one's coping potential.

Finally, age was found to be a significant predictor of interest in our study showing that the older the viewers, the less interested they were in art. There might be at least two reasons for this effect. Firstly, we used only contemporary paintings as stimuli in our experiment. Studies have shown that contemporary art is more appreciated by younger people (Chamorro-Premusic, Furnham & Reimers, 2007; Granell, 2016). However, when it comes to children their evaluations increase with age (Szubielska, Ratomaska, Wójtowicz, Szymańska, 2018). In further studies, a more diversified sample presenting conflictual art from different periods (for example, XVI century works by Arcimboldo as a representation of semantic violation) not only contemporary one could be used. The second explanation focuses on the simple fact of gaining experience throughout the course of one's life. This could result in difficulty to experience novelty with ageing, and it is novelty that is the crucial component in the appraisal structure of interest.

Summing up, whereas interest is considered to be one of the most important and most examined emotions in empirical aesthetics (e.g. Russel, 1994; Silvia; 2010, Tan, 2000), it has proven to be also quite complex. Our paper offers a contribution to the field by showing what makes paintings more interesting for viewers and who's particularly interested in contemporary art. High on Openness and Need for Closure, low on Neuroticism, and younger individuals more often react with interest to contemporary art, but it will take time before (if ever) the mystery of what makes art so interesting is finally revealed.

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