Chapter #7

THE AESTHETIC EXPERIENCE OF DANCE IN PEOPLE LIVING WITH PSYCHOTIC ILLNESS

Maja S. Vukadinović[1,2] & Jelena Berković[3]
[1]*Novi Sad School of Business, Serbia*
[2]*The Center for the Research of Dance and the Art of Flamenco - La Sed Gitana, Novi Sad, Serbia*
[3]*Clinical center of Vojvodina, Novi Sad, Serbia*

ABSTRACT
The chapter aims at exploring the structure of the aesthetic experience of dance performances by focusing on the differences between people with psychotic illness and control group. A pilot study included the individuals without a clinical diagnosis of mental illness, people diagnosed with schizophrenia spectrum disorder (clinically stable outpatients at the time of the research) and people with bipolar disorder currently in a manic episode and subjected to hospital treatment. As stimuli, Spanish dance (*Sevillana*) was presented in the form of a short live performance. Twelve unipolar seven-point scales covering three dimensions (Dynamism, Exceptionality and Affective Evaluation) were used to measure aesthetic experience. The results showed that there are no significant differences between these groups of participants in assessing the aesthetic experience of dance. However, within the subgroups of participants, different "aesthetic profiles" singled out. The "aesthetic profiles" of clinically stable participants with schizophrenia and the control group are not significantly different, unlike that of the participants diagnosed with bipolar disorder who were hospitalized due to a current manic episode. These results are discussed in the context of the stage of the participants' mental illness. The methodological limitations of the study as well as perspectives for future research are elaborated.

Keywords: aesthetic experience, dance performance, schizophrenia, bipolar disorder.

1. INTRODUCTION

The aesthetic appreciation and the aesthetic experience are topics which have intrigued many researchers across different domains including psychology, art, design philosophy, neuroscience etc. When it comes to the appreciation of art, scientists were previously interested in researching and understanding the differences between people with psychotic illness and those without a clinical diagnosis of mental illness. In research dealing with the appreciation of visual art by individuals diagnosed with schizophrenia (Chen, Norton, & McBrain, 2008), it was suggested that the biological and behavioral processes at the root of the beauty experience are not the same in people with this mental illness as in individuals without schizophrenia. Similar findings proposing the differences in the evaluation of art between the people with psychotic illness and individuals who did not receive the diagnosis of mental illness were reported in other studies, too (Eisenman 1965; Iwamitsu et al., 2009). Former research about the way people diagnosed with mental illness show an appreciation for art mostly aimed at investigating the aesthetic preferences of visual materials such as paintings (Chen et al., 2008) and figures (Iwamitsu et al., 2009). In addition, there was some research investigating the aesthetic preferences for poems (Eisenman, 1965). Yet, the question which remained open is how people who are diagnosed with a psychotic illness react when they observe dance performances. In this chapter, we will try to address this question.

In an attempt to understand the specifics of the aesthetic experience of dance in people with mental illness, the perspective of neuroaesthetic studies offers a range of possibilities (Calvo-Merino et al., 2005; Calvo-Merino, Jola, Glaser, & Haggard, 2008; Christensen & Calvo-Merino, 2013; Cross, Hamilton, & Grafton, 2006; Cross, Kirsch, Ticini, & Schütz – Bosbach, 2011). According to Calvo-Merino and collaborators (2008), various scientists identify the neural mechanisms of aesthetic processing which participate in the aesthetic experience, the most prominent ones being the perceptual, cognitive and emotional processes (Cela-Conde et al, 2004; Kawabata & Zeki, 2004; Vartanian & Goel, 2004). As suggested by different authors, the perceptual mechanism is based on sensory and attentional regions while the cognitive and emotional mechanisms are centered around the prefrontal cortex, which includes the orbitofrontal cortex and the prefrontal dorsolateral cortex (Cela-Conde et al., 2004; Kawabata & Zeki, 2004; Vartanian & Goel, 2004). When it comes to schizophrenia and bipolar disorder, different studies indicated the existence of aberrations in the structure and function of regions considered vital for aesthetic experience.

Schizophrenia is characterized by significant impairments regarding the perceptual, cognitive, and emotional processes. Research on the symptomatology of schizophrenic disorders and their neural correlates indicates the existence of aberrations in the structure and function of regions considered vital for aesthetic experience. Thus, perceptual deficits can be seen in visual, auditory, olfactory, and somatosensory processing in schizophrenia (Butler, Silverstein, & Dakin, 2008; Javitt, 2009; Tso, Angstadt, Johnson, Diwadkar, & Taylor, 2019). According to Tso et al. (2019) an impairment in visual motion processing appears integral to schizophrenia pathophysiology and it represents a critical factor which influences social cognitive abilities. Some findings show the dysfunction of the dorsolateral prefrontal cortex (Callicott et al., 2000; Dichter, Bellion, Casp, & Belger , 2010; Smucny, Dienel, Lewis, & Carter , 2022) associated with dysfunctional working memory (Cannon et al., 2005) and abnormalities in reward processing (Gold, Waltz, Prentice, Morris, & Heerey, 2008; Whitton, Treadway, & Pizzagalli, 2015). Disturbances in a number of emotional processes, often associated with the abnormalities of the prefrontal cortex are noticed as well (Hiser & Koenigs, 2018; Maat, van Haren, Bartholomeusz, Kahn, & Cahn, 2016; Ursu et al., 2011).

Regarding the bipolar affective disorder, research also indicates the existence of aberrations in the structure and function of regions considered important for aesthetic experience. Since bipolar affective disorder is mostly defined through the impaired abilities of emotion generation and regulation (Bozikas, Tonia, Fokas, Karavatos, & Kosmidis, 2006; Green, Cahill, & Malhi, 2007; Satzer & Bond, 2016), there is a stronger basis for research on the dysfunction of the orbitofrontal cortex (Altshuler et al, 2005; Green et al. 2007; Najt et al., 2007; Wei et al., 2017). According to Satzer and Bond (2016), current models of bipolar disorder implicate the hyperactivity of the left-hemisphere reward-processing brain areas and hypoactivity of the bilateral prefrontal emotion-modulating regions. These authors propose that right-hemisphere limbic-brain hypoactivity, or a left/right imbalance, may be relevant to the pathophysiology of mania. Moreover, attention deficit is detected in people with bipolar disorder (Camelo et al., 2017; Pinna et al., 2019; Sereno & Holzman, 1996).

Based on the presented findings, it can be understood that the results of the abovementioned studies concerning people with psychotic illness could prove to be helpful when exploring the aesthetic experience in people with psychotic mental disorders. Since they suggest deficits, i.e. deteriorated neural mechanisms which also participate in aesthetic experience, differences in the aesthetic experience of dance between people with psychotic illness and those who did not receive diagnosis of mental illness could be expected. To explore these differences, we have conducted a pilot study. We used an approach which not only enables the possibility to define the structure of aesthetic experience, but it also

represents a way to determine the differences in the structure of the aesthetic experience of dance performance in people with psychotic illness and individuals without a clinical diagnosis of mental illness. This approach will be elaborated on in more detail in the following chapter.

2. BACKGROUND

Aesthetic experience is the central concept of the present study. It can be defined as a special state of mind in which a person strongly focuses on the object she or he is fascinated with while all other events are suppressed from consciousness (Beardsley, 1982; Cupchik 1974; Csikszentmihalyi, 1990; Koestler, 1970; Kubovy, 1999; Marković, 2012, 2017; Ognjenović, 2003). It includes a cognitive, affective, conative and physical component (Marković, 2017; Vukadinović & Marković, 2022). Moreover, aesthetic experience can be operationalized through a set of descriptors, which creates a possibility for further comparison between different participant groups or aesthetical objects.

Studying the structure of the aesthetic experience of paintings in a previous factorial analysis study, Polovina and Marković (2006) empirically specified a set of descriptors of aesthetic experience: fascinating, irresistible, unique, eternal, profound, exceptional, universal and unspeakable. After applying the existing descriptors of aesthetic experience suggested by Polovina and Marković (2006) and introducing other descriptors associated with dance experience, a different factor analytical research (Vukadinović & Marković, 2012) established that there are three prominent dimensions in the aesthetic experience of dance concerning the audience: Dynamism (descriptors: expressive, powerful, strong, exciting), Exceptionality (descriptors: eternal, unspeakable, unique, exceptional) and Affective Evaluation (descriptors: subtle, elegant, seductive, sensitive). The dimension of Dynamism is related to the powerfulness and expressiveness of the piece, Affective Evaluation with the elegancy of movement and emotionality with which the piece is performed, while Exceptionality is related to the admiration for the performance skills and originality of the artistic content (Vukadinović & Marković, 2012). The acquired data were used as the basis for the construction of an instrument applied in measuring the aesthetic experience of dance performances. The instrument included the three abovementioned dimensions with the given descriptors.

Further research has shown that there are differences in the audiences' aesthetic experience of dance concerning the type of dance, choreography, dancer, medium of presentation (live and recorded), the choreographer's style and the observer's identification with the story (c.f. Vukadinović, 2013; Vukadinović & Marković, 2017; Vukadinović, 2019; Vukadinović & Marković, 2022). The audience in these studies were people without a clinical diagnosis of mental illness and they differed in age, gender and previous experience in practicing and watching dance.

However, since dance is a very specific aesthetic stimulus, attempting to comprehend the aesthetic experience of dance performance of people with psychotic illness can be rather challenging and complex. Therefore, the purpose of the present pilot study is to explore the aesthetic experience of dance performances when the observers of dance are people with a psychotic illness. The first aim is to explore the differences between groups of participants – individuals without a clinical diagnosis of psychotic illness, people with schizophrenia and people with affective disorder. Furthermore, based on a set of aesthetic experience descriptors, the second aim is to try to determine the structure of the aesthetic experience of a dance performance, i.e. "aesthetic profiles" in those groups of participants.

In addition, it should be outlined that at the time when the study was conducted only some people with psychotic illness were able to take part in it. For this reason, the study included people who were in different stages of their mental illness: people with schizophrenia (clinically stable outpatients with symptoms in remission) and people with bipolar disorder (hospitalized due to a current manic episode with psychotic symptoms).

Having in mind this specificity of the sample of participants and their different stages of mental illness (acute / remission) the differences between the subgroups could be expected. More precisely, it can be hypothesized that hospitalized people with bipolar disorder who are currently in a manic episode will have higher assessments of the dimensions of the aesthetic experience of dance compared to clinically stable people with schizophrenia and the control group. Such an assumption could also be based on the fact that they are in an acute stage of mental illness as well as on previous findings that singled out altered sensory phenomena which are experienced by people diagnosed with bipolar disorder, especially during a manic episode with psychotic symptoms which normalize when they enter remission (Kéri, Benedek, & Janka, 2007; Parker, Paterson, Romano, & Graham, 2017). Considering the deficit of visual motor perception, the impairment in visual motion processing and outlined differences between people with schizophrenia and those with bipolar disorder (Chen, Levy, Sheremata, & Holzman, 2006; O'Bryan, Brenner, Hetrick, & O'Donnell, 2014; Tso et al., 2019), it can be hypothesized that people with schizophrenia in remission will evaluate the dimensions of aesthetic experience of dance with significantly lower values compared to the other subgroups of participants.

3. METHOD

3.1. Participants

The protocol used in this pilot study was approved by the Clinic of Psychiatry at the Clinical Center of Vojvodina. There were 52 participants aged between 20 and 60 years (M=38.85, SD=11.41; 63.5% women) who took part in the study. The research included three groups of people: 1–individuals without a clinical diagnosis of mental illness, 2 – individuals who were clinically stable, medicated outpatients diagnosed with schizophrenia and schizophrenia spectrum disorders and 3 – individuals diagnosed with bipolar disorder who were hospitalized due to an acute manic episode with psychotic symptoms. For individuals with mental illness, the research criteria included: 1) the diagnosis of schizophrenia or bipolar disorder (determined by a team of psychiatrists in accordance with the criteria of the ICD - 11 (ICD-11: World Health Organization [WHO], 2019/2021); 2) a history of chronic illness with multiple hospitalizations and the use of psychotropic medication. Patients with a current or past diagnosis of substance dependence (excepting caffeine and nicotine), those with a severe medical or neurological condition, or other clinical pathologies were excluded from the research.

The experimental group consisted of two subgroups of participants. The first subgroup (N=21, age between 20-58 years, M=39.23 SD=11.33; 57.1% women) included clinically stable, medicated outpatients diagnosed with schizophrenia and schizophrenia spectrum disorders. At the time of the study, the patients with schizophrenia had already been clinically stable for at least six months according to their treating psychiatrist, i.e. all patients were treated as outpatients; the treatment regimens had not been modified, and there was no essential change in psychopathology during this period.

The second subgroup (N=10, age between 20-60 years, M=41.00 SD=14.56; 80% women) was comprised of the patients diagnosed with bipolar disorder who were hospitalized due to an acute psychotic episode. Their current episode was manic with psychotic

symptoms. These patients had been hospitalized for at least two weeks prior to the study and they were all under medical treatment. All participants had already experienced manic episodes in the past, so the current one was not their first episode.

The control group (N=21, age between 20-54 years, M=37.68 SD=10.43; 64% women) was comprised of the staff at the Clinic of Psychiatry consisting of doctors and nurses. The hospital staff was without a clinical diagnosis.

The participants did not have any direct experience in dance training.

3.2. Stimuli

Four dance choreographies performed by the flamenco dance group "La Sed Gitana" from Novi Sad were used as the stimuli in this research. The performance was staged in the Clinic of Psychiatry at the Clinical Center of Vojvodina in Novi Sad. It lasted for approximately 20 minutes and all of the dance choreographies were performed by the whole group.

All four choreographies are classified as the *sevillanas* genre. *Sevillana* is a type of Spanish folk song and dance originally from Seville. The dancers performed the same choreography (*sevillanas*), while the music played to them was different:

1. *Tiempo detente*, written by José G. de Quevedo/ J.M. Moza; performed by Los Romeros de la Puebla; Album: Rocío, 1985;
2. *Sueña la Margarita*, written by A.R. Ferrera; performed by Los Rocieros; Album: Las mejor 20 Sevillanas, 2003;
3. *A la puerta de Toledo*, performed by Chiquetete; Album: Sevilla sin tu amor, 1988;
4. *Yo soy del sur*, written by F. de Juan Fernández/A. Rodríguez Ferrera; performed by Amigos de Ginés; Album: 30 Aniversario: Cantándole a las Sevillanas, 2000.

While creating the stimulus, attention was paid to the following: a) performing the dance live – there were eight dancers, with an average age of 25, who had 5 years of experience in dancing flamenco; b) performing the dance to music; c) controlling for the emotional expression in the dance stimulus through the choice of music and dance, as well as through the instructions given to the dancers who were instructed to include cheerfulness in their movements and expressions.

3.3. Instrument

Twelve unipolar seven-point scales (Vukadinović & Marković, 2012) were used to measure the aesthetic experience of dance performance. They measure three dimensions: Dynamism (expressive, powerful, strong and exciting), Exceptionality (eternal, unspeakable, unique and exceptional), and Affective Evaluation (subtle, elegant, seductive and sensitive). The Cronbach's alpha reliability of scales measuring Dynamism is α =.760, for Exceptionality it is α =.699 and for Affective evaluation α =.814.

3.4. Procedure

After they gave their informed consent to take part in the study, the participants observed the dance performance in a group. Four choreographies were presented to the participants live in a randomized order. The stimuli were observed from a distance of around 3m. When the participants finished watching the choreographies, they immediately rated the whole performance. The participants' task was to rate the entire performance consisting of the four choreographies on 12 seven-point scales containing the descriptors of aesthetic experience. All participants were asked to rate the performance on all 12 scales by marking the grade, based on their impressions of the extent of the particular descriptor expressed by the performance. They were told that grade 1 indicated the weakest and 7 the strongest intensity of a descriptor expressed by the performance. The participants were informed that

there were no correct answers. They observed the visual presentation in a group, and having finished watching the whole performance, they immediately rated their aesthetic experience. The time given to them for rating the performance was not limited.

3.5. Data Analysis

Data analysis was performed using statistical software SPSS for Windows v25.0. Descriptive statistic (*M, SD*) regarding the assessments of different groups of participants on the scales of dimensions of the aesthetic experience of dance is reported in Appendix –Table A. Due to a small number of participants and small subsamples per subgroups, non-parametrical tests were applied. In order to explore the differences in the assessment of the aesthetic experience of dance between groups, *Kruskal-Wallis Test* was applied. Moreover, with an aim to explore the structure of aesthetic experience, i.e. to investigate how the ratings of dimensions differ within each subgroup of participants, *Wilcoxon signed-ranks test* was applied. Finally, Bonferroni *p*-value correction was used.

4. RESULTS

The results of Kruskal-Wallis Test have shown that there are no differences in the assessments of the dimensions of aesthetic experience between people with psychotic illness and those without a clinical diagnosis (please see Table 1).

Table 1.
Differences between subgroups of participants in the assessment of the aesthetic experience of dance.

	Dynamism	Exceptionality	Affective evaluation
MR People with Schizophrenia, clinically stable outpatients (N = 21)	26.02	23.50	24.88
MR People with Bipolar disorder, hospitalized, current manic episode (N = 10)	29.40	36.45	35.90
MR People without clinical diagnosis, Hospital staff (N=21)	25.60	24.76	23.64
Kruskal-Wallis H (df = 2)	0.47	5.46	4.88
p	.789	.065	.087

Note: MR = mean rank.

When it comes to the structure of the aesthetic experience of a dance performance in the individuals with psychotic illnesses and control participants without a clinical diagnosis, Wilcoxon signed - Ranks Test was applied to explore the structure of aesthetic experience within each subgroup of participants.

Regarding people with schizophrenia – (clinically stable, medicated outpatients diagnosed with schizophrenia and schizophrenia spectrum disorders), the results have shown that all dimensions were assessed significantly differently (Table 2). However, not all of these differences remained significant after the p-value Bonferroni correction ($p < .016$). Namely, regarding the aesthetic experience of dance performance in these participants, the most prominent dimensions are Dynamism and Affective Evaluation, while the Exceptionality dimension has a significantly lower evaluation compared to the other two.

Table 2.
Results of Wilcoxon signed - Ranks Test, people with schizophrenia (N= 21).

Aesthetic experience (pairs of dimensions)		*Mean Rank*	*Sum of Ranks*	*Z*	*p*
Exceptionality and Dynamism	Negative Ranks	11.00	231.00	-4.02a	.000
	Positive Ranks	.00	.00		
Affective Evaluation and Dynamism	Negative Ranks	9.86	138.00	-2.30a	.022
	Positive Ranks	8.25	33.00		
Affective Evaluation and Exceptionality	Negative Ranks	5.13	20.50	-3.16b	.002
	Positive Ranks	11.84	189.50		

* a – based on positive ranks; b – based on negative ranks

When it comes to the people without a clinical diagnosis (hospital staff), the results have shown a similar profile in comparison to people with schizophrenia who are clinically stable. In other words, the most prominent dimensions are Dynamism and Affective Evaluation while the Exceptionality dimension has a significantly lower evaluation compared to the other two (please see Table 3). This difference remained significant after Bonferroni correction ($p < .016$).

Table 3.
Results of Wilcoxon signed - Ranks Test, people without a clinical diagnosis (N= 21).

Aesthetic experience (pairs of dimensions)		*Mean Rank*	*Sum of Ranks*	*Z*	*p*
Exceptionality and Dynamism	Negative Ranks	10.95	208.00	-3.85a	.000
	Positive Ranks	2.00	2.00		
Affective Evaluation and Dynamism	Negative Ranks	10.58	127.00	-1.81a	.069
	Positive Ranks	7.33	44.00		
Affective Evaluation and Exceptionality	Negative Ranks	7.25	14.50	-3.25b	.001
	Positive Ranks	10.32	175.50		

* a – based on positive ranks; b – based on negative ranks

When it comes to the participants with bipolar disorder who are hospitalized due to an acute manic episode with psychotic symptoms, there are no statistically significant differences in their evaluation of the dimensions of aesthetic experience of a dance performance (please see Table 4).

Table 4.
Results of Wilcoxon signed - Ranks Test, people with bipolar disorder (N= 10).

Aesthetic experience (pairs of dimensions)				*Z*	*p*
		Mean Rank	*Sum of Ranks*		
Exceptionality and Dynamism	Negative Ranks	6.40	32.00	-1.13a	.258
	Positive Ranks	3.25	13.00		
Affective Evaluation and Dynamism	Negative Ranks	5.13	20.50	-0.25a	.725
	Positive Ranks	3.88	15.50		
Affective Evaluation and Exceptionality	Negative Ranks	3.50	10.50	-1.42b	.154
	Positive Ranks	5.75	34.50		

* a-based on positive ranks; b – based on negative ranks

As reported in Table 1, the results have shown that there are no significant differences between different subgroups of participants (people with schizophrenia, people with bipolar disorder currently in a manic episode and those without a clinical diagnosis). However, it can be noticed that the structure of aesthetic experience of dance varies within each subgroup of participants (Table 2, 3 and 4).

5. DISCUSSION

Since currently there is not much empirical data on the aesthetic experience of dance performance in individuals with psychotic illness, it is important to bear in mind the link between the specific symptoms of people with schizophrenia and bipolar disorder on one hand, and neural mechanisms considered to be at the root of aesthetic experience on the other. From the perspective of neurological and neurocognitive studies, several types of impairments of perceptive, cognitive and emotional processes were detected in individuals with schizophrenia and bipolar disorder (Bozikas et al., 2006; Butler et al., 2008; Callicott et al., 2000; Cannon et al., 2005; Dichter et al., 2010; Gold et al., 2008; Green et al., 2007; Hiser & Koenigs, 2018; Hu et al., 2017; Javitt, 2009; Lin et al., 2013; Liu et al., 2015; Maat et al., 2016; Najt et al., 2007; Pinna et al., 2019; Smucni et al., 2022; Satzer & Bond, 2016; Tso et al., 2019; Wei et al., 2017; Whitton et al., 2015; Zhang et al., 2012).

The neural mechanisms supporting these processes participate in the formation of aesthetic experience (Cela-Conde et al., 2004; Kawabata & Zeki, 2004; Vartanian & Goel, 2004). Based on the findings of the aforementioned research, it was assumed that there should

be differences between the control group and the experimental groups, not only in aesthetic preferences, but in the structure of aesthetic experience as well. However, the results have shown that there are no differences in the aesthetic experience of a dance performance among the groups of participants. In addition, since aesthetic experience was evaluated through the three dimensions – Dynamism, Exceptionality and Affective Evaluation which comprise its structure, the results have shown that the structure of aesthetic experience varies within each subgroup of participants.

Regarding the main result of the present pilot study which has shown that there are no significant differences between subgroups of participants, there are a few possible interpretations. One interpretation is related to the fact that the result is rather unexpected since previous research into aesthetic preferences in the perception and appreciation of different stimulus types in individuals with mental illness consistently showed the existence of differences, especially in the case of people with schizophrenia when compared to those without a clinical diagnosis of mental illness (Chen, Norton et al., 2008; Eisenman, 1965; Iwamitsu et al., 2009; Maher et al., 2019; Norton, McBain, Öngür, & Chen, 2011). In order to better understand the results of present study, the findings of Chen, Norton et al. (2008) as well as of Chen et al. (2008) about the specific nature of aesthetic experience in individuals diagnosed with schizophrenia could be helpful. Namely, these authors found that individuals diagnosed with schizophrenia have a lower activation of the occipital region and a higher activation of one region in the prefrontal cortex, unlike people without mental illness. This indicates the activation of different cognitive processes. However, these authors proposed that there is no difference in the appreciation of visual art between individuals with schizophrenia and those without a clinical diagnosis of mental illness. Regarding the subgroup of people with bipolar disorder, the differences in the assessments of the dimensions of aesthetic experience were also expected since the participants were in a manic phase of their cycle which is accompanied by grandiosity, racing thoughts and pathological elevation in energy (Greenwood, Chow, Gur, & Kelsoe, 2022). Moreover, the differences were expected especially considering the symptomatology of bipolar disorder which is mostly characterized by dysfunctional emotional regulation (Bozikas et al., 2006; Green et al., 2007; Townsend & Altshuler, 2012), structural changes in the brain, such as the increase of amygdala volume compared to people with schizophrenia and control participants (Altshuler et al., 2000), as well as the increased limbic activity during the perception of emotion (Green et al., 2007; Wessa, Kanske, & Linke, 2014). However, the results of the present study did not indicate significant differences in the aesthetic experience of a dance performance between hospitalized people with bipolar disorder in a manic episode and the other two groups of participants (clinically stable outpatients with schizophrenia and the control group). Based on this evidence, it could be assumed that a person with psychotic illness can evaluate dance in the same way as a person without a clinical diagnosis despite their differences in the neural processes which participate in the perception of movement. A person with psychotic illness can also create the aesthetic experience which will not be different from the aesthetic experience of individuals without any mental health issues. Nevertheless, this interpretation should be taken with reservation and a few important elements should be singled out and taken into account in order to better understand the findings of this study.

Another more probable possibility is that the interpretation of the obtained results which indicates the absence of significant differences between the subgroups of participants is most likely related to two major characteristics of the sample. The first is that the sample of participants per subgroup was very small which not only limited the generalizability of the study but it could also have influenced the obtained results by not showing the expected

differences. The second major point related to the sample is that the participants from the experimental group were in different phases of their mental illness. People with schizophrenia had been clinically stable for at least six months prior to the research. They were treated as outpatients, the treatment regimens were not modified, and there was no essential change in psychopathology during this period. People with bipolar disorder participated in the research during an acute phase of their condition. They were hospitalized due to an acute manic episode with psychotic symptoms. Since they were in hospital, they were under medical treatment which could have suppressed their symptoms and therefore influenced the results in such a way that there seems to be no difference between them and people with schizophrenia who were clinically stable and people without a clinical diagnosis of mental illness. However, this explanation should also be taken with reservation since the medication factor, the degree of the improvement of their state during hospitalization as well as the reduction of manic symptoms were not controlled for.

5.1. The Analysis of the "Aesthetic Profiles" within Subgroups of Participants

Although there are no significant differences between the subgroups of participants, when assessing the aesthetic experience of dance, their "aesthetic profile" is different when it is observed within each subgroup. To be more specific, when the ratings of the given dimensions of aesthetic experience are considered within the participant subgroups, in both the control group and the group of clinically stable individuals diagnosed with schizophrenia, the most prominent dimensions of the aesthetic experience of dance performance are Dynamism and Affective Evaluation, while the dimension of Exceptionality is assessed with significantly lower values. Regarding the group of people with bipolar disorder who are hospitalized in a manic episode of their cycle, there are no statistically significant differences in their evaluation of the dimensions of the aesthetic experience of a dance performance. In addition, all dimensions were assessed with relatively high values.

In an attempt to interpret these findings, it is important to note that the group of individuals with schizophrenia was comprised of patients in remission and to take into account the differences which exist between them and the patients in the acute phase. For instance, according to Mendrek et al. (2004), the research on the dorsolateral prefrontal cortex in patients who are in remission indicates the hypoactivation of this region, as well as the parallel hypoactivation of other brain regions. These authors propose that such findings can be viewed as a specific compensatory mechanism, i.e. the use of other cognitive strategies which a person employs to try and solve a task and surmount the obstacles arising from the consequences of the impairments to the working memory function.

Moreover, since the results of numerous studies show that there are at least three types of processes involved in aesthetic experience – perceptual, cognitive, and affective (Calvo-Merino et al., 2008; Cela-Conde et al., 2004; Di Dio, Macaluso, & Rizzolatti, 2007; Kawabata & Zeki, 2004; Nadal, Munar., Capó, Rosselló, & Cela – Conde, 2008; Vartanian & Goel, 2004) – the formation of the aesthetic experience by individuals suffering from psychotic illness can be viewed from the perspective of affective processes incited by aesthetic stimuli. The results of research on cognitive and affective processes indicate that affective processes associated with amygdala (Di Dio et al., 2007) play an important role in aesthetic preference since they are integrated with cognitive processes involved in reaching a decision on the beauty of a visual stimulus (Nadal et al., 2008). Bearing this in mind, the characteristics of affective processes in individuals with psychotic illness should be remarked upon. Research into the affective processes in individuals with schizophrenia indicates that there is a deficit in the expressive component of emotional reactions in these individuals (Kring & Moran 2008). People with schizophrenia contract their facial muscles in accordance

with the emotional reaction compatible to the stimulus, but their amplitude is low and unnoticeable to the observer (Earnst et al., 1996; Mattes, Schneider, Heimann, & Birbaumer, 1995). The decreased expressiveness in reactions is in correlation with the symptoms of the flattened affect and anhedonia (Tremeau, 2006). Nevertheless, the subjective experience of emotion and the physiological response to it are not significantly different from those of people without a clinical diagnosis of psychotic illness (Kring & Moran, 2008). Extrapolating from these findings, it is very likely that people with schizophrenia have a similar experience of dance performance as individuals without a clinical diagnosis of psychotic illness, which is also indicated by the results of this research.

Regarding the "aesthetic profile" of people with bipolar disorder who are hospitalized due to a current manic episode, the results have shown that Dynamism, Affective evaluation and Exceptionality do not differ significantly. These findings indicate that in the assessments of aesthetic experience no dimension singles out, i.e. they are all equally highly rated. Concerning the people with bipolar disorder, there is no difference in the dimensions of aesthetic experience such as the ones noted in people with schizophrenia and the control group of participants.

Recent study of Van Rheenen et al. (2017) noted that there are quantitative but not qualitative differences in cognition between people with schizophrenia and those with bipolar disorder which can relatively explain the results obtained in this study. In addition, these results could be understood in light of the fact that compared to depression which is associated with low energy and feelings of hopelessness and sadness, mania is accompanied by grandiosity, racing thoughts and pathological elevation in energy (Greenwood et al., 2022). Moreover, even though the participants of this subgroup were hospitalized due to an acute manic episode, the absence of differences in aesthetic experience compared to other subgroups of participants could be explained with previous findings which have shown that people with bipolar disorder do not show deficits regarding the tasks that are related to creativity and other cognitive functions (Bora, Yucel, & Pantelis, 2009; Burdick et al., 2014; Greenwood et al., 2022; Van Rheenen et al., 2017). Nevertheless, the question of aesthetic experience in people with bipolar disorder who are in an acute depressive episode remains as an open question for future studies.

5.2. Specific Nature of Dance used as Stimuli

Finally, it is interesting to discuss the results of this research within the context of the art of dance as such. According to flamenco dance classification (Blas Vega & Rios Ruiz, 1988; Molina & Mairena, 1963), the stimulus used in the research – a dance in the *sevillanas* form – represents a "flamencoed" song and dance. Hence, the expressive richness of flamenco is one of the dominant characteristics of the stimulus. Since the *sevillanas* form is the most vivacious and joyful Andalusian dance (Gamboa, 2011), it could be assumed that the very type of stimulus shapes the evaluation of aesthetic experience in the observers. The context of flamenco art within which this dance form is often defined (Blas Vega & Rios Ruiz, 1988; Candelori & Díaz, 1998) insists on an effusive and rich emotional expression, numerous gestures, and a strong expression of emotional experience (Candelori & Díaz, 1998; Gómez Muñoz, 2008; Guerrero Pantoja, 2008). Communicating feelings is not just one of the basic characteristics of flamenco but the very aim of this dance (Gómez Muñoz, 2008).

Since the assessments of all dimensions of aesthetic experience are relatively high, almost in the upper limits (see Appendix Table A), the results of this research could perhaps be ascribed to the specific nature of the stimulus, the *sevillanas* dance, considering the fact that other dance forms express different contents through their formal characteristics and emphasize the difference in the observer's experience (Vukadinović, 2019). For example,

classical ballet demands harmony, symmetry and restraint from ballet dancers (Au, 2002; Laws, 2002), while the basic concept of modern ballet could be defined as the expression of human existence (Press & Warburton, 2007; Au, 2002; Huxley, 1994; Jowitt, 1994) and the complexity of human nature (Huxley, 1994; Jowitt, 1994; Graham, 1991; Duncan, 1981).

By all means, no matter the form, dance can have an important role in the treatment of people with psychotic illness. In this sense, the implications of the findings of this study as well as the importance of dance as a possible tool for improving mental health conditions will be elaborated in more detail.

5.3. Implications of the Present Pilot Study

According to Rose, Müllensiefen, Lovatt, and Orgs (2020) people can be engaged in dance by only observing it or by participating in it. Regarding the people with mental illness, most studies explore dance as a participatory activity. They look into how the use of dance in the context of dance therapy may reduce psychiatric symptoms (Bryl, 2018; Martin, Koch, Hirjak, & Fuchs, 2016; Priebe et al., 2016; Ren & Xia, 2013). The results of such studies suggest that dance therapy may improve psychosocial functioning and that it can be effective in reducing psychotic symptoms in people with mental illness, especially those with schizophrenia (Millman et al., 2021). Having this, as well as the results of the present study in mind, some clinical implications should be mentioned. Beside the fact that dance as a participatory activity could be helpful in reducing the psychotic symptoms as aforementioned studies showed, the findings of this study suggest that dance as an observatory activity is well received by the participants. Its further use may be focused on stimulating or inspiring creativity which has been shown to be related to bipolar spectrum traits (Greenwood et al., 2022; Kyaga et al., 2013). Moreover, engaging people with mental illness in observation of dance, especially its vivacious forms, as one of the possible creative occupations could be beneficial for them in the sense of improving the quality of their everyday life. This implication could be advisable especially for outpatients with psychotic illness since recent research of Killick and Greenwood (2019) suggested that art therapy group for people with long term psychotic illness may help them turn difficult feelings into manageable ones and in that way improve their relationships.

5.4. Summary of the Findings and some Methodological Problems

Generally speaking, the conclusion of this pilot study is that the absence of the differences in the aesthetic experience of dance between subgroups of participants could be ascribed to the fact that the participants diagnosed with schizophrenia are in successful remission so their experience is not significantly different from the experience of individuals without a clinical diagnosis of psychotic illness. On the other hand, the absence of differences in the aesthetic experience of people with bipolar disorder who are hospitalized due to a current manic episode in comparison to other groups of participants could be explained in light of the recent findings of Greenwood et al. (2022) which state that these people do not show deficits regarding the tasks that have been related to creativity and other cognitive functions.

Another conclusion is that the structure of aesthetic experience, i.e. “aesthetic profile” in both the clinically stable participants diagnosed with schizophrenia and the control group is not significantly different (the most prominent dimensions are Dynamism and Affective Evaluation), considering the fact that the former are in remission and no longer hospitalized, Unlike these two groups the participants diagnosed with bipolar affective disorder have “aesthetic profile” which is not differentiated (all dimensions of aesthetic experience were equally assessed).

However, there are important methodological problems which make the generalization of these results very difficult. Some of them have already been mentioned and discussed, such as for instance the relatively small number of participants per subgroup, the heterogeneity of the symptomatology in the experimental participant subgroups and different stages of the participants' illness (remission and acute stage). Beside these, other limitations include the specific nature of the stimulus; the impossibility of comparing the stimulus with other stimuli of the same type (only one type of dance was used as a stimulus); the difficulties in controlling for the variables (the medication factor was not controlled for); the difficulties in translating experience into verbal expression; and conducting the evaluation in accordance with the scale of the participants diagnosed with a mental disorder.

Despite the methodological problems, the conclusion is that this research provided a significant insight into some aspects of the aesthetic experience of a dance performance in people living with mental illness such as schizophrenia and bipolar disorder and it mapped the field for its further investigation.

6. GENERAL CONCLUSION

Taking into consideration all of the possible forms of experiencing dance, it can be noted that this is a very complex phenomenon where different aspects overlap – the aesthetic, emotional, somatic, cognitive and motivational aspect. The aesthetic experience of dance represents just one possible aspect of experiencing dance. Moreover, aesthetic experience still represents a relatively vague concept. This is especially true when it comes to findings on the manner in which the cognitive system integrates dance and music into complete aesthetic experience (Christensen & Calvo-Merino 2013). Also, there is not much research on aesthetic experience, especially in relation to art forms such as dance. On the other hand, the aesthetic experience and appreciation of art by individuals with psychotic illness are also areas which have not been sufficiently researched. Consequently, the attempt to investigate the aesthetic experience of individuals living with psychosis is extremely demanding.

The questions which arose from our small pilot study presented in this chapter may map the field for some future research into the aesthetic experience of dance in individuals with a psychotic illness. For example, what would the aesthetic experience of a dance performance in individuals with schizophrenia in the acute stage of illness be? And what about the people with bipolar disorder who are in remission? Are there any differences in the aesthetic experience of dance performance in these stated cases when compared to the people without mental health issues? These questions remain to be answered and empirically tested.

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APPENDIX

Table A.

Descriptive statistic (M, SD) regarding the assessments of different groups of participants on the scales of dimensions of the aesthetic experience of dance.

	Aesthetic experience					
	Dynamism		Exceptionality		Affective evaluation	
	M	*SD*	*M*	*SD*	*M*	*SD*
People with Schizophrenia, clinically stable outpatients	6.26	0.61	4.71	1.24	5.64	1.05
People with Bipolar disorder, hospitalized, current manic episode	6.47	0.36	5.82	1.13	6.35	0.77
People without clinical diagnosis – hospital staff	5.98	1.03	4.84	1.12	5.51	1.26

AUTHORS' INFORMATION

Full name: Maja S. Vukadinović
Institutional affiliation: Novi Sad School of Business
Institutional address: Vladimira Perića – Valtera 4, Novi Sad 21000, Serbia
Biographical sketch: Maja S. Vukadinović holds a PhD in psychology. She is a senior research associate and a professor of vocational studies - subject psychology. She is a founder, choreographer and pedagogue in The Center for the Research of Dance and the Art of Flamenco - La Sed Gitana, Novi Sad. Her main area of interest is the psychology of art. She has published papers in national and international journals and 3 monographs: Flamenco – Between Silence and Scream (2002), Experience of a Work of Art in Psychology of Artistic Creation (2017), The Psychology of Dance (2019).

Full name: Jelena Berklović
Institutional affiliation: Clinical Center of Vojvodina
Institutional address: Hajduk Veljkova 1-9 Novi Sad 21000, Serbia
Biographical sketch: Jelena Berklović holds an MD in psychology and a specialization in medical psychology. She works as a clinical psychologist at the Clinic of Psychiatry in Novi Sad. She is one of the founders of The Center for Psychotherapy and Counselling *Savetovaliste Kontakt*. Her main areas of interest are clinical psychology and psychotherapy.