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Free art-making in an art therapy open studio: changes in affect and self-efficacy

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ABSTRACT

Background: This study investigated the impact of visual art-making on self-reported positive and negative affect and perceived self-efficacy. Study participants included 39 healthy adults aged 18 to 59 years, including 33 women and 6 men.

Methods: The study used a mixed methods quasi-experimental (pre–post measurements, no control group) design. The study involved 45 minutes of individual art-making in an open studio format facilitated by an art therapist. Participants completed questionnaires including the Positive and Negative Affect Schedule and General Self-Efficacy Scale, before and after the art-making session. At the end of the session, participants provided brief comments about their art-making experience and a narrative summary of their artwork.

Results: Results indicate that free art-making in this context significantly lowered negative affect and improved positive affect and self-efficacy. Improved affect was also moderately correlated with improved self-efficacy. There was no difference between groups based on prior experience with art-making, gender, age, or race/ethnicity. Content themes from the participants' artwork were very diverse including references to nature, people, activities, memories, and abstract explorations of colors and shapes.

Discussion/Implications: These preliminary findings indicate the benefits of a brief studio-based art therapy free art-making session on the psychological states of affect and self-efficacy for health adults.

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Art therapy; artmaking; affect; self-efficacy; visual art; open studio

Introduction

Self-expression through writing has been found to be related to long-term improvements in health and mood (Pennebaker, 1997; Smyth, Hockemeyer, & Tulloch, 2008). Like expressive writing, evidence has indicated that music and art are two interventions that may have a positive effect on psychological states (Stuckey & Nobel, 2010). Mercer, Warson, and Zhao (2010) found that visual journaling reduced negative affect and anxiety among medical students. Kim (2013) found that art therapy resulted in reduction of negative affect in a sample of older adults. Art-making has also been used as a tool for enhancing self-efficacy in adolescents (Walsh & Hardin, 1994). Drake, Coleman, and Winner (2011) studied the effects of art on short-term mood repair and sought to determine the differences between drawing

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and writing. The researchers were interested in the question of what was more effective for regulating emotions – the use of art as a coping mechanism or as a distraction. The results revealed that mood was significantly improved using drawing compared with writing, and art was more effective for use as a distraction than as a venting method (Drake et al., 2011).

Several articles have presented the efficacy of writing compared with art-making. Pizarro (2004) compared the efficacy of art therapy vs. writing therapy in her study with 45 undergraduate students; she sought to discover which intervention reduced the effects of trauma. The art and writing groups were asked to write or draw a traumatic event. The results of several measures (i.e. mood, general heath, stress and physical symptoms) were compared with the art and writing group participants. Pizarro found a significant reduction in social dysfunction for the writing group. No health benefits were found for the drawing group. Another study explored self-efficacy and self-esteem using an integration of narrative and art therapy. The researchers found a significant difference between the control and treatment mean scores for self-efficacy and self-esteem which suggested that the combination of the two therapies improved the adolescents' efficacy and self-esteem (Mohammadi, Abedi, & Panah, 2013).

Drake and Hodge (2015) conducted a larger study ($N = 80$) with undergraduate students about whether or not drawing was more effective in repairing mood than writing. Using the Positive and Negative Affect Schedule (PANAS), the study found that drawing was more effective in elevating mood compared to writing (Drake & Hodge, 2015). Participants who were able to choose their preferred method (i.e. writing or drawing) did not experience an improved mood over participants who were not offered a choice. Drawing was more effective in regulating negative affect, and no difference in positive affect was found. Building on the previous study completed in 2011, Drake and Winner (2012) compared the effectiveness of art-making when used to vent (express) negative feelings vs. its use as a distraction (avoid the feeling). Using PANAS, repeated measures ANOVA revealed that negative affect was significantly lowered after distraction vs. venting following the art-making experience.

The studies above focused on self-expression in a group setting and used a participant sample focused on college undergraduates. There is no mention of a therapeutic context of art-making, the role of varying age ranges, prior experience with art-making, content created in the free artistic rendering, or media choices in the above studies. The purpose of our study was to examine the outcomes of free art-making in the context of an open studio format with a facilitating art therapist. Using the model of the art therapy open studio (Allen, 2008; Gadiel, 1992; Kalmanowitz, 2016), we proposed to examine how art-making in a such a context would result in changes in the participants in self-reported affect and self-efficacy. Rather than taking the tradition construct of art therapy which includes working as a therapist with patients with psychopathology, the art therapy studio context expands the principles of art therapy including focus on the process and using art-making as a means of self-expression, well-being and envisioning change (Allen, 2008). The art therapist's role in this studio context becomes one of creating an environment for safety, curiosity, openness and non-judgmental open self-expression (Kalmanowitz, 2016). The art therapist becomes the person "holding the space" by being fully present both to their own art-making (as applicable) as well as that of the participants in the space (Gadiel, 1992). Our study used a quasi-experimental mixed methods design. The hypotheses guiding our study were that approximately 45 min of free art-making would result in improved positive affect, reduced negative affect and improved self-efficacy. In addition, we sought to examine whether these

psychological outcomes were related to participants' prior experiences with art-making. The study also collected brief narrative summaries from participants in order to explore their perspective about the art-making experience in the open studio and description of their artwork. The aim was to see if brief opportunities for visual self-expression could have beneficial health outcomes in terms of affect and self-efficacy, which in turn could have implications for integration of such practices in health care settings.

Methods

This study was conducted over a four-month time period at a large urban university in the northeastern region of the United States. The setting for the study was a dedicated art therapy studio space.

Sample description

Inclusion criteria were that participants needed to be healthy adults between 18 and 60 years of age. Participants were excluded if they were currently unwell or taking any medications for an illness. After receiving IRB approval, participants were recruited to the study using both an email sent to the university's listservs and printed flyers posted around the university campus. The study was described as an examination of the health outcomes of visual self-expression, and participants were invited to schedule a time with the Principal Investigator to take part in the study – a one-hour session of open studio-based art-making with an art therapist. In all 39 participants were recruited, all of whom completed the study experience and the study instruments. These included students, staff, and faculty aged between 18 and 59 ($M = 35.06$, SD = 11.41) from across the university. There were 33 women and 6 men. Race/ethnicity of study participants included African-Americans ($n = 2$), Asian-Americans ($n = 13$), White Americans ($n = 21$) and multiracial ($n = 3$).

Instruments

The participants were scheduled for individual one-hour session during a weekday at a time convenient for them. Once the participants arrived at their scheduled time, they completed procedures for informed consent. Demographic information including age, gender, prior levels of artistic experience and racial/ethnic identification were collected verbally. Next they completed the PANAS, a validated standardized measure (Watson, Clark, & Tellegen, 1988) and the validated General Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995). These two instruments are linked to the hypotheses that would examine the changes in affect and perceived self-efficacy as a result of art-making. Prior levels of art-making experience were coded based on the participants' verbal descriptions on the following scale: 1 = limited or no art-making experience; 2 = some prior art-making experience and 3 = extensive prior art-making experience.

Procedures

After the completion of these measures (pretest), participants were invited to work with the art materials using either collage materials, modeling clay, or markers. Participants had the

option of creating any kind of imagery using these three media choices individually or in combination. The images below in Figures 1 and 2 illustrate how the studio space was set up and the media options offered to each participant.

As can been seen in the images above the space was a dedicated room for art therapy. Each session was conducted individually with participants at a time scheduled for the participant. The art therapist explained the study and procedures and was present as needed to support the participant. Some participants chose to work quietly while others talked about their artwork, art-making process and other aspects of their life as they participated in the session. Following the principles of art therapy practice, the participants were told that there were no expectations about creating artwork to fulfill any external esthetic criteria, that their work was not going to be judged for artistic qualities, and that they were free to work with the materials however they chose. A majority of the participants created their own artwork without any directive from the art therapist. The art therapist facilitating the session was available to provide any assistance and followed the lead of the participants at the level of verbal interaction they sought while making the art. The art-making on average

Figure 1. Setup of the studio table space. The art therapist sat diagonally to the participant on the left side.

Figure 2. The media options offered to the participants included markers, clay modeling packets, paper, magazines for collage, scissors and gluesticks.

lasted approximately 45 min. The participants were then invited to share their experiences verbally with the art therapist and these were included as narrative notes that were also coded. They were then asked to complete the posttest questionnaires (PANAS, GSES) and were asked to provide a brief (one to two line) written description of the imagery in their art. All participants consented to having photo documentation of their artwork at the end of the session. They also had the choice of taking their artwork with them or leaving it behind in the studio. Some participants took their artwork with them and others chose to leave their pieces behind.

Data analysis

The data from PANAS, GSES surveys, and participant characteristics were entered into an Excel file and imported for analysis into SPSS. The dependent variables (affect, self-efficacy) were first summarized using descriptive statistics; next, the pretest and posttest data were analyzed using paired samples t-test procedures. The changes in affect and efficacy were also analyzed using bivariate correlations. A one-way ANOVA was performed to determine the mean differences in affect and efficacy pretest posttest scores based on prior experience with art-making. A multiple linear regression was then conducted to check for any confounders among the variables.

Participants completed a brief narrative response at the end of the study describing what they created. These narrative and verbal responses were coded and analyzed using content analysis (Mayring, 2000). We first identified categories for coding based on participant descriptions of what they created during the session. The responses were then categorized under content themes. The first and second authors developed the categories and then independently coded the responses. The coded responses were then reviewed to address any discrepancies. These codes were then tallied to identify recurring themes and linked to the survey response data from the participants. The illustrative artwork examples are included in the findings.

Results

The study sought to examine the outcomes of visual self-expression hypothesizing that there would be changes in affect and self-efficacy. Overall, we found statistically significant support for the changes in affect and self-efficacy as a result of the open studio art-making session.

PANAS and GSES findings

Paired sample *t*-tests were conducted to determine any changes in affect and self-efficacy as a result of the art-making session. There were statistically significant improvements between pretest ($M = 32.10$, $SD = 6.99$) and posttest in PANAS positive scores ($M = 38.48$, $SD = 7.85$), [$t(38) = -5.78$, $p < .01$] and between PANAS negative scores pretest ($M = 14.46$, $SD = 4.60$) and posttest ($M = 11.08$, $SD = 1.56$) scores [$t(38) = 5.24$, $p < .01$]. Similar to the changes in positive and negative affect mean scores, participants reported significantly higher ratings in GSES scores from pretest ($M = 33.56$, $SD = 2.93$) to posttest ($M = 35.54$, $SD = 3.27$), [$t(38) = -5.18$, $p < .01$]. See Figure 3.

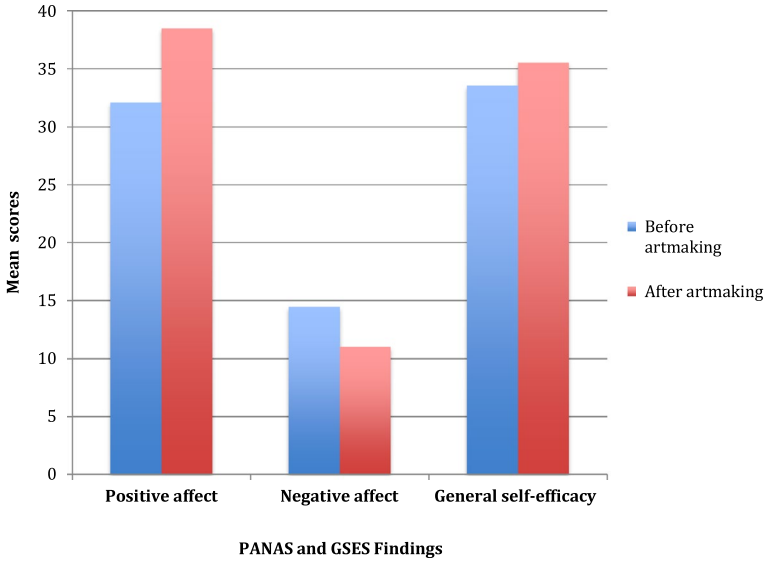

Figure 3. Bar graph comparison of findings from the Positive and Negative Affect Schedule (PANAS) and General Self-Efficacy Scale (GSES) conducted before (blue) and after (red) art-making; $N = 39$.

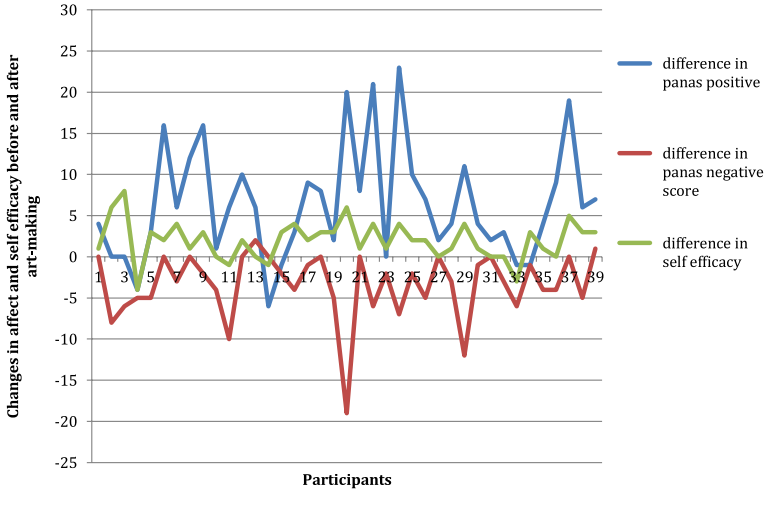

Figure 4. Line graph illustration of individual change in negative affect (red line) and self-efficacy before (green line) and positive affect (red) as a result of art-making; $N = 39$.

The overall lowering change in affect and self-efficacy varied across participants. Figure 4 shows how the affect and self-efficacy varied across participants.

As can be seen from Figure 2, there was a lot of individual variation in the change in scores for affect and self-efficacy. We next sought to examine if there were any relationships between the variables that could explain these variations. In addition, we also examined relationships between affect and self-efficacy with the demographic variables and prior experience with art-making.

Table 1. Changes in negative affect, positive affect and self-efficacy; $N = 39$.

	Difference in PANAS positive affect	Difference in PANAS negative affect	Difference in G	Age
Difference in PANAS positive affect	1	−.22 $p = .18$	.41** $p = .009$	−.14 $p = .38$
Difference in PANAS negative affect	−.21 $p = .183$	1	−.31** $p = .06$	.263 $p = .11$
Difference in GSES	.41** $p = .009$	−.31 $p = .06$	1	.05 $p = .76$

**$p = 0.05$.

Correlations between the measures

The changes in affect and self-efficacy were examined using bivariate correlations. There was a positive, moderate correlation between change in positive affect and self-efficacy and a negative correlation between lowering of negative affect and increase in self-efficacy. There were no significant relationships with age of the participant (See Table 1).

Changes in affect and self-efficacy and previous experience with art-making

Based on participant responses, their previous experience with art-making were coded as 1 = limited prior experience, 2 = some experience including with crafting and 3 = extensive experience with a variety of art media. The relationships between prior experiences with art-making and differences in affect and self-efficacy were assessed using a one way ANOVA. The results indicated that there were no significant differences based on prior experiences with art-making on positive affect [$F(2, 36) = .37$, $p = .67$], negative affect [$F(2, 36) = .93$, $p = .40$] or self-efficacy [$F(2, 36) = .78$, $p = .47$].

Multiple regression

In the previous analysis, we determined that prior experience with art-making was not associated with mean scores for self-efficacy or affect. A multiple linear regression was performed to predict posttest PANAS positive scores from pretest PANAS positive scores; posttest PANAS negative from pretest PANAS negative scores and potential confounders including: gender, race/ethnicity, age and experience with art-making. The dependent variables were posttest PANAS positive and PANAS negative scores. A significant regression equation was found, $F(5, 33) = 3.67$, $p = .01$, $R^2 = .357$ for PANAS positive and PANAS negative, $F(5, 33) = 3.88$, $p = .007$. Gender was coded as female = 1 and male = 0; race/ethnicity was coded as white = 1 and other ethnicities = 0; and extensive experience with art-making = 1 and limited to some experience = 0.

Controlling for all other variables in the model, PANAS positive scores for women were 2.53 points higher than for men; whereas PANAS negative scores were 1.20 points lower for men. For every year of increase in age, PANAS positive scores decreased by .099 points; however, scores increased .021 points for negative scores. White participants' PANAS positive scores were .202 points lower than other races/ethnicities, while White participants' scores were .280 higher than others for PANAS negative. Participants with extensive experience with art-making scored .632 points lower on the PANAS positive scale compared with an increase of .361 on the negative scale. Though we noticed variability in PANAS positive and PANAS negative scores based on these possible confounders, the only statistically significant predictor to influence change in PANAS positive and negative scores were pretest scores,

Table 2. Multiple regression of PANAS positive/negative scores and GSES scores with possible confounders.

Variable	*β*	SE	*t*	*p*
Model 1: PANAS positive				
Pretest scores	.67	.17	4.03	.000*
Gender	2.53	3.43	.74	.47
Age	−.09	.10	−.97	.34
Race	−.20	2.45	−.01	.94
Prior experience with art-making	−.63	1.47	−.43	.67
Model 2: PANAS negative				
PANAS Negative pretest scores	.17	.05	3.51	.001*
Gender	−1.20	.65	−1.83	.08
Age	.02	.02	1.05	.29
Race	.28	.48	.58	.56
Prior experience with art-making	.36	.29	1.25	.22
Model 3: GSES				
GSES pretest scores	.79	.13	5.94	.000*
Gender	1.11	1.15	.957	.34
Age	.01	.03	.406	.68
Race	−.01	.83	−.009	.99
Prior experience with art-making	.55	.51	1.07	.29

*The only significant relationships are pretest scores, $p < .05$.

$p < .001$. This model supports our hypothesis that art-making would lead to increased positive affect and decreased negative affect.

A similar regression analysis was performed to determine if confounders affected outcomes for self-efficacy. A significant regression equation was found, $F(5, 33) = 7.23$, $p < .001$, $R^2 = .546$. The regression analysis indicated that for every one year of age, scores increased .020. White participants had a lower score of .008 points than the score of other ethnicities. Female participants outscored male participants by 1.11 points. Those with extensive art-making experience improved their scores by .552 points more than those with little to some experience with art-making. Similar to the results from the PANAS positive and negative scores, the GSES pretest was the only predictor, $p < .001$, in the outcomes of the GSES suggesting that the confounders did not play a significant role in improving self-efficacy. See Table 2.

Artwork and narrative responses

In addition to the data from standardized measures, we also sought to understand what kinds of artwork were made in this context free art-making. The narrative responses indicated that several participants had not done any artwork in their adult lives. Many referred to school, including elementary school as being the last time they had done any artwork. The memories of art-making in school varied with some referring to the experience as being inhibiting, while others referred to it as a time of exploration, identity development and freedom. Since the participants were offered freedom within the three media choices and artwork themes, the content was varied. The content in the artwork included references to nature, imagery of people loved, images of favorite activities or objects, and memories of objects and events. Some participants focused on the kinesthetic qualities and on colors and textures to create abstract images. Some representative quotes and related imagery are included in Figures 5, 6 and 7.

Figure 5. Markers on paper; a 56-year-old White woman; artwork content – *a fond memory of a hike in the mountains of Utah*.

Figure 6. Modeling clay; a 21-year-old White woman; referred to enjoying playing with the materials; artwork content – *abstract image with bright colors reminiscent of spring and spring time flowers.*

As can be seen from the images, the content and combination of media options varied among the participants. They referred to a range of experiences *from* tactile kinesthetic play with the art materials *to* representations of memories and recreation of current emotional states (Figure 8).

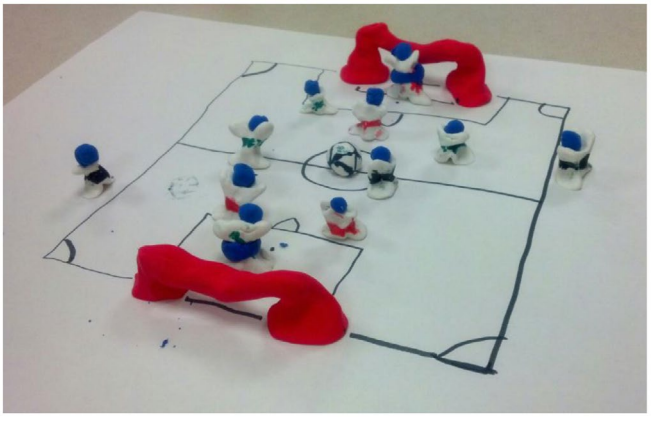

Figure 7. Modeling clay and markers on paper; a 23-year-old White man; artwork content – *scene of a soccer game (a favorite sport) complete with two teams, goal posts, and referees*.

Figure 8. Collage on paper; 22-year-old Asian-American woman; artwork content – *a collage of images, feelings and inspirational thoughts. The rose represents the artist's self.*

Discussion

The study findings have shown that the brief experience (on average 45 min) of free individual art-making with a facilitating art therapist in an open studio format resulted in psychological changes in a majority of these healthy adult participants. The hypotheses were supported; that is, positive affect improved, negative affect was reduced, and self-efficacy improved. These findings around improved positive affect replicate previous findings (Drake & Winner, 2012; Kim, 2013; Walsh & Hardin, 1994). Furthermore, our study findings extend the results to a broader sample of adults ranging in age from 18 to 60.

The relationships between the variables indicated some significant relationships. Changes in positive affect and negative affect were found to be correlated with improved self-efficacy. Improved positive affect was, however, more strongly correlated with improved self-efficacy compared with reduced negative affect. This indicates that changes in positive affect might

have important implications for changes in self-efficacy, even within the short time frame of the 45 min art-making experience.

It is important to note that, although findings overall were statistically significant, the changes in affect and self-efficacy were not consistent for all participants. It is also of note that for three participants, the levels of positive affect did not improve after art-making. Their narrative responses, however, did not indicate any negative reflections on the art-making process. These findings indicate the need to better understand the mechanisms of change as a result of art-making. Perhaps for a few participants, the art-making was enjoyable and stimulating, and as a result, their affect improved. Similarly others might have found the experience relaxing, and therefore it reduced any negative affect. It is also possible that given the small sample size and individual sessions, the participants were reluctant to report any negative experiences. This is especially salient because the art therapist in this context was also the researcher. If the pre-post data were collected by a second researcher, the results might have been different.

There were also no significant differences between those who had had prior experience with art-making and those who did not. This indicates that prior artistic experience or skills are not needed to impact affect and self-efficacy, especially when art-making is done with a facilitating art therapist. Given the choice of three media options, participants had the opportunity to engage in decision-making around their choice of art-making. In informal conversation with the facilitating art therapist, several participants referred to not being artistic; however, ultimately all participants were able to use the materials to create imagery and reported satisfaction with the end product. Several participants, especially those who worked with markers, collage and paper (2-dimensional media) took their artwork with them after the session.

The study also highlights the rich possibilities inherent in integrating the art studio context into the work of art therapists (Allen, 2008; Gadiel, 1992; Kalmanowitz, 2016). The art therapy open studio can be imagined as a therapeutic space for individuals to explore visual forms of expression with a focus on process and symbolic representation in the present moment with the art therapist providing presence and inclusive, non-judgmental support. This study highlights the positive health outcomes of even a brief (45 min opportunity) for creative self-expression.

The limitations of the study are the absence of a control group and the use of healthy (non-clinical) participants. In addition, 85% of the participants were women, and over 50% of participants reported some to extensive levels of experience with art-making. Thus there was likely a positive bias toward art-making in the sample which could limit the generalizability of the findings. Furthermore, the art-making in the studio included only three media options. Some participants who had prior experience with art-making sought to use other art materials (e.g. pencil and charcoal); however, these were not offered as part of this study.

Implications and conclusion

The study offers findings that indicate that a short-term session with an art therapist has potential benefits for participant affect, self-efficacy and therefore overall health and well-being. Art therapists working in settings that allow only for brief interactions might find these results useful for their work. It is of note that these findings relate to a healthy sample. Further research is needed to better understand outcomes for clinical populations struggling

with physical and/or mental health issues. It would also be useful to better understand the differences in outcomes related to type of media and differences in outcomes based on art-making with and without an art therapist in clinical populations. In addition, including a control group that did not engage in the activity would have helped us better understand the role of the art therapist and the art-making processes. This pilot study provides preliminary evidence for the benefits of a studio-based art therapy approach on the psychological states of affect and self-efficacy for healthy adult participants. Participants' prior artistic experiences with art-making, as well demographic variables like race/ethnicity, age, or gender did not have any impact on these outcomes. This indicates the potential for the use of visual self-expression as a therapeutic form of sustaining psychological health and well-being across the lifespan.

Disclosure statement

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