



Research Article

The therapeutic value of creative art-making during the Covid-19 pandemic

Helen W. Chan¹, Angelie Ignacio², Clara Rebello³ and Gerald C. Cupchik^{4*}

University of Toronto at Scarborough, Canada.

Article Info

Received: 8 February 2022

Accepted: 19 March 2022

Available online: 30 March 2022

Keywords:

Art therapy

Covid-19

Emotion regulation

Flow

Resilience

Self-care

Trauma

2149-1410/ © 2022 the JGEDC.

Published by Young Wise Pub. Ltd.

This is an open access article under

the CC BY-NC-ND license



Abstract

The Covid-19 pandemic has been a major life stressor and building resilience is integral to coping with it. Creative art-making is one way to address the adversities of the pandemic as it allows creative individuals to experience positive affect, engage in self-reflection, and heal psychological wounds. In this study, 270 participants completed a background survey reflecting upon health and precautionary measures, emotional state felt prior to participating, and trait resilience. Participants also assessed their artistic practices both before and during the pandemic with the focus on change in attitudes. Each described an artwork created during the pandemic and reflected on its value. As expected, participants who followed precautionary measures were in better health, experienced positive affect, and were generally more resilient. Emotional self-care became a primary focus of art-making during the pandemic, whereas getting into a state of flow and having a non-judgmental attitude while creating the artwork were the central focus prior to the pandemic. These findings show that art-making offers therapeutic benefits for an individual's psychological well-being and that there were deleterious impacts of the pandemic on the self-expression process.

To cite this article:

Chan, H.W., Ignacio, A., Rebello, C., & Cupchick, G. (2022). The therapeutic value of creative art-making during the Covid-19 pandemic. *Journal of Gifted Education and Creativity*, 9(1), 93-113.

Introduction

In December 2019, a cluster of pneumonic illnesses were originally reported as typical cases that took place in Wuhan, China. On March 11, 2020, The World Health Organization (WHO) declared the Coronavirus disease (Covid-19) outbreak as a global pandemic (Anand et al. 2020). The Covid-19 global health crisis has had a drastic impact on people's lives around the world as the acute respiratory illness continues to rapidly spread. With mass lockdowns and precautionary health measures to follow, while economies are plummeting, the pandemic comes with unmitigated uncertainties, fears, and anxieties (Xiong et al. 2020). It is common for people to experience low affect and exhibit psychiatric symptoms of anxiety, depression, and post-traumatic stress disorder (Liu et al. 2020). Wang and colleagues (2020) found that, among the 1210 self-reported psychological responses to the Covid-19 outbreak in China, 53.8% rated the psychological impact to be moderate or severe, 16.5% reported moderate to severe depressive symptoms, and 28.8% reported moderate to severe anxiety symptoms. Likewise, the Kaiser Family Foundation survey indicated that 45% of adults in the USA reported having worries and stress over the Covid-19 pandemic that adversely affects mental health (Panchal et al. 2020). Additionally, the WHO points out that precautionary health measures, such as self-isolation, may increase loneliness, depression, self-harm, or suicidal behaviour (World Health Organization, 2020).

¹ Research assistant, Ontario Institute for Studies in Education of the University of Toronto, Canada.

² Graduate Research Assistant, Developmental Psychology and Education, University of Toronto, Canada. E-mail: angelie.ignacio@utoronto.ca ORCID: 0000-0001-5954-2662

³ M.Ed Student, Qualitative Research Analyst, University of Toronto Scarborough. E-mail: clara.rebello@mail.utoronto.ca

⁴ Corresponding Author: Professor, Department of Psychology, University of Toronto Scarborough, Canada. Email: gerald.cupchik@utoronto.ca ORCID: 0000-0002-1407-6503

The Covid-19 pandemic can be recognized as the cause of individual and collective traumas with a negative psychological toll (Masiero et al. 2020).

Demonstrating resilience in the face of adversity may allow people to cope realistically with these challenges. According to Masten (2014), resilience refers to “the capacity of a dynamic system to adapt successfully to disturbances that threaten its stability, viability, or development.” This definition can operate at different interconnected levels from the individual to the community. Although the definitions of resilience may vary across different domains of research, it is important to have a working definition of it during the pandemic (Masten, 2018; Walsh, 2020). With this in mind, it is critical for individuals to demonstrate resilience to adapt to day-to-day stressful circumstances (Dmitry et al. 2010). Having resilience as a tool to combat stress and build mental fitness may buffer against the negative psychological impacts of the Covid-19 pandemic.

Given the challenges facing individuals worldwide during the pandemic, it is valuable to consider the potential positive emotional impacts that art-making can have to reduce adverse emotional states and a sense of isolation. Research has shown that it is helpful to communicate experiences of mental and physical health challenges using artistic means because it is often difficult to orally express one’s own feelings and thoughts surrounding such traumas (Dewey, 1980; Fraser & Sayah, 2011). One suggested way to build resilience in reaction to the ongoing events is to engage in self-care activities so that individuals have the potential to confront their traumas and adapt appropriately. Art-making illustrates an example of how individuals can express themselves and have a therapeutic outlet for coping with mental health challenges posed by the Covid-19 pandemic. In the past decade, the field of art therapy research has been experiencing a push to produce more empirical evidence supporting the claims of its healing properties (Bell & Robbins, 2007).

Art therapy, a form of psychotherapy that uses creative self-expression and therapeutic techniques to promote well-being, has been shown to be effective for treating psychological symptoms of trauma (Slayton et al. 2010). Moreover, there is emerging evidence that art-based interventions lower stress and stimulate mental resilience by activating the reward brain system (Gallo et al. 2021). The activation of reward structures such as the orbitofrontal cortex (OFC), amygdala, and nucleus accumbens during esthetic experiences can induce stress-buffering effects (Gallo et al. 2021). As such, the incorporation of art-making within one’s casual routine can help individuals healthily explore their traumas and thereby face challenging experiences resiliently. The simple act of creating art can be viewed as a form of self-care for preserving mental health.

Artistic endeavours during quarantine may enable the person to cope effectively with the stresses of the pandemic by enhancing positive affect. For instance, engaging in creative art-making may encourage the use of cognitive emotion regulation strategies like mindfulness (Gerzina & Porfeli, 2012). In a qualitative study conducted by Coholic (2011), one of the beneficial outcomes of integrating a group mindfulness-based cognitive-behavioural intervention with an art-based approach was the enhancement of resilience. Through teaching young individuals to engage in nonjudgmental self-awareness, the act of focusing on their own thoughts and feelings without evaluating those experiences judgmentally, they became more compassionate toward themselves and others (Coholic, 2011; Stewart, 2004).

Using art to cultivate the non-judgmental component of mindfulness, may go hand-in-hand with improving one’s self-regulation of positive affect. Similarly, flow -a state of mental absorption- may also be experienced and thereby enhance levels of positive emotions felt during the process of creating rewarding pieces of art (Csikszentmihalyi, 1990). Many artists, from the amateur to expert levels, are likely to experience flow because they are voluntarily creating art ‘for fun’ based on their high levels of intrinsic motivation (Csikszentmihalyi, 1990). Being in a state of flow during such a process is associated with enhanced subjective well-being and positive mood (Futterman Collier & Wayment, 2009; Wilkinson & Chilton, 2013). The experience of flow can contribute to harmonious feelings of inner contentedness and satisfaction, even in the face of large-scale adversities, such as the current pandemic. During adversity, individuals may encompass flow to stay away from stressors through active engagement in creative activities (Csikszentmihalyi, 1996). With creativity appearing in the forms of adapting and problem-solving, resilience may arise (Kirton, 1994).

Emotion regulation may be a particularly useful skill to hone when an individual experiences unprecedented challenges posed by the Covid-19 pandemic because it enables him or her “to adjust emotional responses to meet situational demands” (Gross & Thompson, 2007). Engaging in everyday artistic pursuits may be associated with an increased use of approach (e.g., acceptance, reappraisal) and avoidance (e.g., distraction, suppression) strategies (Fancourt et al. 2020). Artistic tasks that involve cognitive flexibility, such as thinking from multiple perspectives, may reinforce reappraisal or the re-evaluation of the emotional meaning of the situation (De Dreu et al. 2008). Art-making

can also provide a period of mindfulness for enhancing distraction or enabling a shift in attention away from the stressful situation (Chiesa et al. 2013). Having a mindful space can also allow catharsis to occur for regulating negative affect (Bushman et al. 2001). Perceiving art-making as a cathartic outlet may be an effective way to cope with these highly stressful times because it can help the artist release tensions and anxieties. Allowing the self to experience catharsis, a discharge of negative feelings, can contribute to a re-balancing of emotion control when adapting to the challenges of the pandemic (Cupchik & Kiosses, 2020; Kramer, 2001).

With the problems posed by the pandemic, using art may be a salient form of coping through emotional processing and expression. By actively processing and expressing emotion in art, it may help individuals adjust to the stressful demands of the pandemic. In a previous study conducted by Stanton et al. (2000), emotional approach coping following treatment for breast cancer was associated with decreased distress and improved self-perceived health status. Thus, in the present study, creative individuals may prioritize making art to regulate their emotions in order to cope with the challenges of the pandemic.

Much of the current empirical evidence points to the general enhancement of positive affect through the production of art. For instance, this finding is implicated in a randomized-controlled trial conducted by Bell & Robbins (2007) in which they compared the mood outcome measures of the art production group to an art viewing group. They found that freely creating art can produce significant reductions in negative mood and anxiety as opposed to viewing art prints. Hence, making art can be a therapeutically valuable experience for mood repair. However, although there has been a rising interest in studying the psychological and emotional health benefits of doing artistic activities in the psychotherapeutic setting, how the art-making experiences improve the wellbeing of the general public during a global pandemic remains to be empirically examined.

On the other side of the coin, the deleterious effects of the Covid-19 pandemic on the overall mental health of individuals, who engage in the creative art-making process, have not yet been adequately examined. Individuals can experience negative emotions in the wake of a crisis, especially when these emotions stem from stressors outside of their control (Zhu et al. 2021). Precautionary measures, like social distancing, during the current pandemic, may cause feelings of alienation that contribute to poor mental health (Zhu et al. 2021). In the context of individuals engaging in art-making, attempting to work out their suffering may not always contribute to favourable mental health outcomes. The reality may be a complicated and emotionally ambivalent process that takes time and effort for psychological wounds to heal. Processing the negative impacts of the Covid-19 pandemic may involve more than just simply being self-aware of and regulating one's emotions throughout the artmaking process.

Because of the sudden onset of the Covid-19 outbreak, it may be difficult for artists to express complex and negative emotions. This may particularly be the case if the artist continues to experience distress while being in physical isolation for the "new normal." The original views individuals held about themselves may be undermined by the challenges that Covid-19 poses. These fragmented perspectives can lead to unstable self-concepts that are difficult to express coherently using artistic artifacts (Janoff-Bulman, 1992). Hence, for creative individuals, the present alienation they feel from the rest of the world may be a mental "blockage" to proper communication of complex emotions or lived experiences in their works of art. In other words, vulnerable individuals, who experience victimization during a traumatizing pandemic, may be challenged to properly express themselves through their artworks. Documenting the negative impacts of the Covid-19 pandemic on creative art-making can provide insight for researchers and clinicians who wish to enhance the effectiveness of trauma prevention programs and psychotherapeutic interventions such as art therapy.

The current study explored the potential therapeutic value of art-making during the pandemic compared to before, as well as the negative impacts of the pandemic on the mental health of creative individuals. An explanatory sequential design was used to provide quantitative and qualitative analyses of the participants' artistic experiences during the Covid-19 pandemic. It was hypothesized that following precautionary actions to maintain physical and mental health would be associated with experiencing positive affect and reflect resilience. The central hypothesis of the study was that the primary role of art-making is to help individuals self-regulate emotion and experience positive affect during compared to before the pandemic when doing art as a practice was important. It was also hypothesized that the Covid-19 pandemic would have a negative effect by hindering the self-expression processes of individuals who engage in art-making.

Methods

Participants

Participants in the study included 191 University of Toronto undergraduate students enrolled in a first-year introductory psychology course who volunteered to participate and 79 additional adult participants who were recruited online through advertisements posted on Facebook, LinkedIn, Instagram, Reddit, Honeybee Hub, Tumblr, and DeviantArt. The study had a total of 270 participants (66 males, 193 females, 11 others) with the age range of 17 to 69 (Mean age = 21.4, SD = 6.94). All participants provided informed consent prior to participating in the study. The inclusion criteria were the following: participants had to be (1) 17 years or older, and (2) send a photo of an artwork completed during the Covid-19 pandemic. There were no exclusion criteria.

Materials

The survey was divided into four sections: *Demographics* (5 items), *Artistic Experiences* section both before and during the pandemic (16 items), the qualitative *Description* section to describe the artwork participants made during the pandemic, and the *Reflection* section in which respondents assessed the experience of making the artwork (8 items) (see Appendix). Firstly, participants were asked to provide their age, sex, and an index of current health and daily precautionary health practices taken during the Covid-19 pandemic. The current health and daily precautionary health practices measures included how participants assessed their current health and personal health risk along with the subjective quality of their precautionary health practices (on 7-point Likert scales). The index also included a ten-item checklist of the health practices they followed during the pandemic which could be summed to objectively measure precautionary activity (Cupchik & Kiosses, 2020). Next, participants rated their emotional state during the two weeks prior to the study focusing on twelve emotions using a 7-point Likert scale from 1 (not at all) to 7 (nearly every day). Individuals also rated themselves on ten statements (Makarious & Cupchik, 2019) related to resilience using a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Participants then revealed the type of visual arts/craft they enjoyed doing, the degree of art expertise they considered themselves to have, and rated the approximate number of hours a week they spent doing visual arts/craft (see Appendix).

The *Artistic Experiences* questionnaire is a 16-item questionnaire that was used to assess various patterns of artistic experiences before and during the pandemic and its relationships to mental health. Respondents rated the statements on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). This questionnaire included items that asked respondents about their behaviours, attitudes, and emotions surrounding their artistic experiences, as well as reasons for doing art before and during the Covid-19 pandemic. Item 9, *Doing art provides feelings of reward and deep satisfaction*, was inspired by the Aesthetic Experience Questionnaire (AEQ) developed by Wanzer and colleagues (2020). After completing *Artistic Experiences*, participants shared a story about the artwork they completed during the Covid-19 pandemic in the *Description* section and, subsequently, rated their artwork in the *Reflection* section using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

Procedure

A Google Forms was created to provide a framework for uploading a photo of the artwork and responding to the survey items. This was placed on the university system and the online social media system. An online visual advertisement poster was then designed with a description of the study along with the direct link to the online survey. Respondents were directed to Google forms and were presented with a Consent Form to read and initial if they chose to participate. A link to upload a photo of an artwork completed during the Covid-19 pandemic was embedded within the *Description* section of the Google forms.

First, participants filled out the *Demographics* section, including information about art background, health and daily precautionary measures, emotional state prior to participating in the study, and the trait resilience measure. Second, participants completed the *Artistic Experiences* questionnaire, comprising 16 items measuring the art related experiences before and during the pandemic using a Likert scale from 1 (strongly disagree) to 7 (strongly agree). Third, respondents completed the *Description* section by providing an image of an artwork created during the pandemic, describing its subject matter and style, as well as the meaning of the work to them and the context in which it was created.

Lastly, participants completed the *Reflection* section in which they looked back on the experience and answered eight questions such as “My identity was expressed in the work,” “Creating the work gave me a chance to explore my emotions,” and “Creating the artwork was a form of self-care for reducing stress during the pandemic.” Using a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). After completing the study, a debriefing form was presented in which respondents were informed about the purpose behind the study. On average, the survey took approximately 20 minutes to complete.

Results

Overview

The data analysis is divided into two major sections. First, we look at background factors that shape responses to the Covid-19 pandemic, including adherence to Precautionary Measures, Emotional state during the two weeks prior to the study, and trait Resilience. A principal components factor analysis was used to group items on each of the three measures followed by correlations among the factors. Second, we looked at attitudes toward artistic activities “before” in comparison with attitudes “during the pandemic” examining changing priorities. Again, factor analysis was used to group items in the measures. Participants were also invited to submit a project done during the pandemic, using rating scales to reflect back upon its meaning and value for them. We factor analyzed their “reflection” ratings and also qualitatively examined the comments of the thirty participants who had the highest loadings on the “reflection” factors with a focus on subject matter, style, meaning, and context of their artworks.

Background Factors

It was hypothesized that following precautionary actions to maintain physical and mental health would be associated with positive affect and reflect the impact of a resilient attitude. Background variables included subjective and objective measures of following precautionary behaviours, a state-based measure of emotions, and a trait-based measure of resilience.

Factor Analyses

Covid-19 Precautionary Measures. Both objective precautionary activity and subjective self-assessment regarding this activity were combined with self-assessments regarding general health and risk of contracting Covid-19. A principal components factor analysis with varimax rotation was performed on the Covid-19 precautionary measures scale ($N = 270$). One factor was derived with an Eigenvalue greater than 1.00 and the factor, *Health and precautionary activity self-assessment during the Covid-19 pandemic*, accounted for 42.17% of the total variance (see Table 1).

This factor comprised subjective self-rating (.72) and objective precautionary health practices (.66), as well as self-ratings of current health (.62), and risk for contracting Covid-19 (.60).

Table 1

Factor Loadings for Principal Component Analysis of Covid-19 Precautionary Measures

Components	Eigenvalues	Item No	Item Statements	Loadings
Health and Precautionary Measures During the Covid-19 Pandemic	1.69	Item 5	Quality of your daily precautionary health practices and situation during the pandemic	.72
		Item 6	Total number of daily precautionary health practices taken	.66
		Item 3	Rate your current health	.62
		Item 4	Personal health risk for contracting Covid-19	.60

Emotional State Self-Rating. A principal components factor analysis, with varimax rotation, was performed on the Emotional state measure comprising self-ratings of emotions during the two weeks prior to participating in the study. Two factors were derived accounting for 54.70% of the total variance that encompassed: (1) Negative and (2) Positive emotions (see Table 2).

Factor 1. Negative emotions, accounted for 32.47% of the variance and included items in order of importance: sad (.84), anxious (.81), depressed (.76), fearful (.69), angry (.65), guilty (.62), and lonely (.60).

Factor 2. Positive emotions, accounted for 22.23% and included items in order of importance: hopeful (.81), interested (.74), grateful (.71), happy (.64), and surprised (.58).

Table 2
Factor Loadings for Principal Component Analysis of the Emotions Scale

Components	Eigenvalues	Item No	Item	Loadings
Negative Emotions	4.47	Item 4	Sad	.84
		Item 5	Anxious	.81
		Item 7	Depressed	.76
		Item 3	Fearful	.69
		Item 1	Angry	.65
		Item 10	Guilty	.62
		Item 9	Lonely	.60
Positive Emotions	2.11	Item 6	Hopeful	.81
		Item 8	Interested	.74
		Item 12	Grateful	.71
		Item 2	Happy	.64
		Item 11	Surprised	.58

Trait Resilience. The resilience measure captured a trait-like disposition to engage in coping activity during crises. A principal components factor analysis with varimax rotation was performed on the Resilience measure and revealed two aspects of this disposition. After the first iteration, two items were removed due to cross-loading on more than one factor: *I know how to behave in different social situations* and *My life is determined by my own actions*. In the second and final iteration, two factors with Eigenvalues of 1.00 or greater were derived and factor labels were based on items with loadings of .50 or greater (+ or -). The factors accounted for 50.10% of the variance and were labelled: (1) *Learning from adversity* and (2) *Healthy relationship with self and others* (see Table 3).

Factor 1. *Learning from adversity*, accounted for 32.16% of the variance and was based on learning valuable lessons from others (.79), reflecting on one’s own reasons for doing things (.79), being made stronger by personal difficult experiences (.67), putting a high value on promoting equality (.63), and generally feeling resilient when one has recovered from traumas (.52).

Factor 2. *Healthy relationships with self and others*, accounted for 17.94% of the variance. This factor focused on feeling self-confident (.72), being fairly treated in one’s own community (.62) and having close interpersonal relationships (-.58).

Table 3
Factor Loadings for Principal Component Analysis of the Resilience Scale

Components	Eigenvalues	Item No	Item Statements	Loadings
Learning from Adversity	2.84	Item 9	I learn valuable lessons from the experiences of others	.79
		Item 8	I often reflect on my reasons for doing things	.79
		Item 1	I’ve been made stronger and better by difficult experiences	.67
		Item 2	I put a high value on promoting equality and reducing poverty and hunger	.63
		Item 7	I am resilient/recovered from traumas	.52
Healthy Relationships with the Self and Others	1.16	Item 4	I feel self-confident, appreciate myself, and have a healthy concept of who I am	.72
		Item 6	I am treated fairly in my community	.62
		Item 5	I don’t keep people at a distance and have close interpersonal relationships	-.58

Relations among the Background Variables

Results supported the hypothesis that following precautionary actions to maintain physical and mental health would be associated with positive affect and reflect the impact of resilience attitudes. The *Covid-19 precautionary measures* factor was positively correlated with *Emotions* Factor 2, *positive emotions*, $r(268) = .31, p < .001$, as well as *Resilience* Factors 2, *Healthy relationships with self and others*, $r(268) = .34, p < .001$ and Factor1, *Learning from adversities*, $r(268) = .19, p = .001$. Experiencing positive affect during the pandemic went hand in hand with following precautionary actions and perceiving oneself to be in good physical and mental health. Being concerned about the self and the community meant that one was more likely to adhere to daily precautionary measures. Moreover, individuals who described themselves as learning from their failings and mistakes also perceived themselves to be in good health while following precautionary health practices.

In contrast, the *Covid-19 precautionary measures* Factor, *Health and precautionary measures during the Covid-19 pandemic*, was negatively associated with *Emotions* Factor 1, *negative emotions*, $r(268) = -.38, p < .001$. Individuals who experienced negative affect during the pandemic were less likely to follow precautionary measures, were aware of not doing so, and felt more at risk. In summary, being resilient and experiencing positive affect meant that participants were more likely to adhere to precautionary measures and perceive themselves to be in good health. On the other hand, participants who experienced negative affect tended to follow fewer precautionary measures and perceived themselves to be in poorer health.

Artistic Experiences Overview

The Artistic Experiences questionnaire explored behaviours, attitudes, and emotions surrounding artistic experiences, as well as reasons for doing art both before and during the Covid-19 pandemic. It was hypothesized that art-making before the pandemic would focus on aesthetic processes and engagement in the creative process, whereas, during the pandemic, the self-care and emotional aspects of art-making would become more important. First, a factor analysis was done on the Artistic Experiences (before) scores. Next, the Artistic Experiences (during) scores were subtracted from the Artistic Experiences (before) scores to get an index of change from experiences before to during the pandemic and a factor analysis was performed.

Artistic Experiences (before). A principal components analysis with varimax rotation was performed on the Artistic Experiences questionnaire regarding their artistic hobby before the pandemic. Across two iterations, items were removed that fell below the .50 criterion for inclusion or cross-loaded on more than one factor. In the final iteration, three factors were derived with Eigenvalues greater than 1.00, accounting for 59.26% of the variance.

Factor 1. *Harmonious art-making experience*, accounted for 28.98% of the variance. Factor 1 reflected the compatibility between the artist and the art-making process as well as the emotional valence that the participants expressed in their artworks before the pandemic. In the order of importance, Factor 1 included the following items: getting into a state of flow (.82), feeling calm and relaxed (.78), having a creative outlet for self-expression (.76), releasing tension (.69), feeling whole about the self (.68), art improving one's mood (.60), and being encouraged to slow down (.54).

Consistent with our hypothesis, this factor emphasizes flow during art-making as a means of self-expression and emotion regulation. Artists embodied a cohesive and unfragmented self-concept and experienced an uplift in mood and mindfulness of the moment when engaged in the art-making.

Factor 2. *Identity and community*, accounted for 19.24% of the variance and included the following items: sharing gives a sense of community (.75), process of making art is an important part of who the individual is (.69), being open to changing one's art style (.65), and being encouraged to engage in problem-solving (.61). A feeling for community identity was combined with a strategic and open approach to art-making.

Factor 3. *Non-judgmental attitude*, accounted for 11.04% of the variance and encompassed the following items: not letting the ego get in the way by comparing oneself with other artists (.79) and trying not to be judgmental (.75). Artists should be intrinsically motivated and not compare themselves with others while avoiding self-criticism during the creative process.

Changes in Experiences During Compared with Before the Pandemic

Is there a changed role for art-making during the pandemic? It was hypothesized that emotional regulation and self-care would play a more prominent role during the pandemic compared with matters related to aesthetic process. A principal components analysis with varimax rotation was performed on the Artistic Experiences questionnaire comparing the participants' attitudes during the pandemic with those held beforehand. A change score was computed for each item by subtracting the rating "during" minus the rating "before." A positive change score meant that the participants' ratings before the pandemic were lower in comparison to their higher ratings during the pandemic and, vice-versa, a negative change score indicated that the participants' ratings before the pandemic were higher in comparison to their ratings during the pandemic. Across a series of iterations, four items were removed that cross-loaded on more than one factor and three factors with Eigenvalues of 1.00 or greater were derived accounting for 57.22% of the variance: (1) *Self-regulation of emotions*, (2) *Creative self-expression*, and (3) *Non-judgmental attitude* (see Table 5).

Results supported the hypothesis of an enhanced concern for self-care and emotion regulation during the pandemic. The emotional value of art-making assumes primary importance during a health crisis and is dissociated or separated from the rewarding creative process itself.

Factor 1. *Self-regulation of emotions*, accounting for 24.30% of the variance, incorporated the following items: feeling calm and relaxed (.77), releasing tension (.69), improving mood (.67), feeling whole (.62), and letting go of fears,

doubts, and feelings of anxiety (.62). Consistent with our hypothesis, the “change” results show that the primary function of art-making during the pandemic involves emotional self-care and is differentiated from the creative process as such.

Factor 2. *Creative self-expression*, accounted for 20.65% of the variance and included the following items: having a creative outlet for self-expression (.72), the process of making art is important (.69), art provides feelings of reward (.68), getting into a state of flow (.62), and being encouraged to slow down (.56). This factor described the intrinsic motivations and reasons behind engaging in art-making to express the self creatively, experience feelings of reward, slowing down, and feeling the state of flow.

Factor 3. *Non-judgmental attitude*, accounted for 12.28% of the variance and comprised the following items: not letting the ego get in the way (.86) and trying not to be judgmental about how one’s art-making is going (.74).

Table 4

Factor Loadings for Principal Component Analysis of Artistic Experiences Before the Pandemic

Components	Eigen values	Item No	Item Statements	Loadings
Harmonious Art-making Experience	5.44	Item 4	I get into a state of flow when I immerse myself in artistic activities	.82
		Item 2	I feel calm and relaxed when I am creating art	.78
		Item 3	It’s a creative outlet for self-expression	.76
		Item 13	Helps me release tension	.69
		Item 7	Helps me feel whole about myself	.68
		Item 15	It improves my mood	.60
Identity and Community	1.21	Item 5	Encourages me to slow down and observe life/nature more closely	.54
		Item 12	Sharing my art give me a sense of community and I feel less isolated	.75
		Item 10	The process of making art is an important part of who I am	.69
		Item 16	It is important for me to be open to changing my art style	.65
Non-judgmental Attitude	1.06	Item 8	Doing art encourages me to engage in problem-solving	.61
		Item 6	I try not to let my ego get in the way by comparing myself with other artists	.79
		Item 14	I try not to be judgmental about how my art-making is going	.75

Changes in Experiences During Compared with Before the Pandemic

Is there a changed role for art-making during the pandemic? It was hypothesized that emotional regulation and self-care would play a more prominent role during the pandemic compared with matters related to aesthetic process. A principal components analysis with varimax rotation was performed on the Artistic Experiences questionnaire comparing the participants’ attitudes during the pandemic with those held beforehand. A change score was computed for each item by subtracting the rating “during” minus the rating “before.” A positive change score meant that the participants’ ratings before the pandemic were lower in comparison to their higher ratings during the pandemic and, vice-versa, a negative change score indicated that the participants’ ratings before the pandemic were higher in comparison to their ratings during the pandemic. Across a series of iterations, four items were removed that cross-loaded on more than one factor and three factors with Eigenvalues of 1.00 or greater were derived accounting for 57.22% of the variance: (1) *Self-regulation of emotions*, (2) *Creative self-expression*, and (3) *Non-judgmental attitude* (see Table 5).

Results supported the hypothesis of an enhanced concern for self-care and emotion regulation during the pandemic. The emotional value of art-making assumes primary importance during a health crisis and is dissociated or separated from the rewarding creative process itself.

Factor 1. *Self-regulation of emotions*, accounting for 24.30% of the variance, incorporated the following items: feeling calm and relaxed (.77), releasing tension (.69), improving mood (.67), feeling whole (.62), and letting go of fears, doubts, and feelings of anxiety (.62). Consistent with our hypothesis, the “change” results show that the primary function of art-making during the pandemic involves emotional self-care and is differentiated from the creative process as such.

Factor 2. *Creative self-expression*, accounted for 20.65% of the variance and included the following items: having a creative outlet for self-expression (.72), the process of making art is important (.69), art provides feelings of reward (.68), getting into a state of flow (.62), and being encouraged to slow down (.56). This factor described the intrinsic

motivations and reasons behind engaging in art-making to express the self creatively, experience feelings of reward, slowing down, and feeling the state of flow.

Factor 3. *Non-judgmental attitude*, accounted for 12.28% of the variance and comprised the following items: not letting the ego get in the way (.86) and trying not to be judgmental about how one's art-making is going (.74).

Table 5

Factor Loadings for Principal Component Analysis of Artistic Experiences (During-Before)

Components	Eigenvalues	Item No	Item Statements	Loadings
Self-regulation of Emotions	4.60	Item 2	I feel calm and relaxed while I am creating art	.77
		Item 13	Helps me release tension	.69
		Item 15	Helps me improve my mood	.67
		Item 7	Helps me feel whole about myself	.62
		Item 11	Helps me let go of my underlying fears, doubts, and feelings of anxiety	.62
Creative Self-expression	1.24	Item 3	It's a creative outlet for self-expression	.72
		Item 10	The process of making art is an important part of who I am	.69
		Item 9	Provides feelings of reward and deep satisfaction	.68
		Item 4	I get into a state of flow when I immerse myself in artistic activities	.62
		Item 5	Encourages me to slow down and observe life/nature more closely	.56
Non-judgmental Attitude	1.05	Item 6	I try not to let my ego get in the way by comparing myself with other artists	.86
		Item 14	I try not to be judgmental about how my art-making is going	.74

Changing Priorities and Negative Impacts During the Pandemic

The pandemic allowed artists to reassess the relative importance of different aspects of the art-making process. The following results are consistent with our hypothesis of the pandemic having a negative impact on the individuals' self-expression processes. *Artistic experience (before)* Factor 1, *harmonious art-making experience*, was negatively correlated with *Artistic experience (during-before)* Factor 1, *self-regulation of emotions*, $r(268) = -.30, p < .001$. This implied that placing a strong importance on flow before the pandemic was later perceived as a less essential part of one's art-making process during the COVID-19 crisis. Maintaining a positive emotional experience became of primary importance.

Artistic experience (before) Factor 3, *non-judgmental attitude*, was negatively related with *Artistic experience (during-before)* Factor 3, *non-judgmental attitude*, $r(268) = -.30, p < .001$. This implies that participants who were less judgmental before the pandemic became more so during the pandemic thereby showing the negative impact of heightened tension during the pandemic on art-making. *Artistic experience (before)* Factor 1, *harmonious art-making experience*, was negatively correlated with *Artistic experience (during-before)* Factor 2, *creative self-expression*, $r(268) = -.19, p = .001$. This reflected a blockage in the process of active self-expression; creative self-expression dropped during the pandemic relative to before when individuals experienced greater flow in their pre-pandemic art-making processes.

Reflecting on a Particular Artwork Created During the Pandemic

Each participant sent a photo of an artwork and shared a story about the process of creating it during the pandemic. They also responded to eight questions dealing with whether, for example, creating the artwork reduced the sense of isolation, as well as the relative importance of subject matter or style in the work itself. The stories or descriptions of their artworks were later qualitatively examined. A principal components analysis with varimax rotation was performed on the eight Reflection statements ($N = 270$) and two factors were extracted accounting for 58.75% of the variance: (1) Communicating experience and identity and (2) Emotional self-care.

Factor 1, *Communicating experience and identity*, accounted for 31.64% of the variance, and touched upon the artist's expression of personal identity (.76), trying to communicate one's experience of the world to others (.73), embodying one's culture and personal background in this work (.72), and placing an importance on the subject matter (.71) and style of one's artwork (.54).

Factor 2, *Emotional self-care*, accounted for 27.11% of the variance, and emphasized the participants treating art as a form of self-care for reducing stress during the pandemic (.87), seeing art as a way to help reduce their sense of isolation (.84), and having a chance to explore their emotions (.76).

These data suggest an inconsistency, given that the self-care factor is secondary to communicating experience and identity in the work. However, artists do not self-consciously engage in creative activities with the express purpose of emotion regulation. They invest meaning in their work and emotional expression or self-regulation is a by-product of their activities. This meaning-making embodies their experience of the situation within which they find themselves, a pandemic.

Table 6

Factor Loadings for Principal Component Analysis of the Reflection Statements

Components	Eigen values	Item No	Item Statements	Loadings
Communicating experience and identity	3.09	Item 1	Personal identity was expressed in this work	.76
		Item 2	I was trying to communicate my experience of the world to others	.73
		Item 3	I embodied my culture and personal background in this work	.72
		Item 7	Importance of the subject matter of my artwork	.71
		Item 8	Importance of the style of my artwork	.54
Emotional Self-care	1.61	Item 4	Was a form of self-care for reducing stress during the pandemic	.87
		Item 6	Helped me reduce my sense of isolation	.84
		Item 5	Gave me a chance to explore my emotions	.76

Relations Between Art-making Reflections and the Background Factors

Making art is found to be a form of self-care during the pandemic. In general, *Reflection Factor 2, emotional self-care*, was positively associated with *Resilience Factor 1, learning from adversity*, $r(268) = .30, p < .001$. Being generally resilient, by reflecting on past adversities, was associated with passionately engaging in emotional self-care through artistic endeavours during the Covid-19 pandemic. *Reflection Factor 2, emotional self-care*, was also positively associated with *Artistic experience (before) Factor 1, harmonious art-making experience*, $r(268) = .25, p < .001$. This implied a link between flow and behaviour; when creative hobbyists are fully immersed in their pre-pandemic art creation processes, this carried over to self-care during the Covid-19 pandemic. In other words, having flow before the pandemic meant that one was more likely able to cope with feelings of stress and loneliness later by doing art therapeutically during challenging times.

Reflection Factor 1, communicating experience and identity, was positively correlated with *Artistic experience (before) Factor 2, identity and community*, $r(268) = .26, p < .001$. Individuals who explored their identities and gained a sense of community before the pandemic used their artworks to share experiences during the pandemic.

Qualitative Findings

The Covid-19 artwork descriptions (subject matter, style, meaning, and context) for the top thirty participants on *Reflection Factor 1, communicating experience and identity*, and the top thirty participants on *Reflection Factor 2, emotional self-care*, were extracted from the data for the qualitative analysis using subject regression scores indicating the sensitivity of the respondent to that factor. These participants were chosen to examine descriptions of their experiences and related identity, as well as self-care when they engaged in art-making. The accounts of three participants on these two reflection factors are now introduced to make the factors more concrete.

Reflection Factor 1

For *Reflection Factor 1, communicating experience and identity*, communicating one's own personal or cultural identity to others was strongly illustrated in the themes of their artworks. The first description touched upon a disconnection between embodying two cultural identities in the West and how the participant expressed feelings of sorrow and loneliness regarding the cultural clash in her artwork.

To me the piece represents the feeling of loneliness being a South Asian female living in a western society. The clash between two cultures has made it hard to fit in school. I am more cultural than others. It means sadness, feeling lost but not knowing what to do (Female, 18 years old).

The second quote pertains to the participant expressing her own emotions, personal identity, and personality in the artwork. Her art hints at emotions such as sadness and loneliness. Despite the social challenges the participant faced, she recognized herself as a strong and resilient woman.

All of my portraits are a reflection of me. I put all of my emotions and thoughts into them. A friend of mine mentioned that all of my girls have a certain misty eye look, as if they had just finished crying. Perhaps in some ways, they were and my friend could see it. It is my way of expressing myself openly without being too obvious. 'Amaterasu', represents the warrior inside every woman. Having faced the demands of society and the constraints of cultural dogma with the discrimination faced from the transparent prison of gender equality, women are a resilient lot. I made her overlay Samurai helmet to represent the inner warrior that is only visible to the people who really see her. The tattoos symbolize her care-free spirit and colourful soul. Her eyes shows a look of tiredness but she is still standing tall in all her glory to soldier on another day as she has to pick herself up and she has children who depend on her (Female, 48 years old).

Reflection Factor 2

For Reflection Factor 2, *emotional self-care*, participants often explored their anxieties, stresses, and depressive feelings during the pandemic using artistic means. The first description elucidated the participant's self-care process when she was drawing the cartoon characters. By "projecting" herself onto the relatable characters, it was therapeutically healing because doing art helped her address her negative emotions of sadness, stress, and anxiety.

While on the one hand it's obviously just me fangirling over DBZ, I actually use Gohan as my comfort character (our personalities are similar...I relate to him a lot) and I draw him whenever I'm feeling sad or stressed or anxious or whatever... In a way I guess you could say I'm projecting myself onto the characters? I'm both the one being hugged and the one who is doing the hugging. I don't have anyone in my life that would listen to my problems so intently and give comfort in a way that shows unconditional love (I had a rough childhood), so in making the characters do it, it's healing for me. (Female, 22 years old)

The second quote involves the participant relating her emotions back to memories of the COVID-19 pandemic. Despite the negative impacts of the pandemic at the time, painting allowed her to feel calm and relaxed—it was a cathartic outlet for relieving her anxieties.

This piece will forever remind me of COVID-19 and the high restrictions we had during that time. It helped me feel so relaxed, as I felt I had no motivation or purpose to do anything at the time. The painting helped me to feel a little less anxious with everything going around. (Female, 20 years old).

Discussion

The purpose of the mixed methods study was to examine relations between art-making and mental health outcomes, and to explore the possible negative effects of the Covid-19 pandemic. All three hypotheses were supported in the present study. First, individuals who follow precautionary measures and judge themselves to be in good physical and mental health during the pandemic felt more positive affect and embodied a more resilient character. Health practices could have contributed to resilience through an association with a high internal locus of control (Luthar, 1991). Individuals who felt like active agents having power over their environments felt more optimistic about their health during the pandemic. Optimistic individuals were resilient enough to adapt to adversity by taking healthy precautionary actions.

Second, the overall results support our third hypothesis showing that artistic expression during the pandemic was particularly important for regulating one's emotions compared to prioritizing aesthetic processes before the pandemic. The factor analysis that shows change during the pandemic highlights the separation of self-regulation of emotions from creative self-expression. This finding reveals that emotion self-regulation became the primary function while art-making was secondary. In the factor analysis for art engagement before the pandemic, harmonious art-making experiences involved a combination of both emotion regulation and mental absorption for focusing on art-making.

Before the pandemic, artists had a tendency to make art to distract themselves from their busy lifestyles and thereby experienced greater flow compared to individuals who engaged in art-making during the pandemic (Genuth & Drake, 2019). It has been shown that those who drew pictures to distract themselves were more immersed in a state of flow compared to others who used art to express negative thoughts and feelings (Genuth & Drake, 2019). Furthermore, Artistic experiences (before) Factor 1, *harmonious art-making experience*, includes mindfulness (i.e., feeling encouraged to slow down and observe life/nature more closely) and catharsis (i.e., a release of tension). Having a mindful space before the pandemic could have also served as an outlet for a discharge of negative emotions. With the balance among

flow, mindfulness, and emotion regulation using distraction as an avoidance strategy, artists may have felt a strong sense of purpose in making art and experienced more enjoyment (Fancourt et al. 2020).

On the contrary, in the wake of the Covid-19 crisis that was associated with isolation, depression, and stress, individuals likely found themselves using different emotion regulation strategies. Instead of distraction being applied as an emotion regulation strategy, it may have been used as a long-term coping style to deal with negative experiences. Participants may also have attempted to use more adaptive approach strategies including cognitive reappraisal and acceptance in order to benefit from self-care and regulate emotional responses to their sadness, anxieties, and fears (Fancourt et al. 2020). Moreover, individuals may have used catharsis as a way to vent anger or 'let go' of underlying fears, doubts, and feelings of anxiety. This aggressive purge of negative emotions was one possible way to improve participants' emotional states during the pandemic. Thus, with an emphasis on using emotion regulation strategies to protect the self from being negatively impacted by the stressful demands of the pandemic, doing art for enjoyment became a secondary priority. In this study, the qualitative findings illustrate a strong focus on self-care as part of art-making during the pandemic which fits well with the correlational data.

Finally, the findings supported our third hypothesis: the negative impacts of the pandemic would affect the ways in which individuals expressed themselves in their art-making processes. The results found that flow and presenting a non-judgmental attitude decreased during the pandemic compared to before. According to various researchers, mental health risks exist during these time periods because of its association with Covid-19 (Liu et al. 2020; PeConga et al. 2020). With that said, individuals who experienced poor mental health during the pandemic may have prioritized self-regulation of emotions. Hence, it is not surprising to find that positive experiences of flow and having a nonjudgmental mindset turned out to be less important aspects of the individuals' artistic work process during the pandemic. The effects of the Covid-19, crisis such as the lockdown measures, may have interfered with their mental processes by producing heightened tension. Creative insights may not have emerged as easily when artists were suffering in isolation and battling their own fears, anxieties, and uncertainties. Thus, by feeling vulnerable in the face of adversities, the artists may have experienced a sudden disruption to their worldviews (Janoff-Bulman, 1992). With shattered basic assumptions about their experiences during the Covid-19 crisis, they felt less stable, more judgmental, and less in-tune with their art-making processes.

Other results showed that highly resilient individuals engaged in self-care, and thereby experienced a reduction of stress. The findings were consistent with a previous study which found that individuals who had a positive focus on growth experienced mood repair when they were strongly immersed in the art-making process itself (Futterman Collier & Wayment, 2019). In the present study, it may be the case that resilient individuals managed to reduce their stress due to enhanced mood and flow. There may also have been neurological links among mental resilience, the reward system, and the stress system. Art-making stimulates the reward system (such as the OFC and the amygdala) which in turn, was linked to the regulation of stress response that induces stress-buffering effects (Gallo et al. 2021). In one fMRI study, resilience was correlated with increased dopaminergic activity in the ventral tegmental area (VTA) and hippocampus (Richter et al. 2019). Thus, an association between the reward and stress systems may have been related to artists showing mental resilience to adversity (e.g., isolation).

In one of our findings, Resilience Factor 1, *learning from adversity*, was strongly correlated with Reflection Factor 2, *emotional self-care*. Since participants already exhibited general resilience, the neurological association between the reward and stress systems may have been further strengthened by doing art for self-care. In the outcome, the resilient participants experienced a reduction in stress levels and felt less isolated. In other words, making art to cope with negative emotions during the pandemic may be associated with enhanced functional connectivity between the reward and stress systems.

There were several limitations of the study that should be addressed. Since this was a cross-sectional study, causal inferences could not have been drawn from the findings. It is possible that the opposite causal direction could have taken place in which people with higher levels of resilience or emotion regulation, or a higher capacity and time for self-care, chose to spend their time doing art. Alternative explanatory variables such as time, money, and other resources were not accounted for in the present study. It should also be noted that we retrospectively assessed the ratings of participants' artistic experiences before and during the pandemic at one single timepoint. With retrospective ratings, participants may be prone to recall bias. This study also only represented the experience of individuals in the fall of 2020. It is possible that some of the findings may have differed if the survey were sent out earlier in the first wave of the pandemic or presently during the second winter wave of 2021. Finally, most of the participants in the study were recruited from either a university or a Western social media platform so the sample does not reflect the global population during the Covid-19 pandemic.

Future studies should seek to replicate and validate the measure cross-culturally to see whether people across cultures experience similar positive effects of art-making and similar negative consequences stemming from the Covid-19 pandemic. If the findings are replicated successfully, perhaps this can lead scientists and clinicians to a convergent understanding of what the therapeutic benefits of art-making are in the clinical context. Clinicians can promote the efficacy of art therapy in cross-cultural settings in order to develop appropriate interventions for promoting mental wellness.

In conclusion, the current study provides insightful examination of the artistic experiences of adults and how unique creative endeavours during the Covid-19 crisis translates to positive or negative mental health outcomes. It is beneficial to investigate the therapeutic values of art-making so we can understand how to use the tools of art therapy to heal the general public that has suffered greatly from the pandemic. Through creating and connecting art with the wider community, we can regulate our emotions in healthy ways and build resilience to proactively mitigate feelings of isolation.

References

- Anand, K.B., Karade, S., Sen, S., & Gupta, R.M. (2020). SARS-CoV-2: camazotz's curse. *Medical Journal, Armed Forces India* 76(2), 136–141. <https://doi.org/10.1016/j.mjafi.2020.04.008>
- Bell, C. E. & Robbins, S. J. (2007). Effect of art production on negative mood: A randomized, controlled trial. *Art Therapy*, 24(2), 71-75, DOI: 10.1080/07421656.2007.10129589
- Bushman, B. J., Baumeister, R. F., & Phillips, C. M. (2001). Do people aggress to improve their mood? Catharsis beliefs, affect regulation opportunity, and aggressive responding. *Journal of Personality and Social Psychology*, 81(1), 17–32. <https://doi.org/10.1037/0022-3514.81.1.17>
- Chiesa, A., Serretti, A., & Jakobsen, J. C. (2013). Mindfulness: Top–down or bottom–up emotion regulation strategy? *Clinical Psychology Review*, 33(1), 82–96. <https://doi.org/10.1016/j.cpr.2012.10.006>
- Coholic, D. A. (2011). Exploring the feasibility and benefits of arts-based mindfulness-based practices with young people in need: Aiming to improve aspects of self-awareness and resilience. *Child & Youth Care Forum*, 40(4), 303–317. <https://doi.org/10.1007/s10566-010-9139-x>
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper Perennial.
- Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. HarperCollins.
- Cupchik G. C. & Kiosses E. (2020). *Taking the pulse of the UTSC student community during the COVID-19 pandemic*. Toronto, ON: University of Toronto Scarborough.
- De Dreu, C. K. W., Baas, M., & Nijstad, B. A. (2008). Hedonic tone and activation level in the mood-creativity link: Toward a dual pathway to creativity model. *Journal of Personality and Social Psychology*, 94(5), 739–756. <http://dx.doi.org/10.1037/0022-3514.94.5.739>
- Dewey, J. (1980). *Art as experience*. Perigee.
- Fancourt, D., Garnett, C., & Müllensiefen, D. (2020). The relationship between demographics, behavioral and experiential engagement factors, and the use of artistic creative activities to regulate emotions. *Psychology of Aesthetics, Creativity, and the Arts*. <https://doi.org/10.1037/aca0000296>
- Fraser, K. D., & al Sayah, F. (2011). Arts-based methods in health research: A systematic review of the literature. *Arts & Health: An International Journal of Research, Policy and Practice*, 3(2), 110–145. <https://doi.org/10.1080/17533015.2011.561357>
- Forgeard, M. J. C. (2013). Perceiving benefits after adversity: The relationship between self-reported posttraumatic growth and creativity. *Psychology of Aesthetics, Creativity, and the Arts*, 7(3), 245–264. <https://doi.org/10.1037/a0031223>
- Futterman Collier, A., & Wayment, H. A. (2019). Enhancing and explaining art-making for mood-repair: The benefits of positive growth-oriented instructions and quiet ego contemplation. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. <https://doi.org/10.1037/aca0000286>
- Gallo, L. M. H., Giampietro, V., Zunszain, P. A., & Tan, K. S. (2021). Covid-19 and mental health: Could visual art exposure help? *Frontiers in Psychology*, 12, 1423. <https://doi.org/10.3389/fpsyg.2021.650314>
- Gerzina, H. A., & Porfeli, E. J. (2012). Mindfulness as a predictor of positive reappraisal and burnout in standardized patients. *Teaching and Learning in Medicine*, 24(4), 309-314. doi: 10.1080/10401334.2012.715255
- Gross, J., & Thompson, R. A. (2007). Conceptual foundations for the field. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–24). New York, NY: Guilford.
- Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. Free Press.
- Kirton, M. J. (1994). *Adaptors and innovators: Styles of creativity and problem solving*. Routledge.
- Kramer, E. (2001). *Art as therapy: Collected papers*. Jessica Kingsley Publishers.
- Liu, C. H., Zhang, E., Wong, G. T. F., Hyun, S., & Hahm, H. “Chris.” (2020). Factors associated with depression, anxiety, and PTSD symptomatology during the Covid-19 pandemic: Clinical implications for U.S. young adult mental health. *Psychiatry Research*, 290, 113172. <https://doi.org/10.1016/j.psychres.2020.113172>

- Luthar, S. S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Development, 62*(3), 600–616. <https://doi.org/10.2307/1131134>
- Makarious, M., & Cupchik, G. C. (2019). Resilience among Christians and Muslims in Egypt and Canada. *25th annual health research conference*. Vancouver, October 27-29.
- Masiero, M., Mazzocco, K., Harnois, C., Copley, M., & Pravettoni, G. (2020). From Individual To Social Trauma: Sources Of Everyday Trauma In Italy, The US And UK During The Covid-19 Pandemic. *Journal of Trauma & Dissociation, 21*, 1–7. <https://doi.org/10.1080/15299732.2020.1787296>
- Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child Development, 85*(1), 6–20. <https://doi.org/10.1111/cdev.12205>
- Masten, A. S. (2018). Resilience theory and research on children and families: Past, present, and promise. *Journal of Family Theory & Review, 10*(1), 12–31. <https://doi.org/10.1111/jftr.12255>
- Panchal, N., & Kamal, R. (2020). *The Implications of Covid-19 for Mental Health and Substance Use*. 14.
- PeConga, E. K., Gauthier, G. M., Holloway, A., Walker, R. S. W., Rosencrans, P. L., Zoellner, L. A., & Bedard-Gilligan, M. (2020). Resilience is spreading: Mental health within the Covid-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S47–S48. <https://doi.org/10.1037/tra0000874>
- Richter, A., Krämer, B., Diekhof, E. K., & Gruber, O. (2019). Resilience to adversity is associated with increased activity and connectivity in the VTA and hippocampus. *NeuroImage Clinical, 23*, 101920. <https://doi.org/10.1016/j.nicl.2019.101920>
- Slayton, S. C., D'Archer, J., & Kaplan, F. (2010). Outcome studies on the efficacy of art therapy: A review of findings. *Art Therapy, 27*(3), 108–119. <https://doi.org/10.1080/07421656.2010.10129660>
- Stanton, A. L., Danoff-Burg, S., Cameron, C. L., Bishop, M., Collins, C. A., Kirk, S. B., Sworowski, L. A., & Twillman, R. (2000). Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. *Journal of Consulting and Clinical Psychology, 68*(5), 875–882.
- Stewart, T. M. (2004). Light on body image treatment: Acceptance through mindfulness. *Behavior Modification, 28*(6), 783–811. <https://doi.org/10.1177/0145445503259862>
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
- Walsh, F. (2020). Loss and resilience in the time of Covid-19: Meaning making, hope, and transcendence. *Family Process, 59*. <https://doi.org/10.1111/famp.12588>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (Covid-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5). <https://doi.org/10.3390/ijerph17051729>
- Wanzer, D. L., Finley, K. P., Zarian, S., & Cortez, N. (2020). Experiencing flow while viewing art: Development of the Aesthetic Experience Questionnaire. *Psychology of Aesthetics, Creativity, and the Arts, 14*(1), 113–124. <https://doi.org/10.1037/aca0000203>
- Wilkinson, R. A., & Chilton, G. (2013). Positive art therapy: Linking positive psychology to art therapy theory, practice, and research. *Art Therapy, 30*(1), 4–11. <https://doi.org/10.1080/07421656.2013.757513>
- World Health Organization. (2020). Mental health and Covid-19. <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-Covid-19/novel-coronavirus-2019-ncov-technical-guidance/coronavirus-disease-Covid-19-outbreak-technical-guidance-europe/mental-health-and-Covid-19>
- Xiong, J. (2020). Impact of Covid-19 pandemic on mental health in the general population_ A systematic review. *Journal of Affective Disorders, 10*.
- Zhu, Y., Zhang, L., Zhou, X., Li, C., & Yang, D. (2021). The impact of social distancing during Covid-19: A conditional process model of negative emotions, alienation, affective disorders, and post-traumatic stress disorder. *Journal of Affective Disorders, 281*, 131–137. <https://doi.org/10.1016/j.jad.2020.12.004>

Appendix 1

Evaluations of Artistic Experiences Survey Before and During the Covid-19 Pandemic

Demographics

1. **Gender:** Male Female Other

2. **Age:** _____

3. In general, please rate your current health.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Extremely poor			Neither poor nor good			Excellent

4. What do you consider your personal health risk is for contracting COVID-19?

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Extremely high			Neither low nor high			Very low

5. In general, please rate the quality of your daily precautionary health practices and situation during the pandemic.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Extremely poor			Neither poor nor good			Excellent

6. Check off any of the following that describe your daily precautionary health practices and situation during the pandemic:

- Physical distancing (2 meters apart)
- Following public health rules while lining up for stores and services
- Healthy sleeping habits so I feel rested when waking up
- Healthy eating habits related to food choices, amounts, and weight management
- Connecting with friends, family, and colleagues regularly
- Maintaining hobbies such as art, writing, collecting, baking, cooking, etc.
- Exercising at home
- Attending to responsibilities such as pets, plants, work, dependents, etc.
- Able to live in a stable and safe environment (i.e., without fear of abuse or violence)
- Volunteering to help others

7. To what extent do each of the following emotions apply to you over the last two weeks? (1 = not at all, 4 = more than half the days, 7 = nearly every day)

- _____ Angry
- _____ Happy
- _____ Fearful
- _____ Sad
- _____ Anxious
- _____ Hopeful
- _____ Depressed
- _____ Interested
- _____ Lonely
- _____ Guilty
- _____ Surprised
- _____ Grateful

8. Generally speaking, please rate yourself on the following statements (1 = strongly disagree, 7 = strongly agree).

- _____ I've been made stronger and better by difficult experiences.
- _____ I put a high value on promoting equality and reducing poverty and hunger.

- _____ I know how to behave in different social situations.
- _____ I feel self-confident, appreciate myself, and have a healthy concept of who I am.
- _____ I keep people at a distance and avoid close interpersonal relationships.
- _____ I am treated fairly in my community.
- _____ I am resilient/recovered from traumas.
- _____ I often reflect on my reasons for doing things.
- _____ I learn valuable lessons from the experiences of others.
- _____ My life is determined by my own actions.

9. What type of visual arts/craft do you enjoy doing?

- Painting Sketching Photography Light art
- Digital art Street art Crafts Woodwork
- Textiles Sculptures Other: _____

10. What degree of expertise do you consider yourself to have?

- Beginner
- Intermediate
- Advanced
- Expert

11. How many hours, on average, have you spent each week doing visual arts/craft:

Before the pandemic? _____

After the pandemic? _____

Your Artistic Experiences

I'm going to ask you questions comparing your artistic experiences before the COVID-19 pandemic started and since it began in January 2020. Indicate the extent to which each of the statements below applies to you.

1. Have your reasons for doing art during the pandemic changed compared to your reasons before the pandemic started?

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Not at all			Somewhat			Totally

2. I feel calm and relaxed while I am creating art.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

3. I make art because it's a creative outlet for self-expression.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

4. I get into a state of flow when I immerse myself in artistic activities.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

5. Doing art encourages me to slow down and observe life/nature more closely.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

6. I try not to let my ego get in the way by comparing myself with other artists.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

7. When I feel fragmented, doing art helps me feel whole about myself.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

8. Doing art encourages me to engage in problem-solving.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

9. Doing art provides feelings of reward and deep satisfaction.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

10. The process of making art is an important part of who I am.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

11. Doing art helps me let go of my underlying fears, doubts, and feelings of anxiety.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

12. Sharing my art give me a sense of community and I feel less isolated.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree		Neither agree nor disagree				Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

13. Doing art helps me release tension.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree						Neither agree nor disagree
Strongly agree						

14. I try not to be judgmental about how my art-making is going.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

15. I do art because it improves my mood.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

16. It is important for me to be open to changing my art style.

Before:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

During:

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree			Neither agree nor disagree			Strongly agree

Opening Instruction

Description

Pick a piece of art you created during the pandemic that felt therapeutic. If you can, 1) provide an image of your artwork, 2) talk about the subject matter, 3) talk about the style, 4) describe what the piece means to you, and 5) describe the context in which you created it.

2) *Subject Matter*

3) *Style*

4) *Meaning of the artwork*

5) *The background context*

Reflection

Looking back at the experience you just described, please rate how much you agree or disagree with the following statements.

1. My personal identity was expressed in this work.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

2. In this work, I was trying to communicate my experience of the world to others.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

3. I embodied my culture and personal background in this work.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

4. Creating the artwork was a form of self-care for reducing stress during the pandemic.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

5. Creating the artwork gave me a chance to explore my emotions.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

6. Creating the artwork helped me reduce my sense of isolation.

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Strongly disagree	Neither agree nor disagree				Strongly agree	

7. How important is the subject matter in my artwork?

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Not important at all	Somewhat important				Very important	

8. How important is the style of my artwork?

<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
Not important at all	Somewhat important				Very important	

