

Puzzling Pictures: Feasibility Study of a Collage Art Trauma Reprocessing Intervention for  
LGBTQ+ Emerging Adults

By  
Ray Mathew-Santhosham  
Undergraduate Honors Program in Social Work  
College of Social Work  
The Ohio State University  
2023

Thesis Committee

Dr. Lauren McInroy, Ph.D., Advisor

**Abstract**

Lesbian, gay, bisexual, transgender, queer, and other sexual and/or gender minority (LGBTQ+) individuals are at high risk for adverse mental behavioral, and physical health outcomes due to the prejudice and discrimination they experience at both individual and institutional levels. Compared to the general United States (US) population, LGBTQ+ adults report experiencing more trauma during their childhood and are more likely to be victimized as adults. Systemic barriers to healthcare for LGBTQ+ people are compounded by a lack of culturally responsive care to counter the historic pathologization of sexual and gender minority identities. In this feasibility study, an art intervention (Puzzling Pictures) was developed and tested to address the trauma reprocessing needs of the LGBTQ+ population. Using the cutting and pasting technique of collage art, participants were guided through a series of sessions wherein they identified traumatic memories and positive memories during or following trauma, and subsequently developed core beliefs to be represented in an art piece telling their personal trauma narrative. Findings show the intervention was perceived as highly satisfactory, logical, helpful, and appropriate for participants' goals. Participants indicated they experienced low levels of discomfort and anxiety during participation. Participants' symptoms of traumatic stress were significantly reduced from the pre-test ( $M=15.6$ ,  $SD=3.44$ ) compared to post-test ( $M=8.4$ ,  $SD=3.05$ );  $t=6.22$ ,  $p=0.002$ . Trends of decreased difficulty in emotional regulation and increased coping skills were also found. Trauma narratives and core beliefs shifted from shame-based to strengths-based with an emphasis on the decentering of trauma. More research must be conducted with a larger data pool and sample with diverse educational backgrounds as well as higher levels of trauma to determine further efficacy of the Puzzling Pictures intervention.

Key Words: LGBTQ+, trauma, art therapy, traumatic stress, and collage art therapy

### **Acknowledgments**

I would like to first thank Dr. Lauren McNory for advising me and supporting me through the learning process of this research undertaking. Her expertise with the LGBTQ+ population in research was invaluable. I look forward to continuing to work under her wing with the next iteration of the Puzzling Pictures intervention. Dr. Stephen Marson, my OSU alumni mentor, also provided vital guidance in the initial musings of this research project. I would not have dreamed of turning my passion into research without his encouragement, cultivation, and gift of career-bolstering opportunities. I give my great appreciation to Tracie McCambridge at The Wexner Center for the Arts for strengthening my creative focus and advocating for my use of the Wex's space to house this intervention. Lastly, I want to thank Dr. Tanya Mathew for being my unrelenting inspiration in who she was, is, and continues to become. The passionate social work researcher I am today is solely attributed to the embodiment of my mother's heart.

## Chapter I: Introduction

### **Statement of Research Purpose**

Collage art was first introduced to me at a chronic pain rehabilitation program, where we were taught to reimagine a future not tainted by painful barriers through vision boarding. My subsequent adoption of collage art as one of my main coping skills and professional art form inspired me to explore integrated creative therapies with my friends. Without realizing it, I began employing the burgeoning collage art intervention with my lesbian, gay, bisexual, transgender, queer, and other sexual and/or gender minority (LGBTQ+) friends in a setting resembling the sacred space of an art classroom combined with the sacred space of group therapy. The environment I seek to curate enables people to sit with painful thoughts, emotions, and memories when they would have otherwise left them untouched out of overwhelming fear and isolation.

In the literature, there is a gap in knowledge regarding the development and efficacy of art therapy interventions for the trauma-exposed LGBTQ+ young adult population. Therefore, this thesis research project assesses if integrative collage art therapy may be a feasible intervention to reduce the population's symptoms of traumatic stress and create strength-based trauma narratives through trauma reprocessing. Integrative art therapy encompasses interventions that employ more than one therapeutic theoretical framework in combination with an art modality. A deductive exploratory research framework with a pre-experimental design was utilized to test the feasibility and efficacy of the proposed intervention – Puzzling Pictures.

Using cost-effective tools such as donated magazines, scissors, and glue, Puzzling Pictures aims to develop a trauma-focused collaging protocol specifically designed to address complex trauma for LGBTQ+ adult clients in a group setting. The goal of the intervention was the

reduction of post-traumatic stress symptoms. In addition, the collaging protocol aims to enable clients to develop a strengths-based trauma narrative throughout multiple sessions which were measured using the coding of themes found in semi-structured interviews.

In the first session of the four-week program, participants were asked to identify one negative memory related to their trauma narrative that induced post-traumatic stress and one positive memory that induced post-traumatic growth. Over the intervention, participants used the group setting and collaging modality to integrate these two opposing memories within their trauma narrative. As part of the body-focused aspect of the intervention, while ruminating on their trauma narrative participants were encouraged to recognize and mediate the sensations of physical anxiety using relaxation techniques to strengthen regulatory skills. With each session, participants identified their core beliefs, which are statements of how we perceive ourselves and the world around us as a result of our experiences during times of critical development such as, “I am not good enough,” or, “I am capable and competent.” As the group shared these cognitions and their experiences in group discussion, they worked towards representing their narrative process through images found in magazines.

A non-probability sampling technique was employed based on the inclusion criteria of: (1) identifying as a member of the LGBTQ+ community, (2) experiencing at least one adverse childhood experience (ACE), and (3) being between the ages of 18 and 28 at the time of participation. This research project utilized available measurement tools such as the Centers for Disease Control’s (CDC) online ACE scale, difficulties in emotion regulation scale, post-traumatic stress symptoms scale, coping skill measure, and the state-trait anxiety inventory (Keating & Muller, 2019; Tripp, Potash, & Brancheau, 2018). The study utilized a mixed-methods design to evaluate the quantitative evidence of changes in trauma symptoms after

receiving the Puzzling Pictures intervention as well as the qualitative evidence of the trauma narratives participants presented.

Qualitative data collected from selected participants sought to explore common trauma narratives and themes within the emerging adult LGBTQ+ community, enabling the literature to reflect the unique needs of this marginalized population. This study proposed that the trauma-informed collaging intervention decreased the effects of post-traumatic stress, improved confidence, and allowed participants to ease into the process of trauma narrative reprocessing.

Three components of intervention feasibility were assessed in addition to the efficacy of symptom reduction. First, Puzzling Pictures aimed to find a reduction of traumatic stress indicators such as emotional dysregulation as the first aspect of a feasible trauma reprocessing intervention. Second, an additional element of treatment feasibility was assessed by using treatment satisfaction surveys which address the logistics of the developing intervention. After the first session, participants expressed that they felt emotionally overwhelmed when trying to verbalize at least a couple of positive and traumatic memories as well as their willingness to participate despite discomfort (Schouten et al., 2018). The final aspect of feasibility was measured through a state-trait anxiety scale to assess whether the concluding relaxation exercises for each session helped reduce stress caused by resurfacing memories. Once each participant chose a single traumatic memory to be represented in their collage and began re-processing their narrative, they were asked to complete a relaxation exercise to provide a restored sense of control. The three research questions are as follows:

1. Is the proposed collage art group therapy trauma reprocessing intervention effective in reducing indicators of traumatic stress and increasing the efficacy of coping skills?
2. Is the intervention viewed as satisfactory and/or logistically feasible for participants?

3. Does the intervention create an overwhelming state of anxiety for participants due to the nature of trauma reprocessing?

## Chapter 2: Literature Review

### **Trauma Exposure in LGBTQ+ Community**

The adult LGBTQ+ community has unique therapeutic needs due to their identities and bodies being routinely attacked by mainstream society, leading to trauma symptoms such as dissociation, internalized shame, heightened anxiety, and intrusive thoughts (Keating & Muller, 2019). These symptoms are often exacerbated by their personal histories of trauma and/or childhood household dysfunction. Through a sample of 3,508 participants, Craig and colleagues found that 83% of LGBTQ+ youth (age 14 – 28) reported at least one adverse childhood experience (ACE), and 43% had four or more ACEs (Craig et al., 2020). ACEs refer to experiences during childhood surrounding dysfunction in the home, neglect, and physical or emotional abuse. This is a concerning contrast to the 12 – 16% prevalence of four or more ACEs in the general population (Craig et al., 2020). Compared to a rate of 35% of intimate partner violence (IPV) in heterosexual females, the CDC reports an IPV rate of 41% for lesbians and 66% for bisexual women (Scheer & Poteat, 2021). While heterosexual men only report IPV at 29%, gay and bisexual men report IPV at a rate of 63% (Scheer & Poteat, 2021). The high rates of trauma in the emerging adult LGBTQ+ population warrant innovative forms of intervention that challenge the community's historical experiences of stigma and shame.

Because the mental health sector has a history of targeting the LGBTQ+ community by pathologizing their sexual expression, some still supporting conversion therapy to this day, it is understandable why this vulnerable population may find it hard to access and effectively experience intervention. Conversion or reparative therapy was a disproven prevalent clinical and social practice to change an individual's pathologized sexual orientation (Drescher et al., 2016).



To catalyze healing, LGBTQ+ trauma survivors need spaces that foster belonging and reverence of authenticity which will enable them to process childhood and adulthood traumas.

In an increasingly inclusive society, trauma reprocessing is vital for the LGBTQ+ community so they can leave captive painful memories to focus on their future direction. Neuro-imaging studies conducted on individuals with PTSD suggest that when recalling past traumatic events vital cognitive functions of the brain such as language, analysis, and contextualization are shut down (Tripp, 2021). This can result in the individual's survival mind becoming engaged, thereby disengaging from body-centered cognition and the context of their actual environment. Revelations regarding how traumatic memories are stored in the body lead to the development of numerous body-based therapies to fully engage a client's body in the present while recalling and reprocessing traumatic memories. These recommended therapies include but are not limited to yoga; eye-movement desensitization and reprocessing (EMDR) therapy; neurofeedback; mindfulness meditation; and a variety of art therapies. The goals of trauma reprocessing therapies surround overcoming maladaptive behaviors such as overgeneralizations, rumination on traumatic events, avoidance, threat, and non-threat discrimination (Hayes et al., 2017).

It should be noted that these therapies achieve the greatest efficacy once the individual is no longer in the situation in which the traumatic memory occurred, therefore LGBTQ+ emerging adults leaving unstable homes are at a critical point for treatment (Hayes et al., 2017). Changing modern realities of age groups ushered in the need for a new category of people ages 18-29 to separate them from other adults. Previously, people in this age group were preoccupied with building families and creating subsequent family-based identities, however current increases in

college education rates and delaying of marriage in the general population have warranted the creation of the term “emerging adulthood” (Arnett, 2018).

Therapy can be considered a luxury during childhood for many people, therefore restorative efforts should still be prioritized into emerging adulthood to usher in a healthy transition from adolescence to adult life. A gap exists in the literature regarding the in-between age group of LGBTQ+ emerging adults, especially in the context of creative therapeutic intervention. Creative interventions are prevalent in childhood trauma psychology but relatively little evidence exists to show the efficacy of art therapy in traumatized adult populations. LGBTQ+ individuals often experience a “second adolescence” in their early 20s as their initial adolescence can be developmentally challenged by the need to suppress one's identity for safety (Kimbrough, 2020). The critical period of second adolescence can compound in difficulty due to the onset of mental illness that begins during this age range. Compared to their heterosexual peers, college-aged LGBTQ+ people are at a much higher risk of developing substance abuse disorders and experiencing homelessness (Kimbrough, 2020). Without an awareness of healthy coping skills, LGBTQ+ youth are in danger of using self-harm to mediate their environmental stress and emotional pain (Kelly et al., 2015; Lytle et al., 2014)

### **Art Based Intervention Models**

Schouten et al. (2018) suggest that 30% of adult clients with PTSD do not benefit from traditional treatments such as cognitive behavioral therapy and eye movement desensitization and reprocessing. The inefficacy of traditional trauma interventions may be due to the apprehension of vulnerability in the therapeutic space which could be mediated by easing clients into the process of unrestrained emotional expression through art therapy. As an integrated model, mindful self-compassion cognitive-behavioral therapy (CBT) combined with creative

expression has been shown to be effective in reducing emotional dysregulation and shame (Williams, 2018).

In several studies, clients found a reduction in anxiety through cultivating a safe space and using a method of intuitive art therapy (Tripp, Potash, & Brancheau, 2018). In this space, they are enabled to acknowledge and cope with their emotionally distressing life experiences. This safe space for emotional expression could also help clients gain comfort in the therapeutic setting before moving on to more invasive management of post-traumatic stress (PTS). This failing could be mediated by easing those weary of vulnerability into the process of healing through art therapy. Trauma-informed art therapy resulted in more relaxation, externalization of memories and emotions into artwork, less intrusive thoughts of traumatic experiences, and more confidence in the future for many participants (Schouten et al., 2018). However, some experienced an increase in stress, therefore more research needs to explore this intervention, especially within marginalized populations (Schouten et al., 2018).

### **Collage Art Therapy as Trauma Intervention**

Collaging, or cutting and pasting images into a work of art, provides a structured framework and limitations that enable clients to open themselves up to opportunities for creativity. Non-verbal artistic therapies utilize kinesthetic and sensory pathways to activate subcortical parts of the brain, storing preverbal memories, similar to body-centered modalities that seek memory integration through bilateral stimulation and emotional processing (Talwar, 2007). In one study, trauma-informed digital art therapy similar to collaging resulted in increased relaxation, externalization of memories and emotions into artwork, less intrusive thoughts of traumatic experiences, and more confidence in the future for many participants (Schouten et al.,

2018). From the practitioner's perspective, collaging offers a cost-effective art intervention as it only necessitates scissors, glue, and magazines which can easily be donated. To ensure a low likelihood of injury, participants will be given safety scissors. Puzzling Pictures is also time-effective due to the simple elements of paper and glue. Collaging requires the artist to focus less on artistic ability and instead provide extra attention to concepts, themes, and narratives thereby taking pressure off of participants and encouraging them to think critically about the messages represented by the images they choose to combine. While engaging with art-based therapies, clients employ their left hemisphere to provide an explanation and context for the right hemisphere's creative expression of trauma (Talwar, 2007). While parsing through magazine images to include in their artwork, participants can also take advantage of the group setting to reflect with those around them about what the images mean to them and inspire conceptual or visual creativity in others. The LGBTQ+ community can benefit from the anti-oppressive social context of a group collaging session which addresses their unique but often shared trauma experiences as they ease into the undertaking of trauma reprocessing.

### Chapter 3: Methods

#### **Intervention Description**

In the first session, each participant is asked to write down and share aloud one traumatic memory and one positive memory related to their trauma or post-traumatic growth. The facilitator then instructs them to think about the core beliefs they developed about themselves as a result of the traumatic event. During these recollections, participants are encouraged to pay attention to corresponding bodily sensations and use language to recognize emotional sensations. If at any point a participant feels uncomfortable or in distress, they reserve the right to leave the session and are instructed to contact The Ohio State University's (OSU) counseling and consultation services or are given resources for community referral. At the end of the session, the facilitator guides the group in the closing protocol: a meditation relaxation exercise, completion of the STAI, and passing out of resources for mental health support should any further distress arise between sessions. Finally, participants fill out a treatment satisfaction survey.

Scissors, glue sticks, and various donated magazines are provided for the participants in the second session as they are instructed to begin parsing through images and cutting out those that speak to their chosen memory. Each participant documents their personal goals for the intervention, defining what characteristics or coping skills they wish to gain from the experience. The facilitator stimulates conversation between participants while they work with reassuring comments and reflective prompts. When the session is completed the facilitator again leads the group in closing protocols.

The third session functions as the main workday. As they continue to work on their respective colleges, participants are asked to write down or verbalize negative cognitions as well

as alternative positive cognitions regarding their self-representation that arise during the expression of their trauma (Talwar, 2007). When the hour-long session is completed the facilitator again lead sthe group in closing protocols.

In the final session, participants complete their collages and share with the group how their personal narrative related to their trauma has shifted throughout the art therapy process. They revisit the goals they set for themselves at the beginning of the intervention, assessing what they accomplished in addition to areas of growth and how they can continue to engage with healing. Finally, when the last session is completed the facilitator leads the group in closing protocols.

## **Research Design**

### ***Recruitment***

Recruitment for this study commenced on January 1st, 2023, and was closed on January 30th, 2023. The first session began on February 2nd. In order to accurately understand the feasibility of collage trauma reprocessing therapy in LGBTQ+ emerging adults, this study recruited participants who met the inclusion criteria in terms of age (18 – 28), identified as LGBTQ+, had limited experience in trauma reprocessing therapy, and reported 1+ ACE indicators. All recruited participants were screened with an ACE survey and disclosed their experience in trauma-informed therapy to determine if they fit into the study parameters. Only participants with less than six months of consistent involvement in trauma-informed therapy were eligible for this study. This permitted assessment of the efficacy of Puzzling Pictures as a stepping stone for those beginning the process of healing from traumatic memories. Since the data could only be feasibly collected from a target population of LGBTQ+ emerging adults in the

Columbus, Ohio metropolitan area, any findings are restricted to represent only this specific faction of the theoretically national LGBTQ+ population.

Participants were recruited through cluster sampling methods by advertising the proposed study in local Columbus metropolitan organizations dedicated to supporting LGBTQ+ emerging adults. The study requested that The Ohio State University (OSU) Office of Diversity and Inclusion as well as the university's pride student organizations send two email blasts alerting members of OSU's LGBTQ+ community about this intervention research opportunity. Furthermore, OSU's College of Social Work also included the volunteer request for study participants in their weekly newsletter for undergraduate students. The greatest number of participants were ultimately recruited from connections with the student organization Art & Resilience through the Wexner Center for the Arts located on campus. These organizations were chosen as contacts to increase the diversity of identities within the LGBTQ+ community, however, educational attainment levels were homogenous. The Wexner Center for the Arts housed all four weeks of Puzzling Pictures due to their central location on campus and the feasibility of space.

So as to achieve optimal retention of participants during the course of the four-week study, participants received weekly reminder emails that stressed the important therapeutic implications of the research, as well as the social and therapeutic benefits participants could experience by engaging with the full-length of the study. Participants were also motivated by art material provisions and receiving compensation of a \$50 Target gift card after all sessions were completed to further incentivize retention. They were given the option to take home their artwork every week rather than letting the research team store it, enabling them to drop out of the study at any point if they did not wish to proceed.

***Data Collection***

The present study was a mixed methods design that consisted of a pre/post-test pre-experimental design and qualitative interviews. Quantitative screening surveys assessed symptom reduction following the intervention and qualitative measures elucidated common themes in trauma narratives as well as how recounted themes change over the course of the study. Through recounting their trauma histories in a creative group setting, this intervention research seeks to cultivate strength-based narratives. Additionally, Puzzling Pictures intends to provide participants with a creative alternative coping skill to aid in the externalization of intrusive thoughts and emotional pain which can easily be transferred outside of the research and traditional therapeutic setting.

A mixed-methods design was implemented to collect a well-rounded picture of the trauma reprocessing needs of the study's sample. The group received an integrated treatment model of trauma-focused group collage art therapy. Before receiving the intervention, participants completed screening surveys assessing their baseline methods of coping and symptoms of traumatic stress. The study included several scales such as the Difficulty in Emotional Regulation Scale (DERS), the severity of post-traumatic stress symptom scale, and coping skills measure. The screening survey also included demographic data, an ACE survey, and a question asking participants if they would be willing to take part in one-on-one interviews before and after the intervention they receive. The researcher then recorded a Zoom interview with randomly selected participants privately and asked them to share their trauma narrative, searching for themes across subjects (see Appendix A). As a conclusion to each weekly session, participants filled out a State-Trait Anxiety Inventory (STAI) which measured acute symptoms associated with post-traumatic stress as well as a multidimensional behavioral intervention satisfaction



survey created by Sidani et al. (2017). To protect participant confidentiality, interviews were conducted and stored on an encrypted Onedrive account. All participants underwent a post-test survey after four weekly hour-long sessions where they evaluated their traumatic stress symptoms using the same aforementioned scales in the initial screening survey. The three participants who underwent pre-interviews were interviewed again regarding their personal trauma narratives and experiences with Puzzling Pictures (see Appendix A).

### **Quantitative Measures**

Before receiving the group collaging intervention, all participants completed baseline surveys including the Difficulties in Emotion Regulation Scale (DERS), the severity of post-traumatic stress symptom scale, and coping skill measure. At the end of each session, all participants filled out a treatment satisfaction survey and State-Trait Anxiety Inventory (STAI) to find if Puzzling Pictures unintentionally increased anxiety about their traumatic memories. Following the completion of all four sessions, participants received the same surveys they received before engaging in the collaging intervention to assess a change in symptoms and coping skills.

#### ***Difficulties in Emotion Regulation Scale (DERS)***

The DERS measure was employed with the purpose of assessing a change in emotional regulation problem areas including nonacceptance of emotional responses, difficulty, engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity (Hallion et al., 2018). LGBTQ+ adults with histories of trauma report higher rates of emotional dysregulation, establishing this symptom as of therapeutic importance and appropriate for the developmental stage of emerging

adulthood (Keating & Muller, 2019). A collaging protocol is well suited for the aim of increasing emotional regulation skills as participants will be prompted to attend to and express their emotions during the course of the sessions.

The DERS measure consists of 36 questions in which respondents selected ordinal answers ranging from, “almost never,” to “almost always,” (Hallion et al., 2018). Psychometric studies evaluating the validity and reliability of the DERS measure find internal consistency as well as predictive value for determining treatment outcomes- participants with higher DERS scores show greater benefit from CBT therapies (Hallion et al., 2018). Since the time frame of this feasibility study was limited, it may not have been enough time for those with severe difficulties in regulating emotions to express significant change, however, those with lower scores may be able to see greater effects. The length and depth of the questions included in the measure could compensate for the nuances that would be gained from a larger timeline.

***Posttraumatic Stress Symptoms-Adult National Stressful Events Survey PTSD Short Scale (NSESSS)***

Furthermore, this study included the Severity of Posttraumatic Stress Symptoms—Adult National Stressful Events Survey PTSD Short Scale (NSESSS) in order to measure symptoms of posttraumatic stress (PTS). The scale was validated and developed by the APA to monitor treatment progress. It consists of nine questions with ordinal response options ranging from, “not at all,” to, “extremely,” within the past seven days (LeBeau et al., 2014). Psychometric assessment of the measure demonstrated high convergent validity and internal consistency (LeBeau et al., 2014). This measure was utilized to evaluate baselines and changes in symptoms of PTS. As mentioned in the literature review, art therapy appears to be effective in reducing

symptoms of PTS in traumatized populations. Therefore data collected from the NSESSS aided in the assessment of collage art therapy's efficacy and validity as a treatment for PTS.

### ***Brief COPE***

To conclude the pre-test and post-test scales, participants engaged with the "Brief COPE," scale which was validated by the Science of Behavior Change Center. The scale measures various methods of coping skills and their prevalence in the emerging adult LGBTQ+ population through 28 questions with ordinal response choices ranging from, "I haven't been doing this at all," to, "I've been doing this a lot," (Carver, 1997). Brief COPE targets three aspects of coping: problem-focused coping, emotion-focused coping, and avoidant coping (Carver, 1997). Due to the fact that frequencies of specific coping behaviors are culturally dependent, this cross-culturally validated scale can elucidate the popularity of certain behaviors in the midwestern LGBTQ+ emerging adult population. Considering the collage protocol's aim of providing participants with a new creative coping skill, it is imperative that their baseline coping behaviors be measured and compared to behavioral changes achieved by the end of the study. This study predicts the greatest change in emotion-focused coping.

### ***State-Trait Anxiety Inventory (STAI)***

An overarching feasibility concern of this developing intervention surrounds the ethics of asking participants to engage with potentially triggering memories and group conversations. Therefore, the STAI measure was employed to gauge how distressing Puzzling Pictures is as well as who is at greater risk of having a distressing response. The adapted version of this self-evaluation form includes 23 questions using ordinal responses ranging from, "not at all," to "very much so," (Barnes et al., 2002). In psychometric studies, the reliability of this measure was established on the basis of internal consistency and test-retest (Barnes et al., 2002). The lowest

score possible, indicating low anxiety, is set at 23 and the highest score possible, indicating high anxiety, is set at 92 (Barnes et al., 2002). The anxiety data takes into consideration how specific activities in each session impact the participants in addition to how state-trait anxiety changes throughout the study.

### ***Multi-Dimensional Treatment Satisfaction Measure (adapted for this study)***

To document and assess the participants' satisfaction with the trauma-informed group collage art therapy they are receiving, a Multi-Dimensional Treatment Satisfaction Measure was employed at the end of each session. The measure was created to be used in a variety of behavioral health interventions and includes 16 questions regarding subscales to accommodate a myriad of treatment types (Sidani et al., 2017). The subscales utilized in this study were as follows: suitability, utility, attitude toward treatment, desire for continued treatment use, group format, and discomfort (Sidani et al., 2017). Response options range from “not at all,” to “very much so,” (Sidani et al., 2017). Participant input was provided for each phase of Puzzling Pictures to highlight the feasibility of specific components of the proposed intervention.

### **Qualitative Measures**

Qualitative data was collected from participants who indicated that they were willing to schedule a recorded Zoom call for a semi-structured 30-minute long interview before receiving the intervention, where they were asked to share their experiences with trauma in narrative form, how they cope, their history with mental health treatment, and the core beliefs that guide their self-image. The interview revolved around their life stories or how a person defines themselves in the narrative form rather than with declarative statements (Berntsen & Rubin, 2006).

Participants in the qualitative sample were interviewed again following the intervention's

completion, with the facilitator looking for thematic changes reflecting on constructive and maladaptive processing of memories. Interviewers recorded themes based on the following coded items: overgeneralization, accommodation, de-centering, avoidance, and strength-based perspectives.

### **Internal Validity**

The nature of this feasibility study reduced the relevancy of threats to external validity since the objectives do not seek to extrapolate findings to the larger national LGBTQ+ population, instead focusing on the relevancy and sustainability of a collage trauma reprocessing protocol. However, repeated test exposure is of concern as participants used the STAI and treatment satisfaction measurement tools after each session. Maturation also poses a threat to understanding if the treatment model catalyzes the routine process of recovering from traumatic memories over time. If over the course of the study, some participants are subject to a life-altering event or another traumatic event, the intervention's effectiveness and the likelihood of re-traumatization could be skewed. To combat this, participants who report traumatic experiences between sessions may be asked to leave the study.

### **Data Analysis**

#### ***Quantitative***

All quantitative data were collected using ordinal levels of measurement operationalized with the Likert scale. The exploratory nature of this collage feasibility evaluation requires an individual unit of analysis since the effects were assessed on the individual level and the intervention group is not being compared to a control group. Data collected at each session

regarding treatment satisfaction and the STAI was analyzed using descriptive statistics to understand the average levels of intervention satisfaction and the average amount of anxiety experienced by participants throughout the intervention. Descriptive statistics were ascertained through Google Sheets. The pre-test results of the participants captured the baseline characteristics of the sample before they received the intervention and the post-test results captured these same variables after they received the intervention. Therefore, a paired sample T-test analysis was employed to compare data collected from pre-tests to post-test results using SPSS statistics version 28.0.1.1.

Three paired sample T-test analyses were conducted to address what effect, if any, the Puzzling Pictures had on participants' ability to regulate emotions, coping strategies, and traumatic stress. The T-tests will find the statistical significance between pre-and post-test results. The cut-off for statistical significance was set at  $p \leq 0.05$ . In regards to each scale being analyzed, the null hypothesis states that the pre-test values will be equal to the post-test values measuring either emotional regulation, level of coping, or traumatic stress. A result that supports the null hypothesis would suggest the collage art group therapy intervention is not feasibly mediating the effects of trauma in the LGBTQ+ emerging adult population. On the other hand, the alternative hypothesis states that pre-test values will be different compared to the post-test values measuring either emotional regulation, level of coping, or traumatic stress. An alternative hypothesis would point to the efficacy of Puzzling Pictures in altering symptoms and behaviors related to traumatic stress, however, this may or may not be a positive change.

### *Qualitative*

Data derived from recorded interviews were analyzed using thematic analysis, coded with terms including overgeneralization, accommodation, de-centering, avoidance, strength-based

perspectives, and any emergent themes discovered in the data collection. Overgeneralization is understood from the perspective of people with traumatic histories overestimating the future probability of re-victimization and the frequency of risks (Berntsen & Rubin, 2006).

Accommodation is defined as the incorporation of adaptive and balanced beliefs, opposing black-and-white maladaptive fear-based beliefs (Hayes et al., 2017). De-centering is the intentional distancing from conditioned fear responses, improving distress tolerance, and strengthening inhibitory responses by allowing the individual to process new information without connecting present stress to past traumatic experiences (Berntsen & Rubin, 2006).

Avoidance as a code encompasses behaviors aimed at preventing the reactivation of trauma memories through emotional numbing (Berntsen & Rubin, 2006). The main intention of this collaging protocol is to promote a strength-based perspective defined by the individual's ability to point out the personal characteristics contributing to resilience in their story.

## Chapter 4: Results

### Quantitative

#### *Demographics*

Table 1 presents the demographics of the study sample (N=5) including pseudonyms to identify each participant.. The study was able to recruit seven (N=7) eligible participants, however, one dropped out due to a family emergency, and another due to transportation concerns. Only those who completed all four weeks of Puzzling Pictures were included in the data pool. Three of the five participants described themselves as White/American or White/European, one participant identified as South Asian, and one identified as Black and Mixed race. All participants had completed a high school degree and were working towards a college degree at OSU. The average age of all five participants was 20.4 (R = 19 – 22, SD = 1.02). Three participants identified their gender as non-binary and two identified as cisgender women. One participant identified as a lesbian, while two identified as queer, one identified as bisexual, and one identified as asexual/biromantic. In response to the ACE survey, the participants showed an average ACE score of 3.2 (R = 2-5, SD = 1.30). These scores are somewhat representative of the occurrence of ACEs in the LGBTQ+ population wherein 83% of LGBTQ+ youth report at least one ACE and 43% had four or more ACEs (Craig et al., 2020).

**Table 1**

#### *Sample Demographics*

	Kathryn	Al	Jules	Max	Anna
Age	22	19	20	21	20



Gender	Cis woman	Non-binary /Transgender	Non-binary	Non-binary	Cis woman
Sexuality	Lesbian	Biromantic/ Asexual	Queer	Queer/Biromantic	Bisexual
ACE Score	2	2	3	5	4

For such a relatively small sample size, there was an adequate amount of diversity across participants in terms of sexuality, race, and gender. However, the homogenous education level of all the participants could have impacted their familiarity with the conceptual framing of trauma recovery and coping exercises included in the psychoeducation aspects of this study. Their education levels could also have implications on their capacity to understand and complete the myriad of surveys employed throughout the study. The current iteration of Puzzling Pictures is a feasibility study, thus a moderately homogenous sample is not of significant concern.

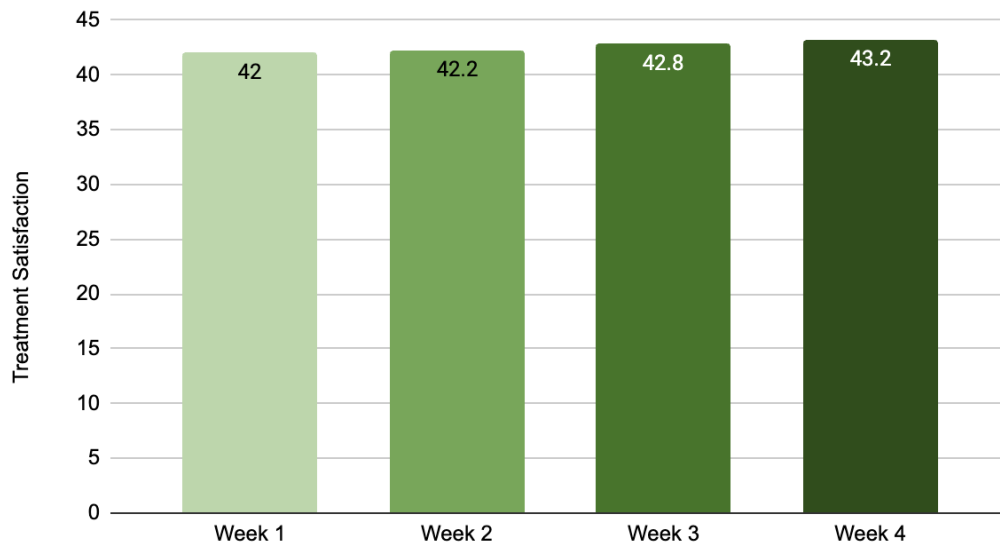
### ***Treatment Satisfaction***

A vital factor in determining the feasibility of the collage art trauma reprocessing intervention is participant perceptions of the treatment they receive. Therefore an adapted version of the Multi-Dimensional Treatment Satisfaction Measure was repeated each week the participants received the intervention which produced data sets unlinked to specific participants. Over the course of the study, this measure was implemented 20 times as each of the five participants completed the survey once a week for a total of four weeks. This provides a clearer picture of how each aspect of Puzzling Pictures was perceived on a week-by-week basis rather than participant by participant basis. The scale includes subscales assessing suitability, utility, attitude, the likelihood of continued treatment, format, and discomfort (Sidani et al., 2017). Scoring of satisfaction ranged from 0-45 with 45 being the highest rating (Sidani et al., 2017). Figure 1 \ represents the average scoring of treatment satisfaction for each week of Puzzling

Pictures. Week 1 resulted in an average score of 42 (R= 40-45, SD= 2.12). Week 2 resulted in an average score of 42.2 (R= 40-45, SD= 2.17). Week 3 resulted in an average score of 42.8 (R= 40-45, SD= 1.79). Lastly, week 4 resulted in an average score of 43.2 (R=40-45, SD= 0.45). Treatment satisfaction appears to have risen with each additional week of Puzzling Pictures, suggesting that perceptions of the intervention's suitability, utility, format, and discomfort became more positive as the intervention continued. Furthermore, the first two weeks of Puzzling Pictures ask the participants to reflect on their trauma in literal ways, whereas the last two weeks of the intervention allow the participant to indirectly reflect on their trauma through collage-making. The introduction of the collage task may have created more positive perceptions of the intervention.

### Figure 1

*Average Participant Treatment Satisfaction Each Session*



Under suitability, participants perceived the Puzzling Pictures' elements to be very logical, easy to use, and appropriate in the case of traumatic stress. With reference to utility, most of the time participants viewed Puzzling Pictures as very useful in increasing understanding of

traumatic stress, knowledge about traumatic stress, and confidence in coping with traumatic stress. Furthermore, participants stated they personally liked Puzzling Pictures very much every week of the intervention. Such high rates of positive attitudes towards this treatment suggest that Puzzling Pictures is well-suited to the sample population's needs, comfortability, and interests. This inference is supported by participants sharing every week that they were very likely to continue the treatment and recommend it to other LGBTQ+ peers with traumatic stress. Across each week of the intervention, the greatest sense of dissatisfaction revolved around the hour length of the sessions and the total amount of four sessions. Findings in regards to length formatting propose that at some points the participants felt they had too much or not enough time to adequately complete the Puzzling Pictures tasks.

### ***State-Trait***

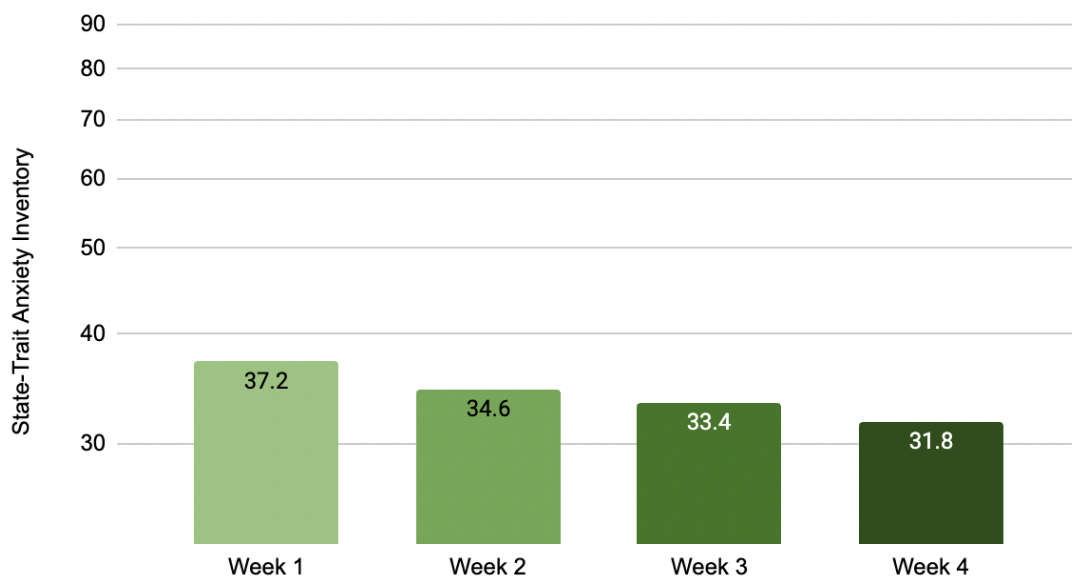
Another aspect of feasibility being assessed is the potential for unintentional levels of distress induced by recalling and discussing traumatic memories. The STAI seeks to ascertain the emotional state an individual is in and their level of anxiety following an event (Barnes et al., 2002). The inventory was administered on a week-by-week basis and participant responses were not linked to their identity, hence the analysis represents how the group's emotional state changed with each week of the intervention. The scale includes questions regarding a variety of emotions with the intention of shedding light on the complete range of feelings but for the purpose of this study, a focus is being set on feelings of discomfort. The lowest score possible, indicating low anxiety, is set at 23 and the highest score possible, indicating high anxiety, is set at 92 (Barnes et al., 2002).

The average STAI score for week one of the intervention was 37.2 (R= 29-43, SD= 5.19). Participant STAI scores for week two averaged 34.6 (R= 29-41, SD= 5.50). Week three of the

intervention resulted in an average STAI score of 33.4 ( $R= 29-48$ ,  $SD= 8.79$ ). Finally, participant scores for week four of the intervention averaged 31.8 ( $R= 23-49$ ,  $SD= 9.98$ ). An overall trend can be seen of decreasing anxiety with each session and relatively low scores across the intervention as a whole. See Figure 2. Throughout Puzzling Pictures, participants reported not having any disturbing thoughts every week and reported high levels of security each week as well. These findings elucidate that Puzzling Pictures did not induce severe negative reactions often associated with traumatic memories. As mentioned before, some level of discomfort is to be expected but the Puzzling Pictures seeks to keep these levels minimal.

## Figure 2

*Average State-Trait Anxiety of Participants Each Session*



Considering the vulnerable nature of trauma reprocessing in a group setting, some discomfort, nervousness, and jitteriness are to be expected. Participants experienced minimal discomfort while still discussing details of their discomfort in each session, suggesting that either baseline levels of discomfort related to trauma in the sample were low or that Puzzling Pictures

was successful in alleviating the discomfort of initial stages of trauma reprocessing. Despite the uncomfortable aspects of healing, it appears that the social environment created by a group of similar LGBTQ+ emerging adults was a safe environment to sit with such discomfort. Lastly, the analysis must consider that the emotional states of participants at the time of measurement may have been impacted by their experiences outside of the intervention which could not be controlled.

### ***Paired Sample T-test- Coping Skills***

Brief COPE measures the degree to which participants engaged in maladaptive and adaptive coping strategies. Participant level of engagement with coping strategies of any kind increased from before (M=33.2, SD=7.04) to after (M=40.8, SD=3.5) the intervention, however, the change was not statistically significant;  $t=-1.84$ ,  $p=0.07$ . This is a promising positive trend that suggests continued research with a larger sample size could elucidate a more concrete relationship between the Puzzling Pictures and changes in coping behavior. For further analysis, the subscales of the Brief COPE measure will be assessed. These include problem-focused coping, emotion-focused coping, and avoidant coping. Engagement with problem-focused coping behaviors significantly increased from before (M=9.6, SD=5.3) to after (M=18, SD=1.4) the intervention;  $t=-3.14$ ,  $p=0.02$ . Emotion-focused coping behaviors in participants saw a negligible increase comparing pre- and post-test averages which were not statistically significant;  $t=-0.75$ ,  $p=0.25$ . Lastly, avoidant coping behaviors in participants decreased slightly from before (M=7.4, SD=4.83) compared to after (M=5.2, SD=2.17) the intervention, however, the change was not statistically significant;  $t=1.17$ ,  $p=0.15$ . Considering each aspect of the Brief COPE scale, the results suggest that the LGBTQ+ emerging adults who underwent Puzzling Pictures

may have experienced an increase in problem-focused coping skills with minimal changes in emotion-focused coping and avoidant coping. Therefore, overall the null hypothesis is accepted.

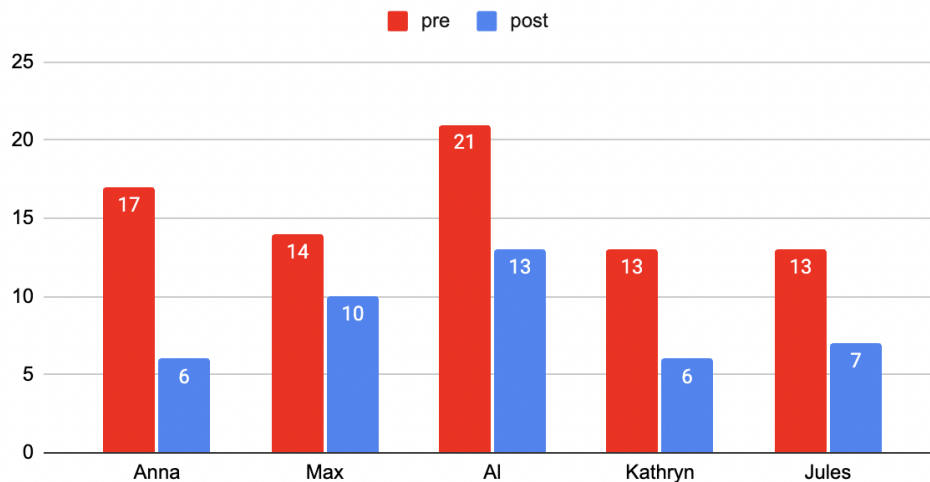
### *Paired Sample T-test- Difficulties in Emotional Regulation*

The employment of the DERS measure assessed how the Puzzling Pictures affected difficulties in emotional regulation often seen in those experiencing traumatic stress. Results are presented in Figure 3. Difficulties in emotional regulation decreased on average for participants before (M=95.2, SD=14.7) receiving the intervention compared to after (M=84.2, SD=10.83) the intervention was completed. Nonetheless, this decrease was not statistically significant;  $t=1.18$ ,  $p=0.15$ . These results inform the acceptance of the null hypothesis which states that this iteration of the Puzzling Pictures was not significantly successful in feasibly mediating difficulties in emotional regulation for this sample of the LGBTQ+ emerging adult population. However, the overall trend in decreased difficulties with emotional regulation may imply that with a larger sample, a statistically significant change could be attributed to Puzzling Pictures.

### *Paired Sample T-test- Traumatic Stress Symptoms*

**Figure 3**

*Participant Traumatic Stress Symptom Scores Before and After Intervention*



Since Puzzling Pictures' main efficacy-related goal is to reduce the impact of traumatic stress, the NSESSS measure was utilized to measure changes. Participants' symptoms of traumatic stress were reduced from before ( $M=15.6$ ,  $SD=3.44$ ) compared to after ( $M=8.4$ ,  $SD=3.05$ ) they received the trauma reprocessing intervention. The greater than 7-point reduction in average traumatic stress symptoms were deemed statistically significant;  $t=6.22$ ,  $p=0.002$ . Results from the NSESSS measure propose that LGBTQ+ emerging adults from the study sample who participated in the collage art trauma reprocessing group experienced a significant reduction of traumatic stress symptoms.

## **Qualitative**

### ***Pre-Interviews***

#### **Trauma Narrative**

Three participants completed 30-minute pre-interviews before the intervention was conducted to gather information on the types of traumatic stress experienced by the sample population of LGBTQ+ emerging adults. Two of the three participants interviewed, Kathryn and Al, focused on experiences with religious trauma while one explored their family trauma. Both participants felt throughout their lives, their identities would be a sinful disappointment if shared with important figures in their lives as their robust queerness was "watered down," to "same-sex attraction," and perceived to be caused by child abuse or dysfunction. The rhetoric in non-accepting Christian environments led to a plummeting of self-worth. Al, a non-binary asexual individual, was stabbed in the hand by another child in their public elementary school for not participating in the prayer circle when they were uncomfortable. Much of their bodily autonomy and self-expression were suppressed as children without a voice to advocate for

themselves. This highlights how LGBTQ+ children growing up in highly religious spaces may experience both psychological and physical unsafety. Although the other participant, Jules, did not share experiences with religious trauma, they experienced shame as well in the form of being blamed for familial dysfunction. Thus, all three trauma narratives were defined by shame, a lack of psychological and physical safety, as well as their personhood being equated with what is wrong, damaged, or innately negative.

### **Baseline Coping Skills**

Participants were asked about how they have historically coped with traumatic stress. As an example of accommodating adaptation through believing not all communities will be unaccepting, participants coped with the loss of community and social anxiety faced by many LGBTQ+ young adults. Kathryn shared coping with the loss of community and social anxiety by finding a new community with other LGBTQ+ individuals with shared hobby interests. Avoidance behaviors were also very present in this sample population as they describe engaging in cycles of physical self-harm and avoiding all people, places, and materials related to Christianity to evade visceral panic attacks. To protect themselves from re-experiencing trauma, they employed an overgeneralized belief that all people with strong religious beliefs were dangerous. Self-harm was a concealable way to cope with shame and distorted self-worth caused by an overgeneralized and prejudiced belief that LGBTQ+ people are unnatural or wrong. Furthermore, all shared similar cognitive avoidance behaviors such as suppressing their thoughts, memories, or emotions associated with their trauma to prevent themselves from shutting down or lashing out. Anecdotally, common forms of coping with traumatic stress within this sample of LGBTQ+ emerging adults surround physical and cognitive avoidance as maladaptive coping



mechanisms. Finding a supportive community of other LGBTQ+ people, on the other hand, acted as a positive present coping skill in the sample.

When asked about their history with mental health treatment, all participants interviewed shared similar journeys. This is in part due to the eligibility criteria of less than six months of trauma-informed therapy. Kathryn and Al described not receiving mental health treatment when they asked family members due to the belief that religion is always the answer. Medication appeared to be the main mechanism of treatment utilized by the sample as they felt some of their symptoms immediately improve. Common mental health concerns were social anxiety, panic attacks, social isolation, and hypervigilance. All three sought therapeutic services for the first time when entering OSU. However, each of them describes having one or two sessions and then never hearing back from the counseling and consultation services. All three subsequently “gave up” on therapeutic intervention in the form of talk therapy. The unfortunate situation the participants found themselves in is representative of macro-level barriers to care that the LGBTQ+ community faces. Many care networks or programs already in place to support young people’s mental health are often overburdened by cases, leaving clients to fall through the cracks. Talk therapy can be uncomfortable for anyone but especially so for those who experience immense shame, therefore when additional barriers are in the way of receiving care there is little left to motivate the client to keep seeking out additional treatment. To retain LGBTQ+ clients, continuous communication and a more culturally responsive method of intervention such as integrated group activities could enable clients to engage with therapy despite structural and internal barriers.

### **Core Beliefs**

Lastly, in the pre-interviews participants were asked to share the core beliefs that define their self-image. Because each participant has a unique story, their core beliefs are also highly specific to their personal trauma narrative. Kathryn stated, “If I show all of myself, they’ll no longer want to be close to me.” The parts of herself she is most ashamed of are tied to her queerness. Jules answered, “If I talk about myself, people will make fun of me or think that I’m not valid.” They went on to say, “I feel weird for only being able to attach or depend on people I’ve known my whole life like my family.” Al answered, “I am logical, emotions are a sign of inadequacy,” as well as, “If I am not doing the most, I am falling short.” Overarching core beliefs across the group, including those who were not interviewed but still partook in Puzzling Pictures, were heavily tied to the idea of shame and poor self-worth. These self-perceptions were identified as contributing to the avoidant behavior of self-isolating.

### *Post-Interviews*

#### **Shifts in Narrative and Core Beliefs**

Post-interviews with the same three participants facilitated the search for thematic changes in constructive and maladaptive processing of memories or ways to cope with traumatic stress. When analyzing the recorded interviews, changes in themes of avoidance and overgeneralizations were searched for as well as themes of de-centering traumatic events, accommodating beliefs, and strength-based perspectives in their trauma narratives. Additionally, themes of improved emotional regulation and reduction of internal barriers to care were found post hoc.

Firstly, the integrated elements of the psycho-education aspect of Puzzling Pictures helped participants radically shift their trauma narrative. Participants were able to identify

incidents that caused trauma as different types of assault which allowed them to recognize their reactions as reasonable. Once they could recognize their experiences as traumatic, they were able to externalize a more accurate perception of events and begin shifting into the healing portion of their narrative. For example, until this intervention, Al did not realize getting stabbed in the hand as a child qualified as a physical assault.

Education about mental health led the way towards being able to regulate the emotions they now understood as a sensitized reaction to past feelings of unsafety. Participants expressed feeling more in touch with their emotions, choosing to view them instead as a sign to take a step and ask why they feel that way rather than trying to hide or suppress emotions. Al's core belief of, "I am logical, emotions are a sign of inadequacy," changed to, "I am both emotional and logical, I'm not a failure for expressing emotions." Thus, the Puzzling Pictures enabled them to engage deeper with emotional regulation through education about mental health. The participants could recognize emotions as well as their creative ability to express them as strengths. Understanding emotions as logical also represents an accommodating belief. Based on interview responses, the intervention was successful in teaching participants to be curious about their emotions and provided them with an accessible and enjoyable medium to do so.

De-centering of traumatic events was seen in all three participants interviewed. They described being able to accept what happened without dwelling on how it was a hindrance in the past as they cultivated a view of their trauma from a big-picture perspective. Another aspect of de-centering trauma is discrimination between past and current danger such as which aspects of religion are and are not oppressive or being able to view someone who was unstable in the past as healthier now. This reflects the ability to decenter the traumatic experience and their reactive fear from their current environment. For example, Jules shared, "I'm starting to look at what

happened with my stepmom as something she couldn't control...this has helped me forgive her in a way, I'm not gonna take what she said/says to me to heart." These statements shed light on how processing the emotions about their family allowed them to integrate painful memories in the larger context of their relationship, realizing the traumatic event does not have to be the defining centerpiece of their family. The other participants interviewed focused on how religion or in a broader sense social community is not always oppressive and dangerous.

As mentioned before, access to consistent mental health care is an issue for this population. Participants shifted in the way they thought about treatment and adapting to the traumatic experiences they faced and likely will continue to face as LGBTQ+ emerging adults. Kathryn shared, "I gave up on therapy like it wasn't in the cards for me," but the intervention allowed her to realize, "Maybe I should start going to therapy again to have a space to talk things through." Another barrier to care for this population is shame and discomfort in the therapeutic setting. The issue of feeling unworthy of people's validation shifted as they repeatedly took up space in sharing their story which was met with understanding and empathy from other group members. Part of this Puzzling Pictures' intention is to give people a stepping stone towards engaging with more intense forms of therapy and it appears this function came into fruition as four out of five participants asked for therapy referral resources.

### **Acceptability**

In addition, interviewees were also asked to share their opinions on the intervention's feasibility as a qualitative understanding of acceptability. Across the board, participants noted that they were nervous to start the group due to having to talk about topics that they rarely speak about in a room full of strangers. However, they all mentioned feelings of anxiety dissipating shortly thereafter. The mindfulness practices and psychoeducation incorporated into the

interventions enabled participants to realize they were not alone in their anxiety and focus on ways to mediate expected discomfort. Participants described the group aspect of Puzzling Pictures as more beneficial than one-on-one interventions because, “the setting was natural and realistic, good practice for going back into the world.” Many of the participants cited being able to share openly about themselves as a goal for the intervention. In the end, it was clear that this goal was met with minimal discomfort due to the homogeneous group creating a safe space for exploration.

All three participants interviewed also described enjoying the collage medium as it was less stressful than most other art forms they tried in the past. This highly accessible medium enabled the emerging adults to feel, “confident in [their] creativity again, like when they were a child.” The introduction of art as a coping skill translated into the participants engaging in small creative projects or doodling to reduce anxiety outside of the intervention. This sentiment sheds light on the possible longevity of impact despite the limited time frame of treatment. Positively reinforcing the behavior of choosing to make art when confronted with discomfort each week appeared to ignite the urge to create as a coping method.

Additionally, the collage medium was viewed as acceptable for the purpose of reflecting on their past, what they learned from their experiences and overarching themes. Kathryn described the collaging process as putting together the puzzle pieces of their pain to see a bigger picture. This sentiment contributed to the naming of the intervention. In regards to the feasibility of time, the participants shared that they appreciated the one-hour-long sessions as they were not overwhelming and could fit into their busy schedules. However, more sessions to dive deeper into their artwork and trauma narratives were suggested to be helpful in future iterations of Puzzling Pictures. Creating a comprehensive picture of a participant’s trauma narrative likely

necessitates a bit more time to unpack complex emotions and thinking patterns, and provide adequate attention to each piece of the puzzle.

### *Collage Artworks*

The artworks created by the participants represented a physical manifestation of personal growth in the aforementioned interviews. Across all five artworks, visually and with verbal description, it can be seen that both the negative and positive parts of their trauma narrative were accommodated by integrating the simultaneous existence of post-traumatic stress and post-traumatic growth. This integration enabled them to de-center the traumatic event literally in their artwork and figuratively in their minds. By engaging with this constructive processing of trauma, they exhibited a reduction of avoidant behaviors and overgeneralizing beliefs that led to the acceptance of nuance in their trauma narratives and subsequent core beliefs. In this nuance, participants found their strengths such as resilience, creativity, empathy, and logical systems of understanding emotion.

## Chapter 5: Conclusions and Recommendations

### **Summary of Findings**

This study's current iteration found that the proposed collage art trauma reprocessing group intervention for LGBTQ+ emerging adults is in fact feasible. Puzzling Pictures retained the five participants who attended the first session through the final fourth session as they reported looking forward to the group every week. Participants also found the collage art medium to be well suited as a group therapy intervention due to the simple artistic components that allowed them to focus on their thoughts and emotions concurrently. The medium counteracts the neurological mechanisms that tend to shut down cognitive functions of the brain such as language, analysis, and contextualization when recalling traumatic memories (Tripp, 2021). Furthermore, participants indicated the format of Puzzling Pictures as being easily accessible and easy to understand even for those in the group with limited art experience. Treatment satisfaction findings indicated the number of sessions and their length were deemed moderately acceptable by participants with the recommendation of at least one more session being added to the protocol. Participants viewed information shared within Puzzling Pictures to be very helpful and useful in understanding the mechanisms of traumatic stress as well as how to cope with it. In qualitative post-interviews, participants shared that the centering of LGBTQ+ identity in this group intervention enabled them to feel more at ease and comfortable than in other interventions they have tried in the past.

Another feasibility concern was how much emotional distress and anxiety Puzzling Pictures would cause. Although the endeavor of trauma reprocessing was uncomfortable at times, participants indicated their perception of Puzzling Pictures as acceptable and expressed overwhelming interest in continuing the intervention even on their own. More severe negative

reactions such as having disturbing thoughts or needing to leave the intervention did not occur at all. The negative reactions that did occur did so in non-obstructive ways. The STAI measure elucidated that each week levels of participant anxiety were relatively low and followed a trend of decreasing with each additional week. The STAI also indicated that when the discomfort was felt it was coupled with a sense of security throughout the intervention. Participants described feeling uneasy mostly due to social anxieties about sharing their personal life with strangers, as is to be expected.

Findings regarding the intervention's efficacy in reducing indicators of traumatic stress concluded there was a significant difference between levels of traumatic stress symptoms before and after Puzzling Pictures was implemented. While more research must be conducted to strengthen findings, receiving the intervention decreased traumatic stress symptoms by seven points on average. Coping skills measured before and after the intervention indicated that there was not a significant increase in the use of coping skills overall, however, problem-focused coping as opposed to emotion-focused or avoidant coping was employed at a higher rate following the intervention. Furthermore, an overarching positive trend of increasing overall coping behaviors was found and could be statistically substantiated in continued research. Qualitative findings suggested that the participants began using art as a coping skill more than before outside of the intervention regardless of using collage as the specific medium. Regardless of its use in trauma therapies, intuitive art methods reduce anxiety and help individuals cope with a myriad of stressful life experiences (Tripp, Potash, & Brancheau, 2018). Difficulties in emotional regulation, an indicator of traumatic stress, were not significantly impacted by Puzzling Pictures. However, participants reported feeling more in touch with their emotions as a



result of the collage art intervention and analysis found a trend of decreasing difficulty in emotion regulation.

Qualitative interviews elucidated common themes across trauma narratives in the sample population as shame, a lack of safety, and their personhood being equated with what is wrong, damaged, or innately negative. This was congruent with Keating and Muller's findings that the LGBTQ+ community is traumatically targeted by most institutions for deviating from social norms leading to internalized shame, heightened anxiety, and intrusive thoughts (2019). Indicated mental health concerns included panic attacks, hypervigilance, and social anxiety.

Coping across all interviewed participants revolved around maladaptive avoidance and overgeneralizations taking the form of self-harm, social isolation, and suppression of feelings. LGBTQ+ emerging adults are at greater risk for self-harm behaviors when not utilizing other coping mechanisms (Kelly et al., 2015; Lytle et al., 2014). Unfortunately, participants all shared similar experiences of finding efforts to access talk therapy to be unsuccessful, especially at OSU.

Core beliefs of this sample population were overarchingly related to shame, low-self worth, and fear of expressing emotions. These core beliefs significantly shifted by the end of the study as their narratives began to incorporate accommodating adaptive beliefs such as the removal of the overgeneralization that all highly religious situations are dangerous. Furthermore, participants used the collage medium to physically represent the de-centering of their traumatic experience in their personal narrative which led to the incorporation of strength-based perspectives that value authenticity and emotional intelligence. The qualitative outcomes of Puzzling Pictures align with the goals of trauma reprocessing interventions in overcoming maladaptive behaviors such as threat and non-threat discrimination (Hayes et al., 2017).

**Limitations**

This feasibility study of Puzzling Pictures only included a total of five participants, thus this study is first and foremost limited in its generalizability to the overall trauma-exposed LGBTQ+ population. All five participants were homogenous in their educational background as well, further limiting generalizability to the diverse education histories of LGBTQ+ individuals. The current iteration of the study tried to recruit participants from the general Columbus metropolitan area, however, the sample ultimately consisted entirely of OSU students ranging from ages 19-22. Additionally, no homosexual cis-men were engaged in the study. A larger, less homogenous sample will be needed to evaluate the generalized efficacy of Puzzling Pictures in trauma-exposed LGBTQ+ emerging adults in the US. Although findings suggest that this intervention does not incite distress and severe discomfort in participants, the study did not retain any individuals with an ACE score above five. Research indicates that 83% of LGBTQ+ youth reported at least one adverse childhood experience (ACE), and 43% had four or more ACEs (Craig et al., 2020). Only one person in the sample had an ACE score above four. Therefore, it cannot be assumed that people with higher levels of trauma will not be distressed by recalling traumatic events in a group setting. Additionally, this could suggest the experiences of trauma in this sample were not reflective of the general LGBTQ+ population's exposure to trauma.

The in-person aspect of Puzzling Pictures also limited who was able to participate as one person dropped out of the study due to transportation issues. Only those who lived close to the study site located on OSU's campus or those with reliable transportation were able to attend the weekly sessions. Thus, the broader Columbus metropolitan population was not reached due to transportation issues as well. Several LGBTQ+ facing organizations in the area were contacted

about sending out recruitment information to their members and constituents, however only organizations associated with OSU responded to these requests. One of these OSU organizations was the student club Art & Resilience which could have led to a self-selection bias for those who show interest in art. More far-reaching recruitment efforts must be employed to increase the generalizability of this intervention.

Lastly, the current iteration of this collage art trauma reprocessing intervention study is based on measures of feasibility as this is a pre-experimental design meant to provide preliminary analysis. With a design that lacks a control group, Puzzling Pictures was not able to be tested in comparison to an untreated or treatment-as-usual group. To truly understand the effectiveness of Puzzling Pictures in alleviating PTS and engaging in traumatic memory reprocessing, the intervention would need to be tested in an experimental or quasi-experimental design.

### **Significance of Study**

This developing collage art trauma reprocessing intervention was specifically designed for group interventions considering the mental health and social needs of the LGBTQ+ emerging adult population. LGBTQ+ emerging adults are in a critical stage of identity development as this normal process can be harmed by experiences of discrimination, social isolation, and harassment from their family, peers, and heteronormative culture (Parmenter, Galliher & Maughan, 2020). Furthermore, this population is at a much higher risk of developing substance abuse disorders and experiencing homelessness than their heterosexual peers (Kimbrough, 2020). Self-harm, in its various forms, is also much more common in LGBTQ+ emerging adults as a coping tool to mediate stressors and emotional pain (Kelly et al., 2015; Lytle et al., 2014). With these

vulnerabilities in mind, developing an intervention to foster resilience, community, and constructive coping mechanisms in this hard-to-reach population is deeply significant.

### **Implications for Research**

Rationale behind this study being pre-experimental comes from the fact that the literature surrounding collage art therapy as an intervention is severely limited. Furthermore, it is rare for this form of intervention to be used to treat trauma in adults. This is not necessarily because it is ineffective but rather there is an assumption that adults are generally not capable of being creative in the ways art therapy has been employed with children in past research. When considering the population of LGBTQ+ adults, literature regarding the efficacy of collage art therapy is non-existent. Exploring therapeutic methods designed to meet the cultural needs of the LGBTQ+ population is vitally important as their presence in the US reaches 20 million with 8% of the total population self-identifying as lesbian, gay, bisexual, and transgender (Powell, 2021). The recent history of LGBTQ+ people in the US being pathologized and subject to harmfully ineffective treatments such as conversion therapy further warrants the development of literature regarding their experiences with trauma and therapeutic needs.

Findings from this feasibility study indicate that Puzzling Pictures is deemed highly acceptable by the sample population as factors such as suitability, utility, format, and discomfort were assessed with positive results. In addition, participants' attitudes towards, the desire to continue, and the likelihood of recommending Puzzling Pictures were all overwhelmingly positive as well. Findings suggest that when used with participants with ACE scores equal to or below five, minimal distress was caused and no obstructive reactions occurred. Future research

must consider if this intervention would be feasible and effective in participants with ACE scores higher than five.

Traumatic stress symptoms were effectively reduced at significant levels when comparing the participants' pre-test results to their post-test results. However, changes in other indicators of PTS were unclear in the current iteration of this intervention study due to the limited sample size depicting trends congruent with intended outcomes but not statistically significant.

Overarchingly, future research regarding this intervention should employ an experimental design to understand the actual effectiveness of collage trauma reprocessing in a group setting rather than mere feasibility.

Implications for research could explore unaddressed questions such as the feasibility of this intervention in other locations that may not be as accessible to the population. On the other hand, this intervention could be adapted for virtual users to the wider LGBTQ+ emerging adult community. Does the intervention reduce the discomfort of trauma reprocessing if it is not in-person and instead virtual? Another study could also address if the impacts on traumatic stress symptoms or the qualitative findings of employing art as a coping skill outside of the intervention would continue a month after receiving the intervention. Participants described being in a space with peers sharing their marginalized identity as very comforting, thus future studies could elucidate if the same intervention would be feasible in other marginalized populations such as the specific gender non-conforming population or racially minority populations.

### **Implications for Practice**

Despite being a preliminary version of the collage art trauma reprocessing group intervention, this study can provide insights into practicing therapeutic techniques and psychoeducation with the LGBTQ+ emerging adult population. Practitioners can understand that for the LGBTQ+ community, engaging in therapy within a group setting of other LGBTQ peers can reduce the client's anxiety as well as shame induced by internalized homophobia and transphobia. Furthermore, qualitative findings about this sample population can elucidate the common themes in clients' trauma narratives and coping methods. Since the population in this study was composed of LGBTQ+ emerging adults enrolled at OSU, practitioners working specifically with college-aged communities can consider these results as a valid representation of their client population.

Practitioners seeking to employ an art-based avenue of trauma reprocessing can also consider the use of this developed protocol for integrating and externalizing traumatic memories. The tools used in collage art therapy are incredibly accessible and therefore a helpful coping skill to recommend to clients. All that is necessary to utilize this intervention is paper, scissors, glue, and magazines or books. Regardless of the client's sexual and gender identity, if a practitioner is aware of their client's propensity to be creative, they can suggest the use of collage art to process a traumatic memory, unravel a destructive core belief, or merely cope with life stressors.

When employing Puzzling Pictures, protocol alterations could be made in the reflection of this study's findings. Difficulties in emotional regulation are one of the defining indicators of unprocessed childhood trauma (Williams, 2018). The intervention was not successful in significantly impacting emotional regulation on a statistical level, therefore future research might consider altering the protocol to include more psychoeducation about this topic or utilize a different measure of emotional regulation. The coping skills of participants after receiving the

interventions saw an increase in problem-focused coping methods but no significant change was seen in emotion-focused or avoidant coping. This could imply that future research on this intervention must include psychoeducation about emotional regulation as well as increasing awareness of avoidant coping mechanisms.

### **Recommendations**

Future iterations of this feasibility study could include an additional session to provide time for participants who may need more to spend on their collages and generally more time to reflect on their trauma narratives. Furthermore, a more general location such as the public library could increase transportation accessibility. Although this intervention was designed to be specifically culturally responsive to the needs of the LGBTQ+ population, Puzzling Pictures could be a feasible alternative form of trauma reprocessing therapy for a variety of different clients. People with limitations whether that be due to disability or lower economic resources can benefit from the accessible tools and techniques of collaging to dive deeper into various therapeutic topics besides complex trauma.

## References

- Arnett, J. J. (2018). Conceptual foundations of emerging adulthood. In J. L. Murray & J. J. Arnett (Eds.), *Emerging Adulthood and Higher Education* (1st ed., pp. 11–24). Routledge. <https://doi.org/10.4324/9781315623405-2>
- Barnes, L. L. B., Harp, D., & Jung, W. S. (2002). Reliability generalization of scores on the spielberger state-trait anxiety inventory. *Educational and Psychological Measurement*, 62(4), 603–618. <https://doi.org/10.1177/0013164402062004005>
- Berntsen, D., & Rubin, D. C. (2006). The centrality of event scale: A measure of integrating a trauma into one's identity and its relation to post-traumatic stress disorder symptoms. *Behaviour Research and Therapy*, 44(2), 219–231. <https://doi.org/10.1016/j.brat.2005.01.009>
- Carver, C. S. (1997). You want to measure coping but your protocol' too long: Consider the brief cope. *International Journal of Behavioral Medicine*, 4(1), 92–100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Craig, S. L., Austin, A., Levenson, J., Leung, V. W. Y., Eaton, A. D., & D'Souza, S. A. (2020). Frequencies and patterns of adverse childhood events in LGBTQ+ youth. *Child Abuse & Neglect*, 107, 104623. <https://doi.org/10.1016/j.chiabu.2020.104623>



- Drescher, J., Schwartz, A., Casoy, F., McIntosh, C. A., Hurley, B., Ashley, K., Barber, M., Goldenberg, D., Herbert, S. E., Lothwell, L. E., Mattson, M. R., McAfee, S. G., Pula, J., Rosario, V., & Tompkins, D. A. (2016). The growing regulation of conversion therapy. *Journal of Medical Regulation, 102*(2), 7–12.  
<https://doi.org/10.30770/2572-1852-102.2.7>
- Hallion, L. S., Steinman, S. A., Tolin, D. F., & Diefenbach, G. J. (2018). Psychometric properties of the difficulties in emotion regulation scale (DERS) and its short forms in adults with emotional disorders. *Frontiers in Psychology, 9*, 539.  
<https://doi.org/10.3389/fpsyg.2018.00539>
- Keating, L., & Muller, R. T. (2020). LGBTQ+ based discrimination is associated with PTSD symptoms, dissociation, emotion dysregulation, and attachment insecurity among LGBTQ+ adults who have experienced Trauma. *Journal of Trauma & Dissociation, 21*(1), 124–141. <https://doi.org/10.1080/15299732.2019.1675222>
- Kelly, J., Davis, C., & Schlesinger, C. (2015). Substance use by same sex attracted young people: Prevalence, perceptions and homophobia: Substance use by same sex attracted youth. *Drug and Alcohol Review, 34*(4), 358–365. <https://doi.org/10.1111/dar.12158>
- Kimbrough, L. (2020). *Art therapy treatment model for rural lgbtq+ emerging adults*.  
<https://scholarworks.iupui.edu/handle/1805/23862>
- LeBeau, R., Mischel, E., Resnick, H., Kilpatrick, D., Friedman, M., & Craske, M. (2014). Dimensional assessment of posttraumatic stress disorder in DSM-5. *Psychiatry Research, 218*(1–2), 143–147. <https://doi.org/10.1016/j.psychres.2014.03.032>

- Lytle, M. C., De Luca, S. M., & Blosnich, J. R. (2014). The influence of intersecting identities on self-harm, suicidal behaviors, and depression among lesbian, gay, and bisexual individuals. *Suicide and Life-Threatening Behavior, 44*(4), 384–391.  
<https://doi.org/10.1111/sltb.12083>
- Parmenter, J. G., Galliher, R. V., & Maughan, A. D. A. (2021). LGBTQ+ emerging adults perceptions of discrimination and exclusion within the LGBTQ+ community. *Psychology & Sexuality, 12*(4), 289–304.  
<https://doi.org/10.1080/19419899.2020.1716056>
- Powell, L. (2021, December 9). *We are here: At least 20 million lgbtq+ adults in U. S.* Human Rights Campaign.  
<https://www.hrc.org/press-releases/we-are-here-lgbtq-adult-population-in-united-states-reaches-at-least-20-million-according-to-human-rights-campaign-foundation-report>
- Scheer, J. R., & Poteat, V. P. (2021). Trauma-informed care and health among lgbtq intimate partner violence survivors. *Journal of Interpersonal Violence, 36*(13–14), 6670–6692.  
<https://doi.org/10.1177/0886260518820688>
- Schouten, K. A., Van Hooren, S., Knipscheer, J. W., Kleber, R. J., & Hutschemaekers, G. J. M. (2019). Trauma-focused art therapy in the treatment of posttraumatic stress disorder: A pilot study. *Journal of Trauma & Dissociation, 20*(1), 114–130.  
<https://doi.org/10.1080/15299732.2018.1502712>
- Sidani, S., Epstein, D. R., & Fox, M. (2017). Psychometric evaluation of a

multi-dimensional measure of satisfaction with behavioral interventions. *Research in Nursing & Health*, 40(5), 459–469. <https://doi.org/10.1002/nur.21808>

Talwar, S. (2007). Accessing traumatic memory through art making: An art therapy trauma protocol (Atp). *The Arts in Psychotherapy*, 34(1), 22–35.

<https://doi.org/10.1016/j.aip.2006.09.001>

Tripp, T. (2021). A body-based bilateral art protocol for reprocessing trauma. In J. L. King, *Art Therapy, Trauma, and Neuroscience* (1st ed., pp. 173–194). Routledge.

<https://doi.org/10.4324/9781003196242-8>

Tripp, T., Potash, J. S., & Brancheau, D. (2019). Safe Place collage protocol: Art making for managing traumatic stress. *Journal of Trauma & Dissociation*, 20(5), 511–525.

<https://doi.org/10.1080/15299732.2019.1597813>

Williams, P. R. (2018). Onebird: Integrating mindfulness, self-compassion, and art therapy(ONEBird : intégration de la pleine conscience, de l'autocompassion et de l'art-thérapie). *Canadian Art Therapy Association Journal*, 31(1), 23–32.

<https://doi.org/10.1080/08322473.2018.1454687>

## Appendix A

### Pre/post-interview Questions

Below are the listed open-ended questions asked by the interviewer during a 30-minute recorded Zoom call for the respective pre/post interviews.

#### Pre-intervention:

1. Please share their experiences with trauma in narrative form.
2. Describe some ways in which you cope with instances of traumatic stress.
3. Describe your history with mental health treatment.
4. Describe the core beliefs that guide your self-image. (if the participant needs clarification list the following examples of core beliefs: I am not good enough/I am capable and competent, I am worthless/I am worthy, people are untrustworthy, the world is dangerous/I need to protect myself.)

#### Post-Intervention:

1. Please share your experiences with the collage art group therapy intervention for trauma reprocessing.
2. Think back to what you first shared with me about your history of trauma. Describe any shifts that occurred in your trauma narrative during the course of this intervention.
3. Did you develop any new core beliefs? If so, please describe them.