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Effectiveness of Mindful Colouring Practices in Reducing Performance Anxiety among Trainee Counselors

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Abstract

This study aimed to investigate the effectiveness of Mindful Colouring Practices in reducing performance anxiety among trainee counselors at Yarmouk University in Jordan. The sample consisted of 30 trainee counselors, and a quasi-experimental design was employed to assess the effectiveness of the therapeutic intervention program. The pre-test and post-test evaluations were conducted for both the control group and the experimental group using the Performance Anxiety Scale, which was developed for trainee counselors for the purposes of this study. The results indicated the significant effectiveness of the designed program in reducing performance anxiety levels among the experimental group compared to the control group. This was reflected in the overall anxiety scale as well as in its specific domains: psychological and emotional, cognitive, and physical. Additionally, the results showed no statistically significant differences attributable to gender effects on the total scale or any of the domains, except for the psychological and emotional domain, where differences favored females. Furthermore, no statistically significant differences were found based on academic year in relation to the total scale or in any of the domains, except for the cognitive domain, where third-year students exhibited better results. The study also revealed that no statistically significant differences were attributable to interaction effects between the group and academic year, gender and academic year, or the interaction of group, academic year, and gender. This study highlights the potential of Mindful Colouring Practices as an effective tool for reducing performance anxiety among trainee counselors. The findings suggest that this therapeutic intervention could be a useful addition to counselor training programs.

INTRODUCTION

Expressive arts therapy is a healing journey that invites people to explore their inner world through creative forms like movement, drawing, sculpture, music, writing, sound, and improvisation-all within a safe and supportive space. Rather than focusing on creating polished or aesthetically pleasing works, this approach emphasizes emotional expression and personal discovery. It's a hands-on, sensory experience that helps individuals tap into deep feelings and unlock new ways of understanding themselves. By moving between different artistic mediums, people can access and strengthen their creativity in powerful and often unexpected ways

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(Malchiodi, 2022; Smriti et al., 2022). In creative supervision, various expressive arts methods are used, including storytelling, role-playing, guided imagery, imaginative dialogues, letter writing, and mandala drawing and coloring. These techniques serve to enrich theoretical knowledge and improve understanding of therapeutic and supportive processes (Schuck & Wood, 2011).

Art therapy has proven to be a powerful tool in managing anxiety, as it allows individuals to externalize and process their inner turmoil in a safe and creative way. By transforming chaotic thoughts and emotions into structured artistic expression, it fosters a sense of order, calm, and emotional relief (Bosman et al., 2021; Ninef et al., 2024; Zhang et al., 2024). It is a standalone treatment and an integral part of therapeutic programs for those suffering from anxiety disorders. Beyond art therapy, there are extensive applications of the arts in therapeutic contexts, particularly the use of mandala drawing and coloring (Jakobsson & Jakobsson, 2022). Colored mandalas have been shown to reduce anxiety in both children and adults (Small, 2006). Mandala coloring is a calming practice that blends artistic expression with meditative focus, offering a soothing escape from overwhelming thoughts and emotions. Mandalas often feature geometric and organic shapes and may also include personally meaningful images. They are typically created from a central point, radiating outward with symbols and patterns, with the circular form symbolizing wholeness and healing (Curry & Kasser, 2005; Jackson et al., 2008).

Al-Sharifain (2011) also indicated that studying performance anxiety among trainee counselors is highly significant, as it can impact the level of utilization of counseling skills and techniques during counseling sessions. The lack of training among trainee counselors leads to a weakness in the technical roles and counseling services they provide to their clients (Alshareef & Bader, 2024). Counselor trainees' anxiety during counseling sessions is classified into two levels: the personal level, which relates to concerns about whether the trainee counselor is good enough (i.e., striving for perfection), and excessive attention to this aspect can cause numerous mistakes, including affecting the working alliance with clients and the fear of not being able to control the counseling session (self-doubt; Corey, 2009). Lack of knowledge regarding what to do during counseling sessions is one of the most common sources of anxiety (Yu et al., 2018). This type of anxiety leads to difficulties in tolerating ambiguity for trainee counselors as well as concerns about negative evaluation (Corey, 2009). The fear of negative evaluation is negatively correlated with counselor trainees' self-efficacy in managing the session, affecting client satisfaction with the treatment (Yu et al., 2018). The second level of anxiety pertains to professional concerns, including fears about building a counseling relationship with clients (Hill et al., 2007) and concerns about competence in using advanced counseling skills (Gazzola & Thériault, 2006). Common sources of anxiety in this regard include handling difficult client issues and managing crises (Rodolfa et al., 1988), as well as the trainee counselor's fear of not being able to process clients' deep thoughts and feelings (Teyber, 2006). Performance anxiety is fundamentally linked to self-efficacy among trainee counselors (Bandura, 1977). High levels of anxiety undermine the trainee counselor's self-efficacy, thereby hindering their relationship with clients, which ultimately affects the quality of therapy and services provided (Tasi, 2015). Noor et al. (2017) highlighted that mandala coloring can serve as an effective therapeutic intervention to reduce anxiety in students.

Mandalas can be used individually or in groups in several ways. One method is guiding the client to draw a mandala on a circular piece of paper. As individuals draw mandalas, they become more aware of their thoughts and feelings (Jackson et al., 2008), leading to increased mindfulness and meditative states (Bertisch et al., 2009). Another approach involves coloring pre-drawn mandalas. The core idea behind mandala coloring therapy is that individuals color intricate geometric shapes. Engaging in this activity helps diminish the flow of negative thoughts and emotions that may overwhelm individuals. Coloring the symmetrical shapes of the mandala with their repetitive patterns and complexity draws individuals into a state akin to

meditation. It is also an effective tool for reducing anxiety, combining elements of art therapy (coloring a shape) and meditation (deep focus on a calming experience) (Curry & Kasser, 2005). Mandala coloring aids in emotional self-regulation (Small, 2006). Often, coloring mandalas is the best way to handle emotional issues. Using mandalas in supervisory counseling helps trainees direct their attention inward and detach from external distractions (Nucho, 1987; Aasheim, 2012). Mandalas assist trainees in discovering where their energies are blocked, where resistance lies, and in identifying patterns or roles that are stuck, fostering internal intelligence (Graham et al., 2014). Supervisors can help trainees recognize personal dynamics and those of their clients by using pre-drawn mandalas for coloring (Curry & Kasser, 2005). Colored mandalas have been shown to reduce anxiety in both children and adults (Small, 2006). A study by Sandmire et al. (2012) investigated the ability of mandalas to reduce anxiety in university students and found that mandalas do indeed have a significant effect on anxiety reduction. Mandala coloring acts as a self-regulation tool that helps reduce anxiety (Small, 2006).

Among the theories explaining the mandala is the Person-Centered Therapy Theory. Rogers' theory supports the use of creative artistic interventions, viewing them as a means for individuals to search for personal meaning and identify internal strengths that can lead to growth and change (Rogers, 1993). According to Person-Centered Therapy, mandalas allow individuals to express their thoughts and emotions, which helps the counselor understand the unique world of the client. Creative mandalas emphasize the role of the client as an expert by allowing them to choose their methods of self-expression, thus gaining a sense of direction and evaluating subsequent steps in their therapeutic process (Malchiodi, 2003).

In Gestalt psychology, the mandala is viewed as a symbol of the unity of the self and the integration of its various aspects. When contemplating a mandala, the prominence of visual elements against the background becomes apparent, reflecting how individuals perceive the world around them. The mandala is characterized by balance and symmetry, aligning with a fundamental Gestalt principle that emphasizes individuals' pursuit of psychological equilibrium. Additionally, its use as a therapeutic tool helps enhance self-awareness and focus on the present moment, in harmony with the Gestalt concept of self-perception and direct experience. According to this theory, a person cannot be understood solely through their individual parts but rather through their relationship with the whole. The mandala embodies this concept clearly, as its interconnected elements form a cohesive and meaningful image (de Oliveira Mendonça, 2017). Gestalt Theory suggests that drawing a circle, such as in a mandala, enhances the individual's self-awareness. Through expressing their experiences with colors and shapes, individuals gain insight into their present selves. Mandalas thus serve as a tool for people to nonverbally express both their past and present experiences. When creating their own mandalas, the shapes drawn reflect the person's current state or a phase of early life (Fincher, 2000). This process allows the individual to achieve greater integration and find internal balance through insights into their true self. Gestalt Theory also suggests that mandalas can act as coping skills to restore balance after experiencing stress. Within this theory, the mandala represents the individual's full sense of self and the experiences that shape it (Malchiodi, 2003; Fincher, 2000).

Despite the growing body of research on the therapeutic value of mandala coloring in alleviating anxiety, much of the existing literature has focused on general anxiety among students rather than anxiety specifically tied to performance contexts. Studies such as those by Jakobsson and Jakobsson (2022), Duong et al. (2018), Noor et al. (2017), and Curry and Kasser (2005) have provided valuable insights into the benefits of mandala practices for reducing stress and enhancing mindfulness. However, these studies do not address the particular challenges faced by trainee counselors, whose anxiety is closely linked to performance demands, self-efficacy, and professional identity formation during sessions with clients. Performance anxiety

in this population involves complex psychological, emotional, cognitive, and physical components that can hinder the development of effective counseling skills and client relationships. Given the lack of research targeting this specific type of anxiety within the counselor training context, it becomes essential to investigate the potential of mandala-based interventions in supporting trainee counselors. The central research question remains: Can mindful mandala coloring practices effectively reduce performance anxiety among trainee counselors? Addressing this gap is critical for informing the design of supportive therapeutic tools within counselor education programs and for promoting emotional resilience in future practitioners.

Aim and Hypotheses

The current study aims to examine the effectiveness of mindful coloring practices in reducing performance anxiety among trainee counselors-a dimension yet to be thoroughly explored in the literature. In addition, this study testing hypotheses (H) as follows: there are no statistically significant differences at the ($\alpha = 0.05$) level between the mean scores on each domain of the performance anxiety scale among trainee counselors attributed to the supervisory program, gender, academic level, and their interaction (H1) and there are no statistically significant differences at the ($\alpha = 0.05$) level between the mean scores on the overall performance anxiety scale for trainee counselors attributed to the supervisory program, gender, academic level, and their interaction (H2). This study could provide valuable insights into how creative therapeutic techniques like mandala coloring can be integrated into training and supervision to support the emotional well-being of trainee counselors, thereby enhancing their professional performance.

METHODS

Design

The study employed a quasi-experimental design to evaluate the effectiveness of the supervisory program in reducing performance anxiety among trainee counselors. The design included two groups: an experimental group that participated in the intervention program incorporating mandala coloring as a creative therapeutic technique, and a control group that did not receive this intervention. A pre- and post-evaluation was conducted for both the control group and the experimental group to evaluate the effectiveness of mandala coloringThe Performance Anxiety Scale was utilized to assess anxiety levels among participants. This scale was developed to target psychological and emotional, cognitive, and physical dimensions of performance anxiety. Participants in the experimental group engaged in structured supervisory sessions integrating mandala coloring. Pre- and post-assessments using the scale were conducted to measure the intervention's impact.

Participants

The population of this study included all undergraduate students enrolled in the practicum course at Yarmouk University during the first semester of the academic year 2024. An initial sample of 105 students was selected using a convenience sampling method. To determine the final participants, the Performance Anxiety Scale was administered to all 105 students. Those who scored 70% or higher on the scale were considered eligible for inclusion, resulting in 30 participants. These students also confirmed their willingness to take part in the study. The 30 participants were then randomly assigned into two groups: the experimental group and the control group, with each group comprising 15 participants. This approach ensured that the study focused on students with elevated levels of performance anxiety, providing a targeted assessment of the intervention's efficacy. The precise random assignment further enhanced the

reliability of the comparisons between the experimental and control groups. Figure 1 shows the procedures for selecting the study sample.

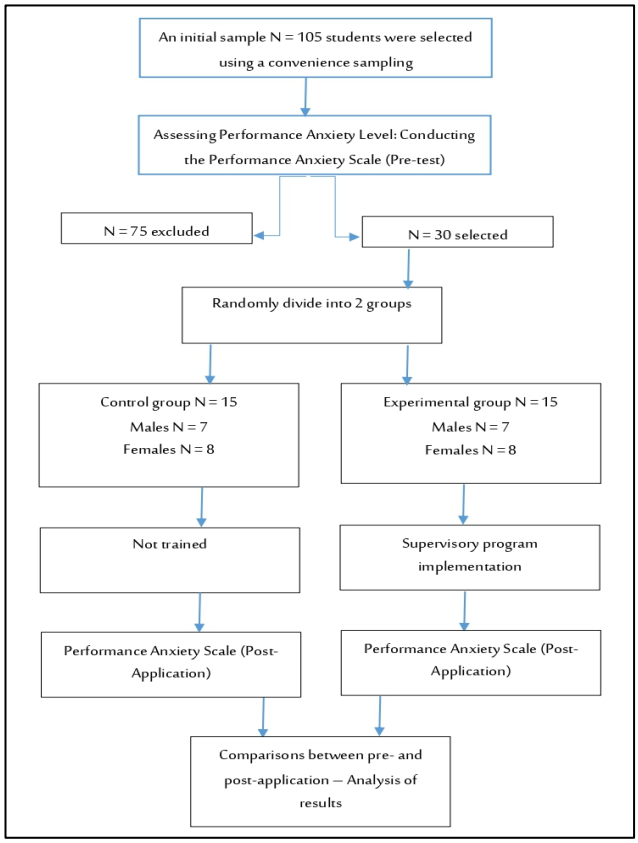

Figure 1. Sample selection procedures

Ethical Considerations

Ethical considerations for this study included ensuring that participants were fully informed about the purpose, procedures, and potential risks of the research. Participation was entirely voluntary, with all participants providing informed consent before joining the study. The confidentiality and anonymity of participants were maintained throughout the process, and no identifying information was shared. Additionally, participants were informed of their right to withdraw from the study at any time without any negative consequences. The intervention was designed to minimize any potential harm, ensuring a safe and supportive environment for all involved. All data collected was used solely for research purposes, respecting participants' rights and maintaining ethical standards.

Data Collection

Data collection in this study involved the use of the Performance Anxiety Scale for Trainee Counselors, which was administered to participants both before and after the implementation of the intervention program based on Mandala coloring. The scale measures anxiety across three dimensions: psychological and emotional, cognitive, and physical. To analyze the data, statistical methods were employed to compare the differences in the mean performance anxiety scores of the participants. Specifically, the study aimed to examine the effects of the program in relation to factors such as gender, academic level, and the interaction between these variables. The results were analyzed using appropriate statistical tests to determine if there were any significant differences in the anxiety levels of the trainees based on these factors before and after the program was applied.

To assess the level of performance anxiety among trainee counselors, the researchers used Al-Sharifin Performance Anxiety Scale (2011). This tool was chosen for its suitability to the study's objectives and sample. The scale consists of 40 items, divided into three dimensions: psychological and emotional (21 items), cognitive (8 items), and physical (11 items). Al-Sharifin (2011) calculated the validity and reliability of the scale and indicated that the scale has good psychometric properties. Validity and Reliability of the Scale in the Current Study: The correlations between the items and the total scale ranged from 0.54 to 0.94, and between the items and their respective dimensions ranged from 0.56 to 0.96. It should be noted that all correlation coefficients were statistically significant and acceptable. Therefore, none of the items were omitted. Reliability of the Performance Anxiety Scale: The results revealed the following: for the emotional and psychological domain, the test-retest reliability was 0.82, and internal consistency was 0.72; for the cognitive domain, test-retest reliability was 0.83, with internal consistency of 0.79; for the physical domain, test-retest reliability was 0.85, and internal consistency was 0.80; and for the overall performance anxiety measure, test-retest reliability was 0.89, with internal consistency of 0.84. These values were considered suitable for the purposes of this study.

Data analysis

To analyze the data, statistical methods were employed to compare the differences in the mean performance anxiety scores of the participants. Specifically, the study aimed to examine the effects of the program in relation to factors such as gender, academic level, and the interaction between these variables. The results were analyzed using appropriate statistical tests to determine if there were any significant differences in the anxiety levels of the trainees based on these factors before and after the program was applied. To test first hypothesis, the means and standard deviations for the domains of the Performance Anxiety Scale were calculated in the post-test, according to the variables of group, gender, and academic level. Multivariate analysis of variance (MANOVA) was applied to calculate differences between variables. To verify second hypothesis, the means and standard deviations of the trainee counselors' scores on the overall Performance Anxiety Scale in the post-test were calculated according to the variables of group, gender, and academic level, to determine the differences between variablesa three-way analysis of variance (ANOVA) was conducted for the post-test scores of the overall Performance Anxiety Scale based on group, gender, and academic level.

Intervention package: Guidance Program Based on Mandala Coloring

A guidance program based on mandala coloring was developed to reduce performance anxiety among trainee counselors. To achieve this, the researchers selected a set of mandala designs believed to help alleviate stress and anxiety. The program consisted of 12 sessions, with each session lasting 90 minutes, held twice a week. Program Preparation Procedures: The program was constructed following a review of relevant theoretical literature related to the study topic, as well as a review of guidance programs that utilized mandalas (Duong et al., 2018; Noor et al., 2017; Jakobsson & Jakobsson, 2022).

Program Validity: To ensure content validity and the program's suitability for the study sample, it was reviewed by a panel of six experts in psychological counseling from Jordanian universities. Their feedback enriched the program, making the exercises and activities more aligned with the study's objectives. Major revisions included rearranging the sessions in a logical sequence and rephrasing some of the content. The researchers incorporated all suggested changes to improve the program. The final version of the program consisted of 12 sessions, each lasting 90 minutes and delivered twice a week. Table 1shows brief outline of the sessions.

Table 1. Brief outline of the sessions

Session	Delivery	Activity	Objective
Getting Acquainted and Relationship Building	Dialogue and discussion	Icebreaker activities Interactive introductory activities among participants	Getting acquainted and building rapport between the leader and group members. Building trust and a counseling relationship among participants. Clarifying the nature and goals of the program and discussing participants' expectations from it.
Concepts of Anxiety and Performance Anxiety	Brainstorming Dialogue and discussion Asking questions	Theoretical explanation of the concepts of anxiety and performance anxiety Interactive question-and-answer activities	Understanding the general concept of anxiety. Understanding the concept of performance anxiety. Increasing awareness of the nature and causes of performance anxiety. Discussing the negative effects of performance anxiety.
Positive Effects of Creative Arts	Interactive presentation and coloring	Discussing the impact of arts, especially coloring, in reducing anxiety	Understanding the impact of creative arts on mental health. Recognizing the role of creative arts in supporting mindfulness and mental focus. Highlighting arts as a means of supporting personal growth and self-expression.
Assessing Anxiety Levels	Written psychological test Self-reflection	Administering a scale to measure anxiety levels among participants Writing a self-assessment report	Analyzing the factors contributing to performance anxiety among members. Understanding counselors' strategies for dealing with performance anxiety. Identifying initial levels of anxiety.
Evaluating Participants' Beliefs About the Effectiveness of Coloring	Self-reflection Discussion	Exploring participants' opinions about mandala coloring	Understanding members' beliefs about coloring as a tool for emotional expression. Analyzing participants' perceptions of coloring in enhancing focus and mental calmness. Examining the extent to which members recognize coloring as a tool for self-development and personal creativity.
Helping Participants Express Their Emotions Reflecting on a Stressful Event and Writing About It in Detail	Group coloring and sharing	Using coloring as a means of emotional expression	Enabling members to recognize and clearly express their emotions. Developing members' emotional communication skills. Helping members understand the importance of emotional expression.
Reducing Performance Anxiety – Part 1	Guided coloring and relaxation exercises	Coloring mandala designs designed to reduce stress	Enhancing members' ability to use mandala as a tool for meditation and focus. Boosting members' self-confidence through creativity in using mandala.
Reflecting on a stressful event and writing about it in detail.	Individual reflective writing	Describing a stressful situation the participant has experienced	Processing stressful situations through writing.
Reducing Performance Anxiety – Part 2	Individual coloring and discussion	Coloring and designing personalized mandala models for participants	Enhancing members' ability to manage performance anxiety through artistic creativity. Developing integrated therapeutic approaches that combine mandala with other techniques to reduce performance anxiety.
Reducing Performance Anxiety – Part 3	Group coloring and sharing experiences	Joint coloring and discussing the psychological impact	Enabling participants to integrate mandala into their daily professional practice. Preparing members to teach mandala as a therapeutic tool to their clients. Gradually reducing stress.
Exploring Participants' Emotions	Individual and group dialogue	Discussing the emotions that emerged during the sessions	Analyzing the impact of mandala on members' feelings of creativity and self-expression.
Reassessing Participants' Anxiety Levels	Discussion and individual and group dialogue	Administering the performance anxiety scale.	Measuring the impact of mandala practices in reducing performance anxiety among participants.

RESULTS AND DISCUSSION

Results

To verify the equivalence of the groups, the means and standard deviations of the trainee counselors' scores on the pre-performance anxiety scale were calculated based on the group variable (experimental, control). To determine whether there were statistically significant differences between the means, an independent t-test was conducted. The results indicated that there were no statistically significant differences at the significance level ($\alpha = 0.05$) attributable to the group variable across all dimensions and the overall score of the pre-performance anxiety scale. This outcome confirms the equivalence of the groups. Table 2 presents the means, standard deviations, and T-test results according to the group variable on the dimensions and the total score of trainee counselors on the Performance Anxiety Scale.

Table 2. Verification of Group Equivalence (n = 15)

Dimension	Group	Arithmetic mean	Standard deviation	value "T"	Degrees of freedom	statistical significance
Psychological and emotional/Pre	Experimental	3.85	.317	-	28	.266
	control	3.99	.370	1.135		
Cognitive / Pre	Experimental	3.69	.493	.489	28	.629
	control	3.60	.533			
physical / Pre	Experimental	3.70	.350	.922	28	.365
	control	3.56	.470			
The scale as a whole	Experimental	11.24	.211	-.210	28	.835
	control	11.15	.265			

To test the first hypothesis, the means and standard deviations were calculated for the two study groups in the post-application of the Performance Anxiety Scale, for each dimension of the scale. The analysis was conducted based on the study variables: group (experimental/control), gender (male/female), and academic level (third year/fourth year), Then, a Multivariate Analysis of Variance (MANOVA) was conducted to determine whether there were differences attributable to group, gender, and educational level variables. Tables 3 and 4 present the results related to the first hypothesis.

The results from Table 4 reveal statistically significant differences at the ($\alpha \leq 0.05$) level regarding the effect of the group across all domains, favoring the experimental group who underwent the supervisory program compared to the control group. The effect sizes for the domains ranged from 57.5% to 87.1%, which is considered large. Additionally, the table shows no statistically significant differences ($\alpha = 0.05$) related to the effect of gender across all domains, except for the psychological and emotional domain, where the differences favored females. Furthermore, there were no statistically significant differences ($\alpha = 0.05$) due to the effect of academic level in all domains, except for the cognitive domain, where the differences favored third-year students. The table also indicates no statistically significant differences ($\alpha = 0.05$) resulting from the interaction between group and gender, group and academic level, gender and academic level, or the three-way interaction between group, academic level, and gender across any domain.

To verify the second hypothesis, the means and standard deviations of the trainee counselors' scores on the overall Performance Anxiety Scale in the post-test were calculated based on the variables of group, gender, and academic level. Then, a three-way analysis of variance (ANOVA) was conducted to determine whether there were differences attributable to the variables of group, gender, and academic level for the scale as a whole. Tables 5 and 6 present the results related to the second hypothesis.

Table 3. Means and Standard Deviations of the Post-test of the Performance Anxiety Scale According to Study Variables (Group, Gender, Academic Level).

Dimension	Group	Gender	Academic Level	Mean	Standard Deviation
Psychological and emotional / post	Experimental group	Male	Third year	2.81	.218
			Fourth year	2.54	.302
			Total	2.65	.288
		Female	Third year	2.32	.180
			Fourth year	2.35	.279
			Total	2.34	.233
		Total	Third year	2.56	.324
			Fourth year	2.43	.287
			Total	2.49	.298
	Control group	Male	Third year	4.01	.552
			Fourth year	4.27	.302
			Total	4.12	.449
		Female	Third year	4.00	.243
			Fourth year	3.84	.440
			Total	3.94	.309
		Total	Third year	4.01	.379
			Fourth year	4.06	.411
			Total	4.03	.378
Cognitive / Post	Experimental group	Male	Third year	2.46	.144
			Fourth year	2.56	.515
			Total	2.52	.378
		Female	Third year	2.54	.144
			Fourth year	2.70	.429
			Total	2.64	.344
		Total	Third year	2.50	.137
			Fourth year	2.64	.444
			Total	2.58	.352
	Control group	Male	Third year	3.63	.468
			Fourth year	4.08	.382
			Total	3.82	.467
		Female	Third year	3.65	.555
			Fourth year	4.38	.331
			Total	3.92	.590
		Total	Third year	3.64	.486
			Fourth year	4.23	.357
			Total	3.88	.520
Physical / Post	Experimental group	Male	Third year	3.12	.458
			Fourth year	2.82	.731
			Total	2.95	.603
		Female	Third year	2.73	.396
			Fourth year	2.75	.447
			Total	2.74	.399
		Total	Third year	2.92	.439
			Fourth year	2.78	.549
			Total	2.84	.497
	Control group	Male	Third year	3.75	.388
			Fourth year	3.94	.105
			Total	3.83	.299
		Female	Third year	3.67	.405
			Fourth year	3.73	.328
			Total	3.69	.354
		Total	Third year	3.71	.374
			Fourth year	3.83	.247
			Total	3.76	.325

Multivariate Analysis of Variance (MANOVA) was conducted to determine whether there were differences attributable to group, gender, and educational level variables, as shown in Table 4.

Table 4. Results of the Multivariate Analysis of Variance for the Effect of Group, Gender, Academic Level, and Their Interaction on the Domains of the Performance Anxiety Scale

Source of variance	Dimension	sum of squares	degree of freedom	mean sum of squares	F	probability of error	η2
group	Psychological and emotional / post	16.705	1	16.705	149.138	.000	.871
Hotelling=16.014	Cognitive / post	13.402	1	13.402	73.421	.000	.769
H=.000	Physical / post	6.055	1	6.055	29.733	.000	.575
Gender	Psychological and emotional / post	.558	1	.558	4.978	.036	.185
Hotelling=.322	Cognitive / post	.129	1	.129	.709	.409	.031
H=.127	Physical / post	.256	1	.256	1.257	.274	.054
Academic level	Psychological and emotional / post	.009	1	.009	.078	.783	.004
Hotelling=.236	Cognitive / post	.936	1	.936	5.128	.034	.189
H=.227	Physical / post	.001	1	.001	.004	.952	.000
Group * Gender	Psychological and emotional / post	.025	1	.025	.221	.643	.010
Wilkes=.981	Cognitive / post	.004	1	.004	.023	.882	.001
H=.944	Physical / post	.014	1	.014	.069	.795	.003
Group * Academic level	Psychological and emotional / post	.051	1	.051	.457	.506	.020
Wilkes=.839	Cognitive / post	.380	1	.380	2.080	.163	.086
H=.310	Physical / post	.125	1	.125	.615	.441	.027
Gender * Academic level	Psychological and emotional / post	.005	1	.005	.047	.831	.002
Wilkes=.984	Cognitive / post	.046	1	.046	.253	.620	.011
H=.956	Physical / post	.016	1	.016	.076	.785	.003
Group * Academic level * Gender	Psychological and emotional / post	.236	1	.236	2.104	.161	.087
Wilkes=.884	Cognitive / post	.020	1	.020	.111	.742	.005
H=.472	Physical / post	.093	1	.093	.457	.506	.020
Error	Psychological and emotional / post	2.464	22	.112			
	Cognitive / post	4.016	22	.183			
	Physical / post	4.480	22	.204			
Corrected total	Psychological and emotional / post	21.027	29				
	Cognitive / post	18.034	29				
	Physical / post	11.305	29				

Table 5. Means and Standard Deviations of the Post-Test Scores on the Overall Performance Anxiety Scale According to the Study Variables (Group, Gender, Academic Level).

Group	Gender	Academic Level	Mean	Standard Deviation
Experimental group	Male	Third year	2.83	.125
		Fourth year	2.62	.213
		Total	2.71	.200
	Female	Third year	2.48	.175
		Fourth year	2.53	.187
		Total	2.51	.172
	Total	Third year	2.65	.235
		Fourth year	2.57	.192
		Total	2.60	.206
Control group	Male	Third year	3.86	.202
		Fourth year	4.14	.204
		Total	3.98	.237
	Female	Third year	3.84	.181
		Fourth year	3.92	.292
		Total	3.87	.211
	Total	Third year	3.85	.178
		Fourth year	4.03	.257
		Total	3.92	.223

Three-way analysis of variance (ANOVA) was conducted for the post-test scores of the overall Performance Anxiety Scale based on group, gender, and academic level. As shown in Table (6).

Table 6. Results of the ANOVA for trainee counselors' post-test scores on the Performance Anxiety Scale according to group, gender, academic level, and the interaction between them

Source of variance	sum of squares	degrees of freedom	mean sum of squares	F value	Significance level	Eta square η2
Group	12.635	1	12.635	317.889	.000	.935
Gender	.211	1	.211	5.305	.031	.194
Academic Level	.019	1	.019	.472	.499	.021
Group * Gender	.016	1	.016	.412	.528	.018
Group * Academic level	.115	1	.115	2.897	.103	.116
Gender * Academic Level	.002	1	.002	.039	.845	.002
Group * Academic Level * Gender	.096	1	.096	2.423	.134	.099
Error	.874	22	.040			
Total	14.360	29				

From Table 6, it is clear that there are statistically significant differences at the significance level (α = 0.05) in the trainee counselors' scores on the Performance Anxiety Scale based on group. The F-value was (317.889), with a statistical significance of (0.000), which is statistically significant, indicating an effect of the group. The results favored the experimental group who participated in the guidance program, as compared to the control group.

It is also evident from Table 6 that the effect size of the training method was large. The eta squared (η^2) value explained (93.5%) of the variance in the dependent variable, which is the Performance Anxiety Scale. There were statistically significant differences (α = 0.05) attributed to gender, where the F-value was (5.305) with a statistical significance of (0.031), favoring females. However, no statistically significant differences were found (α = 0.05) for academic level, with an F-value of (0.472) and a statistical significance of (0.499). Additionally, no significant differences were found for the interaction between group and gender (F = 0.412, p = 0.528), group and academic level (F = 2.897, p = 0.103), gender and academic level (F =

0.039, p = 0.845), or the three-way interaction between group, gender, and academic level (F = 2.423, p = 0.134).

Discussion

The findings of this study indicate that the mindful colouring intervention-specifically through mandala designs-significantly reduced performance anxiety among trainee counselors in the experimental group across the overall anxiety scale and its subdomains (psychological-emotional, cognitive, and physical). To better understand these outcomes, it is essential to examine the underlying psychological mechanisms that may explain how and why mandala colouring produced such effects.

Mandala colouring engages participants in a structured, repetitive, and visually absorbing task that promotes focused attention and present-moment awareness-two core components of mindfulness practice. This shift in focus away from ruminative, anxious thoughts toward sensory engagement in colouring may disrupt the cycle of cognitive overthinking often linked with performance anxiety. Consistent with Curry and Kasser (2005) and Duong et al. (2018), this meditative focus enhances emotional regulation by activating parasympathetic nervous system responses associated with calmness and self-soothing.

Furthermore, mandala designs offer a non-verbal channel for emotional expression, allowing participants to externalize inner tensions safely and symbolically. According to expressive arts therapy theories, this kind of symbolic engagement fosters psychological release and internal organization, which are especially beneficial for individuals struggling with performance-related stress.

The circular and symmetrical nature of mandalas, often associated with balance and completeness, may also play a role in reinforcing feelings of control and inner harmony. As Gestalt theory posits, therapeutic insight emerges not from isolated variables (e.g., gender or academic level), but from the individual's holistic interaction with their environment. The act of colouring, as a multisensory experience, may thus support the integration of emotion and cognition, allowing the participant to "make sense" of their internal state and reduce anxiety across multiple domains.

Additionally, the act of creative engagement-especially in a supportive and non-judgmental context-may enhance self-efficacy, a key factor in reducing performance anxiety. This aligns with Rogers' humanistic perspective, which suggests that individuals, when placed in environments of psychological safety and unconditional positive regard, are more likely to thrive emotionally and self-regulate effectively (Rogers, 1993).

The absence of statistically significant gender differences in the overall scale mirrors the findings of Al-Sharifin (2011), suggesting that mandala colouring exerts a uniform effect across genders. However, the observed advantage for females in the psychological-emotional domain aligns with research showing that females may be more emotionally expressive and thus more receptive to affective interventions (Montagne et al., 2005; Sandmire et al., 2012). Their heightened emotional sensitivity might have amplified the therapeutic benefits of the colouring practice in that specific domain.

Regarding academic level, third-year students showed better outcomes in the cognitive domain, possibly due to their relative inexperience compared to fourth-year students. Lacking prior exposure to complex fieldwork, third-year students may have had more cognitive flexibility and less pre-existing anxiety, making them more responsive to the calming effects of mandala colouring. Moreover, their evolving relationship with supervisors may have contributed to a more receptive and adaptive mindset during the intervention, fostering improved outcomes.

Interestingly, no significant interaction effects were found between group, gender, and academic level. This uniformity may suggest that mandala colouring acts as a universal

therapeutic modality, producing benefits that transcend demographic variables. The immersive and personally meaningful nature of the activity likely made its therapeutic impact contingent more on individual perception and engagement than on fixed demographic traits. From a humanistic perspective, this supports the notion that individuals' capacity for growth and anxiety regulation stems from internal processes, not solely from external categorizations like gender or academic level.

Gestalt theory also supports this interpretation, emphasizing that psychological change arises from the experiential totality of the person-environment interaction. Thus, the act of mandala colouring, through its aesthetic, tactile, and symbolic features, may constitute a unifying therapeutic experience that promotes clarity, integration, and anxiety reduction regardless of participant background.

In summary, the observed reduction in performance anxiety can be understood through the lens of multiple psychological theories, including mindfulness-based mechanisms, emotional regulation, symbolic processing, and humanistic growth. These theoretical frameworks highlight the depth and multidimensionality of the mandala colouring experience, elevating it from a simple creative task to a meaningful therapeutic intervention.

Limitations and Future directions

While the present study yielded significant results regarding the effectiveness of mindful colouring practices in reducing performance anxiety among trainee counselors, several limitations unique to the research context should be acknowledged. First, the use of mandala-based colouring exercises may carry different symbolic meanings or emotional associations depending on cultural background. Given that the study was conducted with Jordanian participants, the emotional resonance and interpretive depth of the mandala designs may not generalize across other cultural or regional contexts. Second, participants may have held varying levels of interest, comfort, or engagement with artistic activities like colouring. For some, the act of mindful colouring might have been perceived as engaging and therapeutic, while others may have viewed it as unfamiliar or irrelevant. This variation in preference could have influenced the effectiveness of the intervention in subtle, unmeasured ways. Third, the sample consisted solely of third- and fourth-year trainee counselors from Yarmouk University, with a relatively small number (N=30). This limits the representativeness of the findings. Students from other academic years, institutions, or with different levels of clinical exposure might exhibit different levels or sources of performance anxiety. Fourth, although the study utilized a validated scale to assess performance anxiety, it did not include qualitative insights that might have revealed deeper emotional reactions to the intervention. Participant narratives or reflective journals could have enriched the interpretation of how and why mindful colouring impacted anxiety levels. Finally, despite the structured intervention, participants were not isolated from real-life academic, personal, or social stressors during the study. These external factors may have influenced their reported anxiety levels but were not controlled for in the study design.

Draw upon the limitations of the current study, future study should consider: First, involving visual or symbolic tools like mandalas should consider cultural interpretations and emotional resonance to ensure deeper participant engagement and therapeutic relevance. Second, combine quantitative measures with qualitative data-such as interviews or reflective writing-to capture participants lived experiences and personal responses to the intervention. Third, offer varied expressive options (e.g., music, movement, journaling) alongside colouring to accommodate diverse learner preferences and enhance overall accessibility. Fourth, include a more diverse sample across academic years, institutions, and regions to enhance the generalizability of the findings. Fifth, supervisors should receive training on creative, evidence-based approaches for managing performance anxiety. They play a key role in fostering

emotionally safe and supportive learning environments. Finally, long-term studies are needed to assess the durability of anxiety reduction outcomes and explore how such interventions can be integrated into sustained supervision frameworks.

CONCLUSIONS

The study's findings confirm the effectiveness of the training program in reducing performance anxiety among trainee counselors, particularly for those in the experimental group. Significant improvements were observed across various domains, with gender differences showing a notable effect, particularly in the psychological and emotional areas, where females demonstrated greater improvements. Additionally, third-year students exhibited better performance in the cognitive domain, while other factors, such as academic level and gender interactions, showed limited impact.

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