



# Research Paper: Effectiveness of Mindfulness Group Training on Hope and Resilience of People With Gender Dysphoria



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## ABSTRACT

**Background:** Gender Dysphoria (GD) affects the personality, behavioral, cognitive, emotional, and metacognitive systems of individuals, and people with GD are more susceptible to psychological disorders.

**Objectives:** The current study aimed to investigate the effectiveness of mindfulness group training on the hope and resilience of people with GD.

**Materials & Methods:** This was a quasi-experimental study with a pre-test, post-test, and three-month follow-up design and a control group. The study population comprised all people with GD visiting the State Welfare Organization of Shiraz in 2020. The sample consisted of 30 people suffering from GD, selected by convenience sampling method. We randomly divided the participants into experimental and control groups (n=15 per group). The experimental group underwent eight sessions (90-minute sessions per week) of mindfulness group training. The research instruments included the Connor-Davidson Resilience Scale and Miller Hope Scale. Data analysis was performed using repeated measures ANOVA.

**Results:** The mean age of participants was 31.49±9.19 years and 47% were male. Participants in the mindfulness group training showed significant improvement in the scores of hope (P=0.04) and resilience (P=0.03) compared to the control group.

**Conclusion:** The findings indicated that mindfulness training using techniques such as mindful thoughts, emotions, and behavior can serve as an effective therapy to increase the level of hope and resilience in people with GD.

**Keywords:** Gender dysphoria, Hope, Mindfulness, Resilience

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## 1. Introduction

**G**ender Dysphoria (GD), previously known as gender identity disorder, is an extreme distress a person feels due to their dissatisfaction with their assigned sex at birth and the desire to be freed from their genitalia and live as a person from the opposite sex [1, 2]. GD starts from childhood and can cause negative consequences in adulthood. The gender identity of transgender people does not conform to the culture of society, leaving them in an uncertainty about their gender identity without a fixed gender [3]. In general, GD entails satisfaction with anatomical sex and the importunate desire for living as an individual from the opposite sex. Sex reassignment surgery is regarded as immigrating from a fake body. People with GD are more susceptible to psychological disorders and suffer from feelings of hopelessness and fear of the future [4, 5].

Hope is the ability to believe in experiencing better feelings in the future and stimulates the activity of individuals to gain new experiences and build up strengths [6]. Hope acts as a coping mechanism in humans and can be described as a multidimensional, dynamic, and strong healing factor with a crucial role in adjustment. Positive attitude and hopefulness embolden individuals to face their situation and increases their capacity to overcome problems [7]. GD leads to social isolation and family rejection for the individual, which in turn leads to internal conflicts and reduces hope in the person with GD [8].

People with GD who have higher resilience will experience less stress and a higher level of life satisfaction [9]. Resilience is the positive adjustment of an individual when facing unpalatable environmental conditions [10]. Resilience is a concept in positive psychology referring to returning to the primary balance or attaining a higher level of balance in a threatening situation, which results in a successful adjustment in life [11, 12]. Investigations suggest that as an important component, resilience can increase the level of adjustment of a person with GD with their family and society [13].

Gender identity is one of the most important aspects of human identity created through the process of socialization in the form of official and non-official institutions. In the course of socialization, members of a society learn the perceptive, emotional, and behavioral patterns pertinent to their gender and internalize them. Going through this process successfully leads to the formation of a sexual identity that conforms to the society [14].

Mindfulness is a psychological process through which a person's attention is directed towards the events in the present time and it is achieved through meditation and similar exercises. Mindfulness is a technique to look at thoughts, observing them in peace and patience, as an idea and as an event in the field of awareness and emotional caregiving without attempting to change. This method is a receptive awareness without any judgment regarding the current events, which is formed through focusing on the goal at the current moment without moment-by-moment inference [15]. Gawande et al. [16] reported that mindfulness can be regarded as the ability to self-regulate attention and direct it towards the task. It is observing the internal and external stimuli as they take place and in fact, it is an ability that enables a person to have a less disturbing perception of events than they are in the present moment. In team mindfulness, individuals are trained to observe their thoughts and emotions. Individuals become aware of their thoughts and accept them in response and then, direct their attention towards breathing accompanied by implicit changes in the patterns that give rise to the thoughts [17]. Investigations suggest that mindfulness reduces the harmful consequences caused by stressful situations through facilitating the assessment of the positive trend, plus it reduces the problems pertinent to unpleasant situations through dishabituation of using improper coping strategies [18-21].

The significance of this study was that despite the small number of people with GD compared with other patients, these situations affect their personality, behavioral, cognitive, emotional, and metacognitive system and can turn into a crisis. Therefore, they should be examined meticulously and the necessary measures should be taken to help them properly and in time. Given the paucity of studies on people with GD, the current study aimed to investigate the effectiveness of mindfulness group training on hope and resilience of people suffering from GD.

## 2. Materials and Methods

### Design

This was a quasi-experimental study with a pre-test, post-test, and three-month follow-up design and a control group.

### Participants

The statistical population of the current study included all people suffering from GD visiting the State Welfare Organization of Shiraz in 2020. The participants were selected through non-random convenience sampling

method. GD clients were identified according to the records of State Welfare Organization of Shiraz. Thirty GD clients willing to participate in the study were selected and assigned randomly to experimental and control groups. A sample size of 15 people per group was calculated using G power and considering an effect size of 1.75; power of 0.95 and type 1 error= 0.05. Those people suffering from GD, willingness to participate in the research, holding at least a high school diploma, not suffering from psychotic disorders, and no history of mental disorder according to clients' medical records were included to the study. GD was diagnosed by psychiatrists through deep clinical description and psychiatric interview according to Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM5). The person's karyotype was also attached to the medical record to determine chromosome count and order of sex chromosomes. Exclusion criteria consisted of unwillingness to continue cooperation, missing more than two sessions, and using other therapeutic methods at the same time.

### Instruments

Resilience and hopefulness were measured by The Connor-Davidson Resilience Scale (CD-RISC) and Miller Hope Scale (MHS), respectively. CD-RISC was designed in 2003 and composed of 25 items scored on the basis of 5-point Likert scale from 0 (not true at all) to 4 (true nearly all the time) and the scores range from 0 to 100. The final score is obtained by summing up the scores of the items. The higher the score of the participant, the higher their resilience [22]. Velickovic et al. [23] confirmed the validity and reliability of the questionnaire. In previous study, the reliability of the Persian version of the CD-RISC was reported as 0.76 [24]. In the current study, the Cronbach's alpha coefficient was 0.86 for the scale.

MHS is a diagnostic test including 40 aspects of hopefulness and hopelessness. The items are selected on the basis of the overt or covert behavioral manifestations in hopeful or hopeless people. The MSH scores range from 40 (completely hopeless) to 200 (completely hopeful). Miller believed that hope leads to psychological health and a hopeful person has a correct understanding of life [25]. The internal consistency of the scale was 0.93 with a two-week test-retest reliability of 0.82 [25]. Abdi et al. [26] reported the reliability of the Persian version of the scale to be 0.86 based on Cronbach's alpha. In the current study, Cronbach's alpha coefficient was 0.89 for the scale.

### Procedure

After obtaining the required permits from the State Welfare Organization of Shiraz, the selected individuals (30 people with GD) were non-randomly assigned to the experimental and control groups. The experimental group received mindfulness group training in eight 90-minute sessions for two months, while the participants in the control group received no interventions during the research. At the end of the study, to observe ethical considerations, the control group received a course of mindfulness group training according to the mindfulness-based interventions [27]. A summary of mindfulness group training sessions is presented in Table 1. The follow-up was performed after three months after post-test. After explaining all stages of the intervention, an informed consent was taken from all participants. Besides, all participants of the control group were ensured that they would receive the intervention after the completion of the research. Both groups were ensured that their information would remain confidential and they were not required to write down their names.

### Statistical analyses

Data were described using mean and Standard Deviation (SD). Shapiro-Wilk test was used to assess the normality of distribution of variables. The effect of intervention on hope and resilience was examined using repeated-measures ANOVA. The assumptions of variance homogeneity and data sphericity were assessed using the Levene's and Mauchly's Sphericity Test. All analyses were performed in SPSS version 23.0. The significance level of the research was considered to be 0.05.

## 3. Results

The participants included 30 people with GD, aged  $31.49 \pm 9.19$  years old, 47% were male and 57% had high school education. The demographic variables of the participants are shown in Table 2. There was no significant difference between experimental and control groups in terms of age, sex and education level.

### Value are frequency (%) unless otherwise indicated

Table 3 shows descriptive statistics, within-group and between-group differences for hope and resilience during the study. Baseline values of hope and resilience were not significantly different between the two groups ( $P > 0.623$ ). Prior repeated-measures ANOVA, the as-

**Table 1.** Summary of interventions pertinent to mindfulness training

Session	Subject	Therapeutic Interventions
First	Automatic guidance	Getting acquainted with group members and their expectations, determining the group policy and explaining the marital conflicts, the raisin exercise, body scan meditation exercise. Task: Performing a daily activity with mindfulness and body scan.
Second	Challenge with obstacles	10-minute mindfulness breathing, body scan exercise. Task: Directing attention towards another daily activity, recording pleasant events, body scan, and 10-minute mindfulness breathing.
Third	Walking meditation	Mindful stretching exercises, mindful walking exercise, body scan exercise. Task: Mindful walking, body scan, recording unpleasant experiences.
Fourth	Being in the present moment	Mindfulness exercise regarding hearing and thinking, the story of hungry tigers, 3-min pause exercise, body scan exercise. Task: Body scan, practice mindfulness while using vehicles, 3-minute pause.
Fifth	Acceptance and permission	Mindful sitting meditation being with breathing and body, acceptance, the exercise of creating a problem and working on it through the body, 3-minute pause exercise (together with the feeling of acceptance), body scan exercise. Task: Body scan and 3-minute pause.
Sixth	Thoughts are not reality	Alternative thoughts, 3-minute pause exercise, body scan exercise. Task: Body scan and 3-minute pause and using it during the emergence of unpleasant feelings.
Seventh	Self-care	The relationship between mood and feelings, how to take care of ourselves in the best way possible, body scan exercise. Task: Preparing a list of energizing and tiring activities.
Eighth	Application of learned topics and exercises in future	Body scan exercises, discussion on continuing exercises, planning future practice, examining the problems hindering practicing the tasks.



assumptions of the parametric tests were evaluated. Since the assumption of within-subject covariance matrices in groups for hope was not met, the within-group effects with Lower bound correction was reported.

Hope scores showed a significant group by time interaction ( $F_{1,28}=4.59$ ,  $P=0.04$ ,  $\eta^2=0.14$ ), with the intervention group indicating significantly ( $t_{28}=2.02$ ,  $P=0.04$ ) better scores in hope over time (18.4, 95% CI: 7.9; 28.8) than the control group (7.2, 95% CI: 4.04; 10.4). Moreover, resilience scores showed a significant group by time interaction ( $F_{2,56}=3.71$ ,  $P=0.03$ ,  $\eta^2=0.12$ ), with the intervention group indicating significantly ( $t_{28}=3.06$ ,  $P=0.005$ ) better scores in resilience over time (11.8, 95% CI: 6.17; 17.4) than those in the control group (-0.87, 95% CI: -7.7; 5.9) (Table 3).

#### 4. Discussion

The current study aimed to investigate the effectiveness of mindfulness group training on hope and resilience of people suffering from GD. The findings of this study showed that mindfulness group training had a positive impact on hope in people with GD. This intervention raised hope in the participants. This finding is implicitly consistent with the research results of Munoz et al. [28], and Mirmahdi and Razaali [29]. In a study on employees of a nonprofit organization, Munoz et al. [28] reported that mindfulness meditation can increase hope via stress reduction. Mirmahdi and Razaali [29] showed that mindfulness group training had a positive effect on resilience and emotional regulation in women with type 2 diabetes. The results signified that mindfulness therapy

**Table 2.** Demographic variables of the participants in the experimental and control groups.

Variable	Experimental Group	Control Group	P	
Age in years, mean±SD	32.45±8.41	31.04±9.36	0.672	
Education, No. (%)	High school education	9 (60.0)	8 (53.33)	0.179
	College education	6 (40.0)	7 (46.67)	
Sex, No. (%)	Male	8 (53.33)	6 (40.0)	0.214
	Female	7 (46.67)	9 (60.0)	



**Table 3.** Within-group score between-group changes scores for hope and resilience

Variable	Measure/Group	Mean±SD			Mean Difference (95% Confidence Interval)			
		Pretest	Posttest	Follow-Up	Within-Group		Between-Group	
					Baseline to 2 Months	Baseline to 3 Months	Baseline to 2 Months	Baseline to 3 Months
Hope	Intervention	124±21.4	143±23.6	142±22.4	18.60 (7.65;29.5)	18.4 (7.9;28.8)	11.1 (0.33; 21.9)	11.2 (0.46; 21.9)
	Control	122±22.3	129±19.9	129±19.4	7.5 (4.65;10.3)	7.2 (4.04; 10.4)		
Resilience	Intervention	67±9.3	78±8.3	79±6.6	10.6 (2.62; 18.6)	11.8 (6.14; 17.4)	10.5 (-0.35; 21.3)	12.7 (4.19; 21.1)
	Control	69±9.1	69±13.8	68±7.7	0.13 (-7.9; 8.17)	-0.87 (-7.7; 5.9)		

in people with GD can increase the preventive aspect of treatment by changing the defective patterns of thoughts and emotion and teaching attention control. Mindfulness can encourage a person to train themselves to direct their attention towards the properties of the emotional experiences free from judgments and encode the information specifically in their emotional and cognitive memory, which can help them conduct a specific review of memory. A specific review of memory can reduce depression and lead to improvement of hope in the future in GD clients. Another reason for the effectiveness of mindfulness in improving hope in people with GD is that by increasing a person’s awareness of the experiences in the final moment (for instance, through focusing on breathing) and directing their attention towards the present moment, this treatment influences their cognitive and emotional system and leads to an efficient perception of information in both fields [19]. This process normatively improves the hope of a person with GD by more powerful processing of emotional and cognitive information and using more organized problem-solving skills.

Another reason for the effectiveness of this treatment is that mindfulness is a skill that enables people with GD to perceive the distressing events in the present moment less severe than they actually are. When a person is aware of the present time, they do not direct their attention towards the past or future. The majority of psychological and emotional problems are related to the events that happened in the past or will happen in the future. Thus, by underestimation of the distressing events, people with GD can focus on the emotional and psychological process in the present moment and perceive higher levels of hope. In addition, it can be stated that mindfulness comprises preserving awareness intentionally and on the basis of focusing on a special subject such as physical feelings in the body (for instance, the movement of breath during inhaling and exhaling) from one moment to another. In this way, one becomes mindful of thoughts, feelings, voices, or other physical feelings. The mindful content is remembered, and then,

steadily but seriously the attention is directed towards specific protected targets [30]. This process is repeated continuously and it is repeated again during the daily stages of the mindfulness exercises. These exercises provide repetitive experiences according to the thought-related ability as incidents concerning awareness through distinguishing a fundamental focus without considering the thoughts. These act differently in comparison with the experience of thoughts as fluid and pure awareness of events. The increase of awareness in the present time emancipates the individual from the concerns of the past and the future and helps them experience more hope.

In addition, mindfulness group training had a positive impact on the resilience of people with GD. This intervention elevated resilience in the participants. This finding is implicitly consistent with the research results of Galante et al. [31], and Gerhart et al. [32]. In a study on university students, Galante et al. [31] reported that the provision of mindfulness training could be an effective component to increase resilience to stress.

Since mindfulness is a transcendental feeling of awareness free from judgment, which helps to see and accept the emotions and physical phenomena clearly and as they happen, training people with GD can help them accept their feelings, emotions, and emotional signs. This enables a person with GD to enjoy better emotional processing on account of the peace they experience from accepting their feelings and emotions. Higher emotional processing can lead to improving coping capability and consequently increasing resilience. Furthermore, mindfulness therapy enables people with GD to be aware of their mood as well as their positive and negative feelings to use them properly, accept them, and display their emotions, particularly positive emotions during different situations in life [33]. Moreover, it helps them to reduce their negative feelings, and as a result, their positive and passionate emotions will increase. In other words, people with GD might have psychological and emotional processing errors due to their special psycho-

logical condition. In accordance with the mindfulness therapy, using the acceptance technique enables them to accept their emotions as they are and have realistic expectations from themselves. This process helps them experience less perceived stress. Accordingly, people with GD through mental acceptance and psychological peace they can display a more developed psychological and emotional processing and enjoy a higher resilience.

Additionally, it should be noted that in this study, one of the training techniques in mindfulness therapy was obtaining awareness about emotions. This training enables people with GD to get in touch with their emotions and become aware of them. Emotional awareness improves problem-solving skills when facing negative emotions, which improves resilience and mental toughness [34]. Finally, one of the important issues in mindfulness therapy is that this therapeutic method enables a person to see their thoughts and emotions as thoughts and emotions, impartially and independently. This process enables them to prevent associating emotions with spontaneous thoughts and emotions over time. Independence of emotions can lead to their impartial processing. Therefore, mindfulness therapy can result in higher resilience in people with GD.

## 5. Conclusion

Consequently, mindfulness group training increased hope and resilience in people with GD. Mindfulness training using techniques such as mindful thoughts, emotions, and behavior can serve as an effective therapy to increase the level of hope and resilience in people with GD. At the practical level, taking into account the effectiveness of the mindfulness training in increasing hope and resilience in people with GD, it is suggested to present mindfulness group training to counselors and therapists in State Welfare centers to use this training method to increase resilience and hope in people with GD.

The limitations of this research included limitation of participants to people with GD who visited the State Welfare Organization of Shiraz, several uncontrolled variables such as family, personal, and emotional conditions of the participants, social status, and non-random sampling. Thus, further studies with random sampling and controlling the aforesaid factors in other cities, regions, and communities with different cultures and other groups are recommended to improve the generalizability of the results. Non-random assignment of participants to groups was another limitation of the current study.

## Ethical Considerations

### Compliance with ethical guidelines

The study was approved by the Ethical Committee of Islamic Azad University, Yasooj Branch (code:120484230969041).

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### Authors' contributions

All authors equally contributed to preparing this article.

### Conflict of interest

The authors declared no conflict of interest.

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