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The influence of brain respiration on interpersonal emotion regulation in young adults

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ABSTRACT

This study aimed to determine the effect of Brain Respiration on the Interpersonal Emotion Regulation (regulating emotions independently, without others present) in young adults experiencing romantic problems. Through Brain Respiration, a person can manage emotional functions, reduce stress, and stay comfortable even when interpersonal support is not always available. Thirty young adults participated in this study. Fifteen young adults in the experimental group received Brain Respiration, whereas the rest in the control group did not. The degree of interpersonal emotion regulation was measured using the Interpersonal Emotion Regulation Questionnaire (IERQ). The results showed a decrease in the degree of interpersonal emotion regulation among young adults in the experimental group after receiving Brain Respiration. This can be seen in P(T<=t) two-tailed, which is 4.13985E-11 < alpha 0.05, and the average degree of interpersonal emotion regulation from 88.13 to 77.73. There was also no difference in the degree of Interpersonal Emotion Regulation in young adults in the control group without Brain Respiration (P(T<=t) two-tailed was 0.120590511 > alpha 0.05), and the average degree of Interpersonal Emotion Regulation in the pre- and post-tests was 85.6 and 85.8.

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INTRODUCTION

Young adulthood, also known as early adulthood, is a developmental stage one enters after passing through the late adolescent stage. The age range for this category is 18 to 30 years old (Zain et al., 2023). In this developmental stage, a person will engage in more exploration, including expanding their friendship network, as they are generally free from parental supervision. Another area of exploration is the world of education, namely, pursuing studies at a university. Some also begin to explore the world of career (Khairunnisa & Wulandari, 2023). Something that is not missed during this period is the exploration of romantic relationships, or, as it is better known, dating (Balaw & Indrijati, 2023).

With the number of things being explored, as many as 96.4% of young adults in Indonesia experience stress (Kaligis, 2021). One issue faced by young adults is the pressure to explore romantic relationships or dating (Kaligis, 2021; Simpson & Rholes, 2017). This is because when they explore this area, they often encounter character incompatibility, loyalty issues, differing views about the future, and varying levels of seriousness about maintaining the relationship, down to family approval (Ruhil, 2022).

These romantic problems serve as stress triggers among young adults (Simpson & Rholes, 2017). In fact, with these romantic problems, they do not just experience stress. If this problem is not addressed, it can also lead to other mental health disorders in the form of depression, self-harm, suicidal thoughts, and even attempts at suicide (Paun & Oliver, 2017; Verhallen et al., 2019).

Therefore, young adults experiencing romantic problems will feel increasingly uncomfortable if they do not receive support from their surrounding environment. They will always need the presence of others who support them. They find it difficult to evoke positive emotions without the presence of others (Machado et al., 2020). In fact, if young adults experiencing romantic problems can find happiness within themselves, then they will not fall into mental disorders and remain productive (Yildirim & Demir, 2015). The ability to regulate emotions independently, without involving others, is called Intrapersonal Emotion Regulation (Hofmann, 2014; Hofmann et al., 2016). If a young adult experiencing romantic problems can personally regulate emerging negative emotions, they have high Intrapersonal Emotion Regulation. However, if they require the presence of others, then they have low Intrapersonal Emotion Regulation.

Therefore, one method that can help young adults experiencing romantic problems overcome this condition is Brain Respiration. Brain Respiration is a training method that aims to control activity in the neocortex, optimize the function of the limbic system, and help us connect with the energy stored in the brain stem. Through Brain Respiration, the brain is trained to enter a calm state while simultaneously optimizing the function of its various parts (Indrianie, 2021, 2023b, 2023a; Lee, 2002).

Given that young adults facing romantic problems often experience heightened stress and discomfort when social support is not available (Machado et al., 2020), there is a growing scientific urgency to identify emotion regulation strategies that strengthen their ability to manage emotions independently. While commonly used techniques—such as mindfulness practices or cognitive reappraisal—are effective, they often require ongoing professional guidance or interpersonal reassurance, which may not always be readily accessible in moments of emotional distress (Hofmann, 2014). In contrast, Brain Respiration offers an internally driven approach that integrates meridian-point stimulation, focused energy distribution, and brain-activation exercises to enhance the individual's capacity for intrapersonal regulation (Hayes et al., 2007; Indrianie, 2021, 2023b, 2023a; Lee, 2002). These physiological and cognitive mechanisms directly support young adults' ability to stabilize their emotions without depending on others. Therefore, compared to other emotion regulation techniques, Brain Respiration is relevant and urgent for young adults experiencing romantic problems, as it offers a practical, accessible, and self-sustaining method for restoring emotional balance.

The goal of Brain Respiration is for the person to manage emotions as well as possible when experiencing stress (Lee, 2002). Through Brain Respiration, the brain can become fresher because the series of training stages can relax the brain and restore energy. The specific breathing technique used in the Brain Respiration training series will activate bioenergy, which is very useful for optimizing brain performance once more. As a result, blood circulation and energy distribution throughout the body become smoother. This will also smooth blood flow to the brain. This physiological activity effectively reduces stress by stimulating the entire brain through Brain Respiration (Hayes et al., 2007).

There are three stages: first, Wake-Up Gym, second, Energy Focusing, and third, Brain Building (Hayes et al., 2007; Indrianie, 2021, 2023b, 2023a; Lee, 2002; Leigh et al., 2009). Wake-Up

Gym is the first stage. This stage provides stretching to help the body reactivate. Stimulation of the body's meridian points is done at this stage. When the body's meridian points are stimulated, the distribution of energy throughout the body becomes smoother. The analogy for how this meridian points work is the same as that of arteries and veins in distributing blood throughout the body. Energy Focusing is the second stage. At this stage, the energy in the hands is activated, then distributed to other parts of the body. The use of this stage is to train the brain's focus and thinking strength. The third and final stage is Brain Building. At this stage, simple exercises are performed that can activate energy, which can directly stimulate the brain (Hayes et al., 2007; Indrianie, 2021, 2023b, 2023a; Lee, 2002; Leigh, n.d.). Thus, the researcher intends to investigate the effect of Brain Respiration on reducing the degree of Interpersonal Emotion Regulation in young adults experiencing romantic problems.

RESEARCH METHOD

Research Design

This research uses a quasi-experimental design, which is an experimental design but does not allow all factors that may influence the research to be controlled. Therefore, control is only exercised over feasible factors. Quasi-experimental designs are used when pure experiments cannot be conducted (Graziano & Raulin, 2019).

Experimental steps

First, all prospective participants completed the Interpersonal Emotion Regulation Questionnaire (IERQ) via a g-form link. Prospective participants with a high degree of Interpersonal Emotion Regulation and who were willing to complete the consent form were included in this experiment. Participants in the experimental group then received 1 hour of Brain Respiration training. In the next hour, participants in the experimental group were allowed to practice Brain Respiration on their own. The experimental group was asked to practice Brain Respiration every day for 1 week while recording data on the monitoring sheet. After one week, the participants in the experimental and control groups were reassessed for their degree of Interpersonal Emotion Regulation using the Interpersonal Emotion Regulation Questionnaire (IERQ), which had been prepared via a g-form link. To maintain participants' well-being and ensure the experimental procedure was not biased, the control group received Brain Respiration after the experiment was completed. The room used in the experiment must be free of noise, well-lit, kept at a comfortable temperature of 24–26 degrees Celsius, and have plain walls. All participants in the experimental group were placed in the same room during the research process.

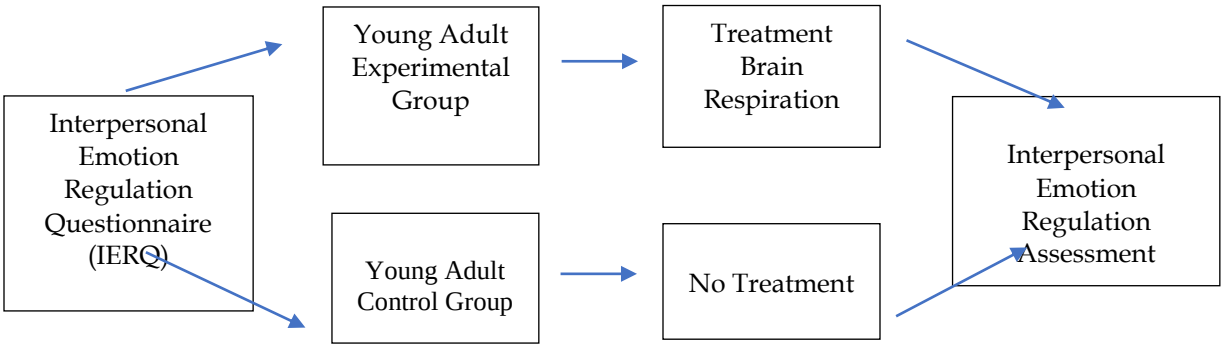

Figure 1. Research procedure diagram

Research Subjects

To determine the effectiveness of Brain Respiration in reducing stress levels, 30 young adults participated in this study. Fifteen young adults were assigned to the experimental group

and the other 15 to the control group. This number was determined by referring to previous studies that used fewer than 20 participants (Lufityanto et al., 2020; Sugimoto et al., 2009). The sampling technique used was purposive sampling, which involves selecting participants who meet the study's criteria (Etikan, 2016).

The characteristics of the young adults who participated in this study were: a) They had high Interpersonal Emotion Regulation scores, ranging from 61 to 100; b) Experiencing romantic relationship issues (Simpson & Rholes, 2017); c) Not having a specific psychiatric diagnosis, not experiencing physical medical disorders, and not currently taking particular types of psychotropic drugs (Aiello et al., 2022).

Data Analysis Techniques

The t-test was used to analyze the data (Siegel, 1997) using SPSS software version 26. The statistical hypotheses were as follows: a) Experimental group, H0: There is no difference in the degree of Interpersonal Emotion Regulation in the experimental group of young adults who are in romantic relationships after receiving Brain Respiration. H1: There is a difference in the degree of Interpersonal Emotion Regulation in the young adult experimental group experiencing romantic relationships after receiving Brain Respiration; b) Control group, H0: There is no difference in the degree of Interpersonal Emotion Regulation in the young adult control group experiencing romantic relationships without Brain Respiration. H1: There is a difference in the degree of Interpersonal Emotion Regulation in the young adult control group experiencing romantic relationships without Brain Respiration.

The statistical hypothesis of the difference in the degree of stress among young adults who experienced romantic relationships in the experimental and control groups is as follows: a) H0: There is no difference in the degree of Interpersonal Emotion Regulation between young adults who experienced romantic relationships in the experimental and control groups; b) H1: There is a difference in the degree of Interpersonal Emotion Regulation between young adults who experienced romantic relationships in the experimental and control groups.

Additional Data

Additional data collected in this experiment were the frequency of brain respiration per day for one week (during the monitoring process).

RESULTS AND DISCUSSIONS

Result

Table 1. Interpersonal emotion regulation before and after participating in brain respiration in the experimental group

	Pretest	Postetst
Mean	86,26666667	67,53333333
Variance	39,20952381	49,40952381
Observations	15	15
Pearson Correlation	0,824177123	
Hypothesized Mean Difference	0	
df	14	
t Stat	18,1008012	
P(T<=t) two-tail	4,13985E-11	
t Critical two-tail	2,144786688	

Based on the table above, the value of P(T<=t) two-tailed is 4.13985E-11, which is less than alpha 0.05. This indicates that there is a difference in the degree of Interpersonal Emotion Regulation before and after participating in Brain Respiration in the experimental group.

Table 2. Average degree of interpersonal emotion regulation in the experimental group

Degree of Interpersonal Emotion Regulation Before Participating in Brain Respiration (Pre-Test)	Degree of Interpersonal Emotion Regulation After Participating in Brain Respiration. (Post-Test)
88.13	77.73

The degree of Interpersonal Emotion Regulation in young adults in the experimental group decreased after undergoing Brain Respiration, from 88.13 to 77.73.

Table 3. Interpersonal emotion regulation pre- and post-test without brain respiration in the control group

	Pretest	Postetst
Mean	84,46666667	85,33333333
Variance	39,6952381	29,52380952
Observations	15	15
Pearson Correlation	0,950744499	
Hypothesized Mean Difference	0	
df	14	
t Stat	-1,65290702	
P(T<=t) two-tail	0,120590511	
t Critical two-tail	2,144786688	

Based on the table above, the value of P(T<=t) two-tailed is 0.120590511, which is greater than alpha 0.05. This indicates that there is no difference in the degree of Interpersonal Emotion Regulation between the pre-test and post-test without Brain Respiration in the control group.

Table 4. The average interpersonal emotion regulation in the control group without brain respiration

Interpersonal Emotion Regulation Degree (Pre-Test)	Interpersonal Emotion Regulation Degree (Post-Test)
85.6	85.8

The degree of Interpersonal Emotion Regulation in the control group did not change without Brain Respiration.

Table 5. Differences in interpersonal emotion regulation between the experimental and control groups

	Experimental Group	Control Group
Mean	67,53333333	85,33333333
Variance	49,40952381	29,52380952
Observations	15	15
Pooled Variance	39,46666667	
Hypothesized Mean Difference	0	
df	28	
t Stat	-7,759529886	
P(T<=t) two-tail	1,87865E-08	
t Critical two-tail	2,048407142	

Based on the table above, the value of P(T<=t) two-tailed is 1.87865E-08 < alpha 0.05. This indicates a difference in the degree of Interpersonal Emotion Regulation between the experimental and control groups.

Secondary Data

Table 6. Frequency of performing brain respiration per day in the experimental group

Number of Times Brain Respiration Per Day	Frequency	Percentage
1 time	15	100%
2 times	0	0
Total	15	100%

Discussion

The results of the data analysis for the experimental group (α = 0.05) showed a result of 4.13985E-11 (77.73). This indicates the change in the degree of Interpersonal Emotion Regulation among young adults in the experimental group after receiving Brain Respiration. This change is reflected in a decrease from 88.13 to 77.73.

Wake-Up Gym is the first stage of Brain Respiration, which involves stimulating the body's meridian points. Stimulating these meridian points is very beneficial in preventing physiological responses to stress-related factors (Cho et al., 2021). In addition, when the body's meridian points are stimulated, the body's bioenergy is more easily activated. The second stage, Energy Focusing, trains the brain to distribute bioenergy from one part of the body to others—for example, from the hands to other parts of the body. This is very useful for alleviating mental fatigue during stress. When the distribution of the body's bioenergy is smooth, the body will be healthier and more fit (Analayo et al., 2022; Klein et al., 2017). The third stage, Brain Building, consists of brain exercises involving movements that stimulate all parts of the brain (Hayes et al., 2007). Brain exercises can enhance the prefrontal cortex's performance, which plays a role in wise thinking. When the brain can think more wisely, stress can be regulated through steps to find the right solution without always involving others (Sudo et al., 2022; Voss et al., 2011).

The analysis of the control group, with (α = 0.05), showed a result of 0.120590511 > H0 (α = 0.05), so H0 is accepted and H1 is rejected (Siegel, 1997), indicating that there is no difference in Interpersonal Emotion Regulation among young adults experiencing relationship problems in the control group between the pre-test and post-test. This can also be seen in the average Interpersonal Emotion Regulation scores for the pre- and post-test, which were 85.6 and 85.8, respectively. It turns out that without Brain Respiration, there is no reduction in stress levels in the control group. When stressed, social workers try to cope. However, if the coping methods used are inappropriate, they can become maladaptive, increasing stress levels and leading to lower Interpersonal Emotion Regulation (Pavlov, 2022; Vianen et al., 2022).

When comparing the degree of Interpersonal Emotion Regulation between the experimental and control groups, with (α = 0.05), the result was 1.87865E-08 < (α = 0.05), so H0 is rejected and H1 is accepted (Siegel, 1997). The result shows a difference in the degree of Interpersonal Emotion Regulation between the experimental and control groups. Apparently, in the Brain Respiration condition, the degree of Interpersonal Emotion Regulation among young adults experiencing relationship problems in the experimental group is lower than in the control group. This indicates that appropriate stress management provided to young adults experiencing relationship issues facilitates positive conditions for these social workers (Dewi et al., 2021; Sovitriana et al., 2021). Brain Respiration can stabilize the body's endocrine system, thereby improving overall stability, making individuals more comfortable with themselves and less dependent on others (Hayes et al., 2007).

CONCLUSION

Based on the analysis results, Brain Respiration can be used as a strategy to manage Interpersonal Emotion Regulation in young adults experiencing relationship problems. Brain Respiration can help young adults in this situation achieve a more positive state. If young adults experiencing relationship issues routinely perform Brain Respiration at least once a day, the stress they experience can be managed so it does not reach high levels, and they do not always need the presence of others.

The findings of this study provide several practical implications for counselors, psychologists, and educational institutions. First, Brain Respiration can be implemented as a brief, low-cost, and accessible intervention to help young adults improve self-directed (intrapersonal) emotion regulation, especially among individuals dealing with romantic stress. Counselors and psychologists may integrate Brain Respiration exercises—such as Wake-Up Gym, Energy Focusing,

and Brain Building—into individual or group counseling sessions as complementary techniques to reduce stress and enhance emotional stability. Second, educational institutions can incorporate Brain Respiration into student wellness programs, psychoeducation modules, or extracurricular activities to strengthen students' coping skills and reduce dependence on interpersonal reassurance. This is particularly beneficial in campus settings where young adults frequently face emotional challenges but may not always have immediate social support. Finally, the routine daily practice demonstrated in this study suggests that Brain Respiration can be taught as a sustainable self-help technique, empowering young adults to manage stress independently and maintain psychological well-being.

In this study, the number of young adults with relationship problems who participated was still limited. For future studies, it is recommended to increase the number of participants in each group (experimental and control). Additionally, it would be better if studies on the use of Brain Respiration among young adults experiencing relationship problems were conducted over a more extended period (longitudinal studies) to provide a more comprehensive picture of long-term mental health.

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