

The Role of Age in the Relationship between Mindfulness and Emotion Regulation in Adults

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Abstract

This research aims to investigate the role of age as a moderator in the contribution of mindfulness to emotion regulation abilities in adults in Indonesia. This research used a quantitative approach with a total number of 234 participants, consisting of 81 young adults and 153 middle adults, with a mean score of 43.33. Data were collected using the Difficulties in Emotion Regulation Scale-Short Form (DERS-SF) and Mindfulness Attention Awareness Scale (MAAS) questionnaires, which were distributed online. The research results show that adult individuals with low levels of mindfulness have low emotional regulation abilities, and age does not play a role as a moderator in the role of mindfulness on emotional regulation abilities. The uneven distribution based on participant domicile is a limitation that needs to be considered in future research.

Abstrak

Penelitian ini bertujuan untuk menyelidiki peran usia sebagai moderator dalam kontribusi *mindfulness* terhadap kemampuan regulasi emosi pada orang dewasa di Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dengan jumlah partisipan sebanyak 234 orang, terdiri dari 81 orang dewasa muda dan 153 orang dewasa madya, dengan skor *mean* 43,33. Pengambilan data dilakukan menggunakan kuesioner Difficulties in Emotion Regulation Scale-Short Form (DERS-SF) dan Mindfulness Attention Awareness Scale (MAAS) yang dilakukan secara daring. Hasil penelitian menunjukkan bahwa individu dewasa dengan tingkat *mindfulness* yang rendah memiliki kemampuan regulasi emosi yang rendah dan usia tidak berperan sebagai moderator dalam peran *mindfulness* terhadap kemampuan regulasi emosi. Persebaran distribusi yang belum merata berdasarkan domisili partisipan menjadi keterbatasan yang perlu diperhatikan dalam penelitian di masa yang akan datang.



INTRODUCTION

Emotion regulation refers to the efforts made by individuals to influence incoming emotions and how these emotions are expressed (Sloan & Kring, 2007). It can be interpreted that emotional regulation is an individual's ability to control and manage emotions in order to provide appropriate responses. When individuals can regulate their emotions, a process occurs where they will consider various solutions in dealing with the situation and will make the right decision based on the solution they hope for (Koole & Aldao, 2016).

The ability to regulate emotions allows a person to live their life optimally. Adult individuals who regulate emotions show good psychosocial adjustment abilities, lower internalization symptoms, and better relationship quality (Chan & Rawana, 2021). In addition, good emotional regulation skills can

increase individual psychological resilience (Polizzi & Lynn, 2021). On the other hand, if an individual cannot regulate emotions, then that individual will have difficulty living optimally. Difficulty in regulating emotions is called emotional dysregulation (Gratz & Roemer, 2004). The adverse impact of emotional regulation difficulties in adults can increase the tendency to depression (Compare et al., 2014), reduce sensitivity as parents (Carreras et al., 2019), as well as increase the tendency to become addicted to alcohol, illegal drugs, and behavioral addictions such as gambling behavior, addiction to online games and smartphones (Liu & Ma, 2019).

Difficulty in regulating emotions has a negative impact on an individual's optimal functioning in life. Much research has been conducted to improve emotional regulation abilities, including mindfulness. Mindfulness effectively improves emotional regulation abilities (Gratz & Roemer, 2004; Roth et al., 2019). Brown and Ryan (2003) define mindfulness as a state where individuals increase attention and awareness of ongoing experiences or reality. Mindful individuals tend to be more able to accept the experiences, thoughts, and emotions they experience without being reactive or passing judgment.

Research conducted by Hayes and Feldman (2004) found that mindfulness can make individuals more open and accepting of their various emotional experiences and form more positive regulatory abilities. In addition, mindfulness research on patients with social anxiety disorder using the Mindfulness-Based Stress Reduction (MBSR) training method found a reduction in negative emotional reactions and an increase in emotional regulation abilities in patients (Goldin & Gross, 2010).

In everyday life, mindfulness has been found to be an effective way to regulate emotions. The results of research conducted by Hill and Updegraff (2012) on a young adult population show that individuals with good mindfulness skills also have good emotional regulation abilities. This finding aligns with research conducted on college students, which found that mindfulness positively influenced emotional regulation abilities (McLaughlin et al., 2019; Sharma & Singh, 2016). In addition, mindfulness interventions were found to increase adult individuals' ability to respond to negative emotions and deal with stress, thereby reducing depressive symptoms. Thus, mindfulness positively impacts emotional regulation abilities (Septiani et al., 2022).

Research regarding emotional regulation abilities in adults shows different results. Research by Orgeta (2009) found that young adults have higher emotional regulation difficulties than the late adult population. This research found that increasing age plays a greater role in the ability to access broader emotional regulation strategies, whereas late adult individuals show a better ability to recognize their emotions compared to young adult individuals. Meanwhile, research conducted by Blanchard-Fields et al. (2004) found no differences between young adults, middle adults, and late adults in regulating emotions when facing problems in everyday life.

In their research, Zhou et al. (2023) hypothesize that age can be a variable that plays a role in the dynamics of the relationship between mindfulness and emotional regulation. This happens because physical and mental maturity, as well as the richness of an individual's socialization experiences, influence their ability to use an approach accompanied by awareness when regulating their emotional conditions. In line with this, mindfulness is also considered increasingly effective for regulating emotions with age (Mahlo & Windsor, 2021) because it is associated with individual experiences of calm, emotional fulfillment, and peace of mind (Morone et al., 2012).

In the young adult group, individuals experience a recentering process, namely a process that encourages a shift or change toward an adult identity (Papalia & Martorell, 2020). During this period, individuals determine their life goals, begin to separate from their families, build a romantic relationship with their partner, get married, have children, and strengthen their career journey. This process

presents its challenges and pressures until individuals experience emotional experiences that can have an impact on their mental health.

Meanwhile, the middle adult group has a distinctive characteristic, namely the vision that individuals assume a responsibility that is not only related to their work and that of others but also has the aim of developing the generation of young adults who are with them and will play a dominant role in their world (Levinson, 1986). Papalia and Martorell (2020) explain that during this period, a turning point occurs, which can change the direction of an individual's life and open up the possibility of a mid-life crisis, where the individual reviews or re-evaluates their life and finds that they will not be able to fulfill their younger selves' dreams or that their achievements do not bring the expected life satisfaction. This dynamic provides nuances of meaningful emotional life in the middle adult group.

The characteristics of these two age groups are interesting to study to see their role in the contribution of mindfulness to emotional regulation. Research related to age in the formation of emotional regulation has been carried out in Western countries, so it is necessary to see how this research would be carried out on adults in Indonesia with various cultural backgrounds. Research related to emotional regulation abilities shows that culture contributes to emotional regulation abilities (Matsumoto, 2006), where in different cultures, the way individuals regulate their emotions can have different levels of success (Ford & Mauss, 2015). Thus, this research aimed to examine the role of age as a moderator of mindfulness and emotional regulation abilities in groups of young and middle aged adults. In other words, researchers want to know whether age moderates the role of mindfulness in emotional regulation abilities.

METHODS

This research employs quantitative methods, which means measuring variables in participants to get scores, usually numerical values, which are then used in statistical analysis to be interpreted and concluded (Gravetter & Forzano, 2016). Sampling was carried out using convenience sampling techniques. The criteria for participants in this research consisted of young adults with an age range of 18–40 years and middle adults with an age range of 41–65 years who live in Indonesia. Data was collected using measuring instruments in the form of questionnaires.

The measuring instrument used to measure emotional regulation is the Difficulties in Emotion Regulation Scale-Short Form (DERS-SF), developed by Kaufman et al. (2016) and has been adapted by Fiartri (2020). This measuring instrument has internal consistency with a Cronbach's alpha value of .88. Item analysis used corrected item-total correlation with a rit value range of .046–.716. In this instrument, one item is below the standard value of rit but is still maintained because the change in the value of α if this item is removed does not increase significantly (less than .01). This scale consists of 18 items representing six subscales: nonacceptance, goals, impulse, awareness, strategies, and clarity. Statements in this measuring instrument can be answered with a 6-point Likert scale answer choice (1 = Very Not Suitable and 6 = Very Suitable). A high score indicates a high level of difficulty in regulating emotions (underdeveloped ability to regulate emotions), and a low score indicates a low level of difficulty in regulating emotions (having good or already developed abilities to regulate emotions).

Mindfulness was measured using the Mindfulness Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) and adapted into Indonesian by Yusainy et al. (2018), consisting of 15 items which were then used by Kirana (2022). This measuring instrument has internal consistency with a Cronbach's alpha value of .88. Meanwhile, item analysis used corrected item-total correlation with a rit value range of .166–.755. In this instrument, one item is below the rit standard value but is still maintained because the change in the α value, if this item is removed, does not increase signifi-

cantly (less than .01). Statements in this measuring instrument can be answered with a 6-point Likert scale answer choice (1 = Almost Always and 6 = Almost Never), where a higher score indicates an individual has a good level of mindfulness and vice versa (in the results section there is a data transformation so that this scale is reversed).

Data analysis in this research used descriptive statistics and multiple regression to determine the role of age as a moderator in the relationship between mindfulness and emotional regulation. The data obtained was processed with the help of a statistical analysis program, namely IBM SPSS Statistics 29.

RESULTS

There were 234 participants in this research, with the majority being female (67.5%), middle-aged (65.4%), married (77.8%), working as private employees (33.8%), domiciled in the Jakarta metropolitan area (79.5%), having a bachelor's degree (58.1%), and having a Javanese ethnic background (44.4%).

Before carrying out multiple regression analysis, a normality test was carried out on the research data. The normality test results obtained on the mindfulness variable showed that the data was not normally distributed (moderate negative skewness). For this reason, the data transformation process was carried out using reflect and square root (Pallant, 2020) with the SQRT ($k-x$) formula. The results of data transformation on the mindfulness variable are inverse, so a higher score indicates a lower level of mindfulness. The following is a description of the measuring instrument with normally distributed data.

Table 1.
Description of Measuring Instruments

Variables	Mean	Min.	Max.	SD	Z Skewness	KS (Sig.)	SW (Sig.)
Emotion regulation	53.6	21	98	15.44	.96**	.62	.990
Mindfulness	4.446	1	8.31	1.34	-.35**	.39*	.996

Note. * $p > .05$; **Z Skewness = -1,96–1,96

From the table above, it can be seen that the average number of participants who have difficulty regulating emotions is above average. This shows that the participants' emotional regulation abilities are still not well developed. In the mindfulness variable, the average participant shows a level of mindfulness below average, which means the level of mindfulness is good or high because the mindfulness score has been inversely transformed.

Before carrying out a multiple regression test, a regression assumption test is first carried out to see the multicollinearity value using the correlation test, homoscedasticity test, and normality test by looking at the regression residual plot. The correlation test results show that three variables correlate with the emotional dysregulation variable. The following are the results of correlation calculations for the main and supporting variables.

Table 2.
Correlation Test

Variable	1	2
Emotional (Dys)Regulation	-	
Mindfulness	.566*	-
Age	-.041	.039
Interaction (Mindfulness X Age)	.032	-.064
Types of job	.170**	.190**
Domicile	-.131**	-.057

Note. *p < .001; **p < .05

Based on the table above, it is known that the correlation between the mindfulness variable and emotional regulation difficulties is significantly positively correlated. This means that the lower the mindfulness score (which means high because the mindfulness score has been inversely transformed), the lower the level of someone’s emotional regulation difficulties. In other words, mindful participants have good emotional regulation skills. In addition, it was found that the age variable and the interaction variable of age and mindfulness were not correlated with the main variable, while type of work was positively correlated with the main variable, and domicile was negatively correlated with emotional regulation. The overall correlation value meets the requirements for the multicollinearity assumption test, namely, less than .90 (Pallant, 2020).

Based on Mahalanobis distance values, the maximum value for participants is 16.8, which is slightly past the critical value, namely 16.27 (Pallant, 2020). The standardized residual plot shows linear homoscedasticity, so the regression residual data shows a normal distribution. Next, a moderation analysis was carried out using multiple regression.

Finally, to answer research questions related to the role of age as a moderator of the role of mindfulness on emotional regulation abilities, a multiple regression test was carried out involving the interaction variables of age and mindfulness. The results of multiple regression analysis showed that mindfulness and age played a significant role in predicting emotional regulation difficulties by 31.8% ($R^2 = .324$; $\text{Adj. } R^2 = .318$; $p \leq .001$). Then, the analysis results also showed that age’s interaction role did not significantly predict changes in emotional regulation difficulty scores ($R^2 = .329$; $\text{Adj. } R^2 = .320$; $R^2 \text{ change} = .005$; $p = .211$). These results can be seen in Table 3.

Then specifically, it was found that the regression coefficient showed that the moderating effect of age did not make a significant contribution ($\beta = .247$; $t(230) = 1.255$; $p = .211$), while the mindfulness variable significantly made a unique contribution to emotional regulation difficulties by 32.26% ($\beta = .568$; $t(231) = 10.499$; $p \leq .001$). In the meantime, the age variable did not significantly contribute to emotional regulation difficulties ($\beta = -.063$; $t(231) = 1.163$; $p = .246$). Thus, age does not moderate the role of mindfulness in emotion regulation. These results can be seen in Table 4.

Table 3.
Regression Model (Outcome: (Emotion (Dys)Regulation)

Model	R	R ²	Adj. R ²	R ² Change	F Change	df1	df2	p
1	.569	.324	.318	.324	55.400	2	231	< .001
2	.573	.329	.320	.005	1.576	1	230	.211

Note. Model 1 = Predictors are mindfulness and age. Model 2 = Predictors are mindfulness, age, and interaction variables (moderator).

Table 4.
Regression Coefficients

	Model	B	SE	β	t	p
1	(Constant)	24.944	2.994		8.331	< .001
	Mindfulness	6.554	.624	.568	10.499	< .001
	Age	-1.942	1.669	-.063	-1.163	.246
2	(Constant)	28.309	4.016		7.050	< .001
	Mindfulness	5.788	.873	.502	6.633	< .001
	Age	-8.900	5.788	-.289	-1.,538	.125
	Interaction	1.566	1.247	.247	1.255	.211

DISCUSSION

Based on the results of their research, Zhou et al. (2023) predict that age can influence the relationship between mindfulness and emotional regulation. Age is thought to have a moderating effect, one of which is caused by psychosocial factors in individual development. Physically, age growth has an impact on the maturity of biological factors as well as increasing individual knowledge and experience, so this indicates the individual's tendency to carry out strategies centered on mindfulness to regulate emotions.

This research itself aims to see whether age moderates the relationship between mindfulness and emotional regulation. The results of the analysis show that age does not play a role in weakening or strengthening the role of mindfulness in emotional regulation in young and middle adult participants. These results are in line with the findings of Prakash et al. (2015) in research conducted on young and late adult individuals, which revealed that age does not moderate the role of mindfulness in emotional regulation.

The meta-analysis carried out shows findings from several studies conducted in the laboratory that young adult individuals are able to regulate their emotions as well as late adult individuals. This is expected to occur because the ability to regulate emotions tends to remain good, not changing much as a person ages, as does the work of other emotional functions (Mikkelsen et al., 2021). This finding supports previous findings that there are no differences between young adults, middle adults, and late adults in regulating emotions when facing problems in everyday life (Blanchard-Fields et al., 2004).

Additionally, Mikkelsen et al. (2021) estimate that the ability to regulate emotions can reach its peak when a person is at the point of middle adulthood. This is based on the idea that when an individual is in middle adulthood, the level of knowledge and experience increases, so this makes them better at managing emotions. However, as people get older towards late adulthood, individuals will also experience a decline due to physiological changes that have an impact on cognitive abilities.

Meanwhile, referring to the findings in this research, the results of the correlation test show that there is an insignificant relationship between age and emotional regulation. These results show that there are no differences between young and middle adult individuals in their emotional regulation. In answering this research question, the results show that the age difference in the participants in this research did not weaken or strengthen the relationship between mindfulness and emotional regulation abilities. These findings indicate that to improve emotional regulation abilities, adults need to increase their mindfulness abilities.

CONCLUSION

This research shows that age does not play a role as a moderator in the relationship between mindfulness and emotional regulation in young and middle adult individuals. Furthermore, this research

also found that only mindfulness contributed to adults' emotional regulation. This research complements previous research on variables contributing to emotion regulation in young and middle adults groups. This research also indicates that adult individuals need to increase their mindfulness to improve their emotional regulation abilities. However, this research still has limitations. The participants were not evenly distributed because more participants came from the Jakarta metropolitan area. It is hoped that future research related to this will be able to reach greater numbers of participants in other regions of Indonesia. Apart from that, this research is still limited to mindfulness and has not explored other emotion regulation strategies in the target age group. In future research, if you want to get a deeper picture of emotional regulation in the Indonesian cultural background, then a qualitative approach can also be applied to see how the dynamics of life values in culture play a role in mindfulness in emotional regulation abilities.

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