TURKISH PSYCHOLOGICAL COUNSELING AND GUIDANCE JOURNAL
2023, VOL. 13, NO. 71, 494-509.

Official Journal of
Turkish Counseling and
Guidance Association

ISSN: 1302 – 1370, E-ISSN: 2822 – 6569 https://doi.org/10.17066/tpdrd.1292047_7

The Relationship Between Depression And Emotion Dysregulation: A Meta-Analytic Study

Gökhan AKSU[a] Mehmet Taha ESER[a] Sabina HUSEYNBALAYEVA[b]

[a]Aydın Adnan Menderes University, Aydın, Turkey, [b]Dokuz Eylül University, İzmir, Turkey

ARTICLE HISTORY

Received: 03.05.23
Accepted: 28.11.23

KEYWORDS

Difficulty in Emotion Regulation, Depression, Meta-analysis.

ABSTRACT

The aim of the current study is to examine the relationship between emotion regulation difficulties and depression by meta-analysis method. As a result of the literature review, a total of 4582 studies were identified and these studies were analysed according to their titles and abstracts. As a result of the evaluations, 37 full texts were included in the analysis. The findings obtained from the analyses were examined and it was determined that there was no significant difference in all subgroups regarding the relationship between emotion regulation difficulties and depression, and the effect size between the two variables did not change. As a result of the REM analysis, it was seen that the generalised effect size of the relationship between difficulties in emotion regulation and depression was moderate (0.52). Considering the scanning process within the scope of this study, it can be stated that there are too many measurement differences and deficiencies in reporting.

Emotion regulation strategies that people use in their daily lives and interpersonal relationships have recently attracted considerable attention. These strategies are known to be adaptive or maladaptive (Gross & Thompson, 2007; Kring & Sloan, 2010). Studies have revealed that especially rumination and suppression among emotion regulation strategies are associated with depression (Aldoa et al., 2010; Nolen-Hoeksema & Aldoa, 2011; Min et al., 2013; Düsing et al., 2021). Regulation of positive and negative emotions is very important for healthy functioning (Kring & Werner, 2004).

Emotion regulation is known as the individual's capacity to use strategies to regulate emotional experiences. According to this capacity level, in emotion regulation processes, all factors of emotion such as emotions, thoughts, physiological reactions and behaviors are changed or maintained voluntarily or involuntarily (Gross, 1998). Emotion regulation is the processes used to remember, experience, control or change an individual's negative or positive emotion (Bridges et al., 2001). Dahl (2001) sees emotion regulation as the effort of individuals to manage their emotions.

Emotion regulation is known as the regulation of positive and negative emotions. In terms of their characteristics and their impact on human evolution, emotion regulation skills and strategies may differ for negative and positive emotions (Fredrickson, 2003; Fredrickson et al., 2008). Negative emotions mobilize people to take actions that help them survive in moments that are seen as a threat to human life (Fredrickson et al., 2008). Since this is not seen in individuals with emotion regulation difficulties, they are known to be prone to psychopathologies (Aldoa & Nolen-Hoeksema, 2010). The effects and nature of emotion regulation may differ. The strategies preferred by the person, the moment of using these strategies, the goals of emotion regulation and the context affect the success and adaptation of emotion regulation strategies (Gross &

CORRESPONDING AUTHOR Gökhan AKSU, gokhanaksu1983@hotmail.com, ORCID: 0000-0003-2563-6112, Aydın Adnan Menderes University, Aydın, Turkey.

Thompson, 2007). The Emotion Regulation Process Model emphasizes that people regulate their emotions in order to increase their positive emotions and decrease their negative emotions (Gross, 1998). In this respect, if strategies that function like reappraisal commonly lead to positive outcomes, it is expected that everyone will always use reappraisal instead of suppression (which can lead to some negative outcomes) (Gross, 2008). However, the emotion regulation strategies used by individuals may differ and Gross (1998) explained that this is because individuals have different goals for emotion regulation.

Emotions play an important role in behavioral responses, recalling an important memory, facilitating interpersonal communication and decision-making. Maladaptive emotional reactions are known to be involved in many psychopathologies. Considering all these, it is seen how important a role successful emotion regulation plays in the well-being of individuals (Gross & Thompson, 2007).

Emotional dysregulation is defined as the maladaptive strategies that individuals use against the intense emotions they experience. This situation can be assessed as an inability to use the functional aspects of emotions and a decrease in cohesion (Gross, 2013). Emotional dysregulation is known to have a multidimensional structure. Accordingly, dimensions such as not being aware of emotional experience, difficulty in understanding and accepting emotions, focusing on the goal in case of emotional arousal, and having difficulty in impulse control express emotion dysregulation (Gratz & Roemer, 2004). These dimensions usually interact to cause problems in the individual's emotional, cognitive, and behavioral systems. Emotion dysregulation can lead to maladaptive behaviors as it causes difficulties in regulating negative emotions (Aldao et al., 2010).

Many psychiatric disorders in DSM-V are related to emotion and emotion regulation processes. When the related literature is examined, it is seen that there are studies examining psychopathologies and emotion regulation together (Aldoa et al., 2010; Martin & Dahlen, 2005). In a study examining the relationship between emotion regulation and psychopathology groups, it was found that avoidance, suppression and rumination emotion regulation strategies had more effect on psychopathologies (Aldao et al., 2010).

Depression, which is known as one of the most common psychiatric disorders today (Öztürk & Uluşahin, 2014) and literally defined as depression, is defined as a set of symptoms such as unhappiness, hopelessness, sadness, pessimism, stagnation, and reluctance (Türkçapar, 2019). Studies on depression have emphasized the importance of emotion regulation processes in the onset and maintenance of depression (Joorman & Quinn, 2014). It is known that maladaptive emotion regulation strategies are seen with negative life events and depression symptoms (Stikkelbroek et al., 2018).

Depression is known to be associated with poor emotion regulation strategies (Joormann & Stanton, 2016). The views on this hypothesis have been explained by mood adaptation hypotheses (Ellis et al., 2009). Depressed mood is thought to increase the intensity of negative emotional reactivity. In addition, the lack of positive emotions in depression has a negative effect on the intensity of positive emotional reactivity (Bylsma et al., 2008). Individuals' negative cognitive evaluations and cognitive distortions cause the emergence of negative emotions (Türkçapar, 2019). The mood adjustment hypotheses emphasize that changes in emotion regulation may be related to people's negative mood. However, research shows that the decrease in emotional reactions of people with depression is valid not only for pleasurable stimuli but also for unpleasant stimuli (Rottenberg et al., 2005). In addition to the studies examining the relationship between emotion regulation and depression, the emotion context insensitivity hypothesis is also prominent. It suggests that depression differentiates individuals' emotional responses from context to context (Ellis et al., 2009). It is observed that depressed individuals show decreases in their reactions to both positive and negative emotional cues (Rottenberg, 2005).

Studies have shown that rumination, self-blame, catastrophizing, reduced positive reappraisal and acceptance, which are sub-dimensions of emotion regulation, affect depression independently of gender (Martin & Dahlen, 2005). In a study examining emotion regulation and depression with different samples, it was found that there was a strong relationship between depressive symptoms and catastrophizing, rumination and diminished positive reappraisal (Ehring et al., 2008; Min et al., 2013; Aldoa & Nolen-Hoeksema, 2011; Rozemarijn et al., 2022).

Rumination, which emphasizes repetitive focus on individuals' negative emotions and their causes, is associated with depression (Garnefski et al., 2002). At the same time, studies have found that rumination

strategy has a positive predict on negative affect (Watkins & Teasdale, 2001) and affects the severity of depression symptoms (Just & Alloy, 1997). Studies show that adaptive emotion regulation strategies such as reappraisal have a negative effect on depression symptoms (Arditte & Joormann, 2011). Catastrophizing, which is defined as focusing on the negative aspects of stressful events, also predicts depression (Sullivan et al., 1995).

The current study aims to examine the relationship between emotion regulation and depression through meta-analysis. As a result of the literature review, not many meta-analysis studies on the relationship between depression and emotion regulation were found. To the best of our knowledge, there are three recent comprehensive reviews on major depressive disorder and self-reported emotion regulation (Aldao et al., 2010; Joormann & Stanton, 2016; Liu & Thompson, 2017). In the meta-analysis study conducted by Aldao et al. (2010), it was found that the effect size of depression was high with rumination and avoidance strategies, moderate with suppression and problem solving strategies, and low with acceptance and reappraisal strategies. However, the literature review related to this study was conducted in 2008. Furthermore, Aldao et al. (2010) did not only focus on samples diagnosed with depression, but also considered a wider range of psychopathologies as well as samples defined by self-reported symptoms of depression. Likewise, Joormann and Stanton (2016) reviewed studies with both clinical and non-clinical samples. More recently, Liu and Thompson (2017) reviewed a wide range of studies investigating emotion regulation strategies with more narrowly defined major depressive disorder. They focused their review on individuals diagnosed with major depressive disorder using validated diagnostic interviews. In addition to self-report measures of emotion regulation, they included a range of different study designs, including laboratory and naturalistic assessments. The review provides an important overview of the field of emotion regulation in major depressive disorder and offers valuable directions for future clinical trials and research. More specifically, they found that individuals with current and recovered major depression reported more rumination and less acceptance compared to healthy controls. They also report that the current status of suppression is unclear, as results from studies have not been consistent. However, the reviews by Liu and Thompson (2017) and Joormann and Stanton (2016) do not appear to be based on systematic literature reviews as no such procedure was reported. Therefore, studies that potentially should have been included in the scope of the research may have been omitted. Furthermore, he did not apply meta-analytic procedures within the scope of the relevant study. Quantification of the findings may illuminate group differences in self-reported emotion regulation. Furthermore, such methods enable moderator analyses to investigate whether certain characteristics have an effect on emotion regulation. Considering the studies on the variables addressed within the scope of the research, it is thought that addressing the relationships between depression and emotion regulation variables in a holistic manner will be beneficial to the literature. Therefore, this study examined the relationship between emotion regulation and depression in a holistic manner through meta-analytic method. For this aim, answers to the following questions were sought:

What is the average effect size of the relationship between emotion regulation and depression?

Does the effect size of the relationship between depression and emotion regulation differ significantly according to the moderator variables of publication year, target population type and research area?

Method

In this section, the data collection process, the process of determining the criteria, the validity and reliability of the measurement results related to the coding form, and data analysis are discussed. This study was designed with the meta-analysis method. Meta-analysis is seen as a method based on combining the statistical findings of quantitative studies in a systematic way (Borenstein et al., 2009). Meta-analysis is a method that focuses on a series of studies with appropriate methods to summarize data addressing the same question using similar criteria (Hedges & Olkin, 1985), correcting artificially created differences between studies (Schmidt & Hunter, 2015) and combining them in a systematic way (Dinçer, 2020). The aim of meta-analysis is to use data from a series of studies to obtain information about effect size by performing operations on various constructs (Hedges, 1982).

Data Collection Process

In the international literature, it is recommended to use the flow diagram within the scope of the PRISMA statement and to follow the PRISMA guidelines in systematic review and meta-analysis studies in order to accurately perform and improve the presentation and reporting of systematic review and meta-analysis studies (The PRISMA Group, 2009). Almao et al. (2010) conducted a study on a similar topic. In the meta-analysis

study conducted by Almao et al. 114 studies conducted between 1986-2010 were included in the meta-analysis. For this reason, within the scope of this study, studies conducted between 2010-2022 were scanned. In this context, two researchers independently scanned the studies published in TR-Dizin, , PubMed, ERIC, EBSCOHost, ProQuest, SAGE and Elsevier databases between 2010 and 2022, in which the SFL was used. The reason for selecting these databases is that they publish publications mainly in the fields of psychology, psychological counselling and guidance, and the publications are open access and generally include journals with high impact. In this context, it is considered that the studies examined in the current study can provide content validity. The mentioned databases were searched with the keywords "Emotion Dysregulation", “Difficulties in Emotion Regulation”, “Major Depressive Disorder” and "Depression", and a total of 4582 studies were examined according to their titles and abstracts. Then, the same studies were removed and the full texts of the remaining studies were examined and the inclusion criteria were determined. The inclusion criteria are as follows:

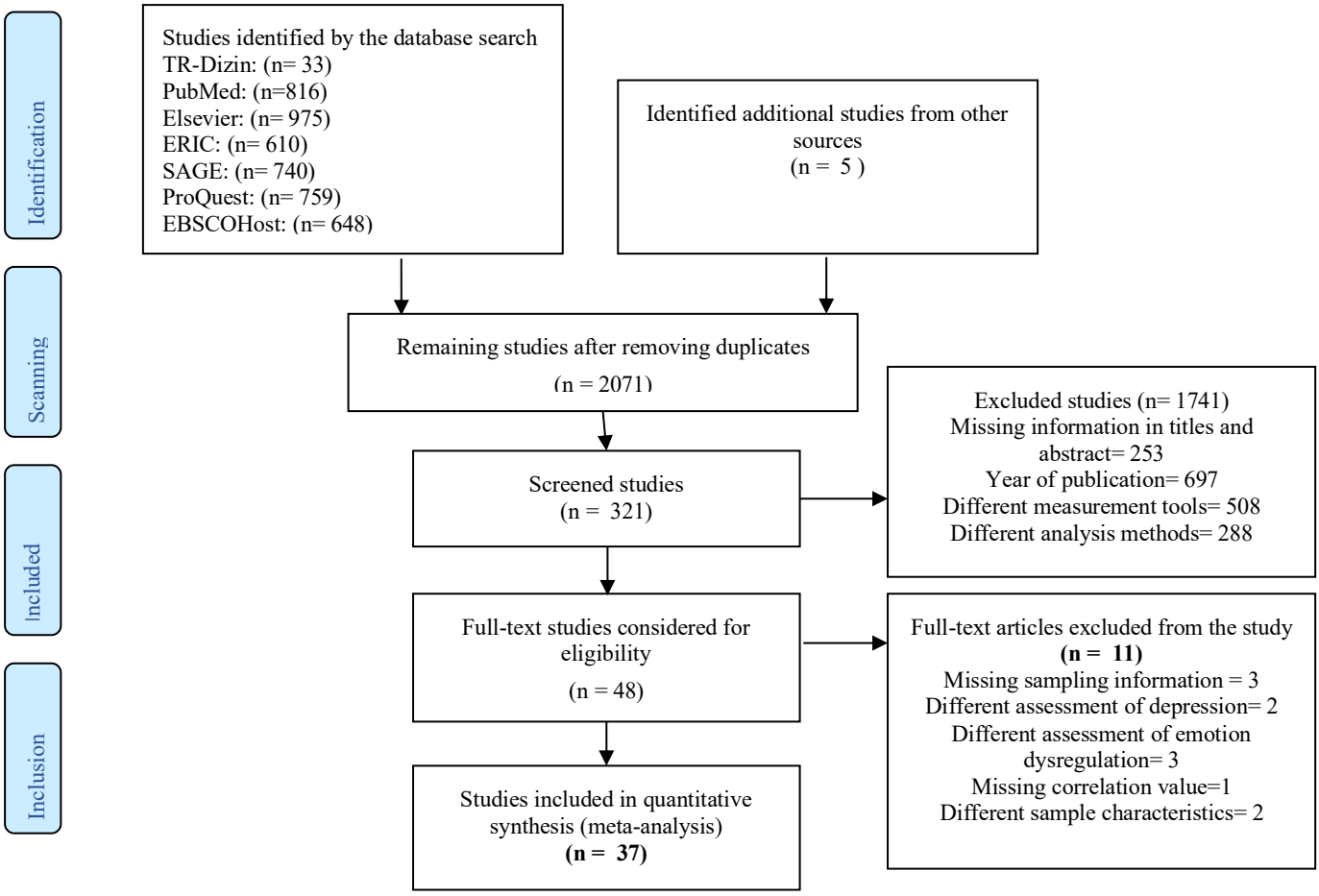
The study examined the relationship (correlation) between emotion dysregulation and depressionThe study includes statistical information required for meta-analysis, such as correlation coefficient and sample size.

The study includes Pearson correlation coefficient or statistics used to calculate Pearson correlation coefficient

The study includes information on publication language, research area, sample characteristics and year variable.

Twenty-eight studies that met the specified inclusion criteria were identified and the research was conducted using the information obtained from these 34 studies. In order to make the screening part of the study transparent, the flow diagram proposed by PRISMA is presented in Figure 1 (PRISMA, 2009).

Figure 1. Flow Diagram



Data Analysis

After the identical studies were removed, the full texts of the remaining studies were analyzed. At this stage, inclusion criteria were determined. The criteria determined are; i) ULAKBIM, and ELSEVIER databases, ii) the correlation between depression and emotion regulation was reported, iii) the sample group, sample size, average age of the sample, scale form or number of items were included in the study, iv) the sample group consisted of Turkish individuals and v) the language of the study was English or Turkish. According to the inclusion criteria, the studies were coded by two researchers and the percentage of inter-coder agreement was 90% and the Krippendorff Alpha coefficient was .88, and these results were considered as an indicator of high inter-coder reliability. As a result of compliance with the inclusion criteria and inter-coder reliability, it was determined that there were 37 studies suitable for meta-analysis and meta-analysis was performed with 37 studies. All analyses of the study were conducted using JAMOVI and R software.

The distributions of Cronbach's Alpha coefficients are not normally distributed. Therefore, the distribution of reliability coefficients was normalized by using Bonett (2002) transformation. The reliability generalization study was carried out using the coefficients obtained as a result of the transformation, and the comments were made by converting the last value obtained into Cronbach's Alpha coefficient. In determining whether the studies evaluated within the scope of meta-analysis show a heterogeneous distribution, that is, in determining the sources of variability of reliability values within the scope of individual studies, the Q statistic, the I2 statistic, which is a function of the Q statistic, and the lower and upper confidence interval for the generalized reliability value were used. Considering that Bonett's VC model is basically a random effects model (Holland, 2015) and that the random effects model is a more realistic representation of the real world (Field, 2003b), the random effects model (REM) was preferred in the research. For the estimation of between-study variance under REM, the Sidik-Jonkman estimator, which has better features and produces better results than other estimators, was preferred.

During the coding of the studies selected according to the criteria for inclusion in the meta-analysis, the following study characteristics were considered: (i) study name, (ii) author(s) name, (iii) year of publication, (iv) language of publication, (v) reliability coefficient, (vi) type of reliability, (vii) sample size, and (viii) sample type. The studies were coded by two researchers according to the specified characteristics, and the percentage of inter-coder agreement was 93% and the Krippendorff Alpha coefficient was .91, and these results were considered as an indicator of high inter-coder reliability.

The present meta-analysis study, like other meta-analysis studies, has some limitations. The first one is the limitations of the meta-analysis method itself. Within the scope of the study, only the studies in which Cronbach's alpha value was calculated and only the studies conducted within the scope of Turkey sample were evaluated. At the same time, only articles were reviewed within the scope of the study. Although all of the postgraduate studies of individual researchers were reached, only those that were published and open to the access of readers could be reached due to the different dates of acceptance and publication of the articles in accordance with the publication policies of peer-reviewed scientific journals. Although a rich keyword pool was created for individual studies obtained with the help of search engines and databases, the fact that studies that were not shown or could not be reached as a result of the search could not be included in the list is seen as another important limitation. In addition, the study is limited to the analysis of coded moderator variables.

Within the context of the study, funnel diagram, Egger's regression test and Kendall's tau were used to examine publication bias. In addition, the fail-safe N method was also used to obtain information about how many studies with an effect size value of zero should be conducted in order to eliminate the significance of the meta-analysis result. Within the scope of the study, the year of publication (2010 and later), sample type (healthy/others), language of publication (English/Turkish) and field of study (Psychology/Psychiatry) were considered as moderator variables. Meta-regression and Analog ANOVA were used to determine the effect of these moderator variables on the variability of reliability estimation.

Findings and Interpretations

In this section, publication bias findings are presented first, followed by heterogeneity, effect size and moderator analysis findings.

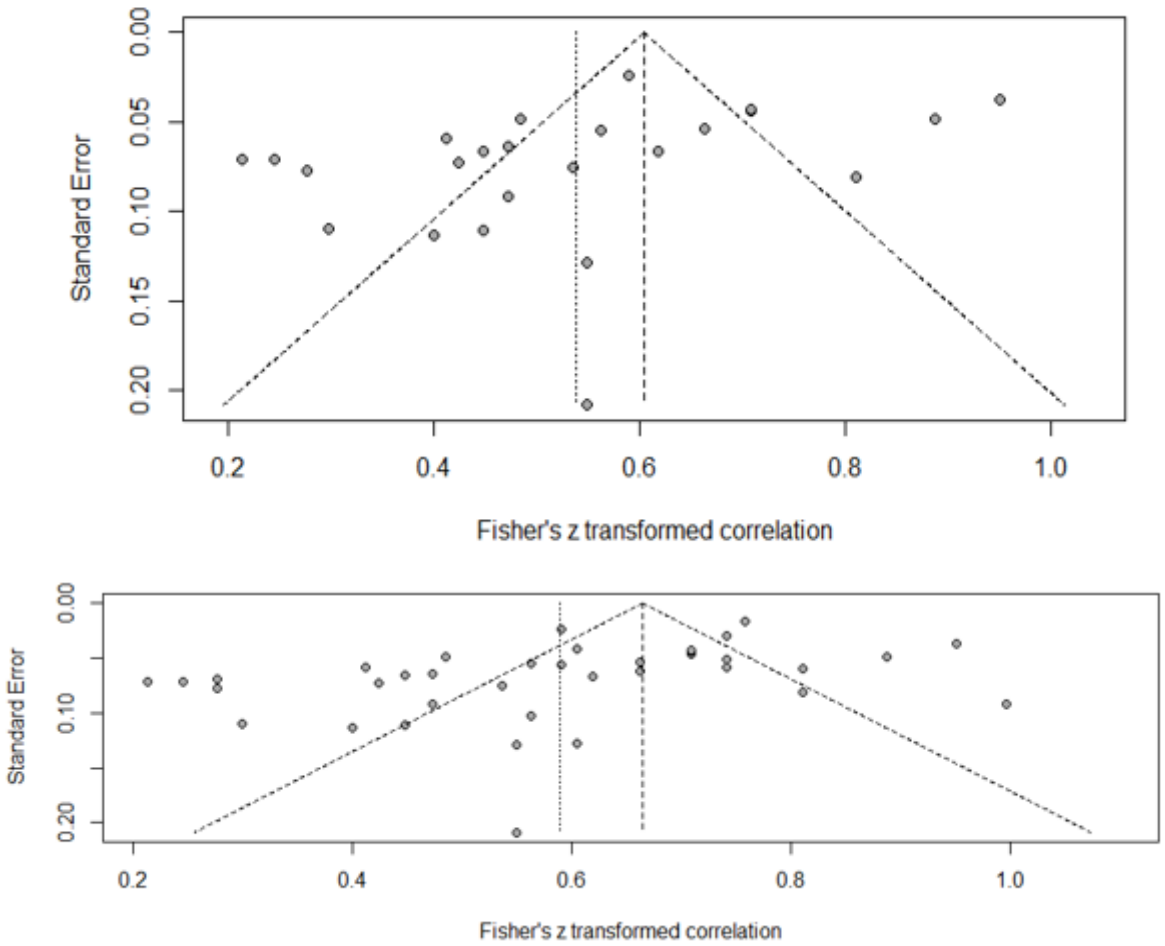
Findings and Interpretations on Publication Bias

Within the context of the research, before calculating the average effect size of the meta-analysis, evidence for the detection of publication bias in the studies examined within the scope of the analysis was sought. For this purpose, Mullen et al.(2001) formula, funnel plot, Egger's linear regression test, Kendall's tau value, and Duval and Tweedie clipping and filling method were used.

Mullen et al.(2001) pointed out that the resilience of the results of meta-analysis studies against future studies can only be realized when the value calculated using the formula N/(5k+10) is greater than 1. Using the relevant formula, it was determined that the value obtained for the total population of 15750 people was greater than 1 (80.77). The fact that the calculation results for these values are greater than 1 can be interpreted as the publication bias of this meta-analysis study is very low.

One of the most widely used methods for collecting visual evidence of publication bias is the funnel plot. Figure 2 shows the funnel plot.

Figure 2. Funnel Chart



In a funnel chart, studies are expected to be symmetrically distributed around the uncertainty line (the line that cuts the overall effect size for reliability). Although Figure 2 shows that the effect sizes of individual studies are approximately symmetrically distributed to the right and left of the overall effect size, this interpretation is

subjective (Borenstein et al., 2013). For a more objective interpretation, Egger's regression test should be utilized. The fact that the result of Egger's Linear Regression test (EggerValue= --4.49, p=0.0873>0.05) was not statistically significant is another indication that there is no evidence of publication bias. Moreover, the Begg and Mazumdar rank correlations statistic was examined in terms of contributing/not contributing to the lack of asymmetry in the funnel plot. When the Begg and Mazumdar rank correlations statistic is analyzed, it is concluded that there is no asymmetry in the funnel chart (Kendall's Tau= -0.350, p=0.169>0.05). Finally, the Duval and Tweedie trimming and filling test result was examined and it was concluded that there was no difference between the observed and actual effect sizes. As a result of the tests on the asymmetry of the funnel chart, it was concluded that the funnel chart was symmetrical and there was no evidence of publication bias.

When the studies on publication bias in recent years are examined, it is stated that publication bias is mostly caused by significance levels and p-hacking, and therefore, it is recommended to interpret the outputs obtained as a result of p-curve and p-uniform analyses in the process of collecting evidence on publication bias (Simonsohn et al., 2014a; Harrer et al., 2019). For this aim, the results obtained from the p-curve analysis were finally interpreted in terms of examining publication bias. Figure 3 shows the result of the p-curve publication bias analysis.

Figure 3. P-Curve Plot

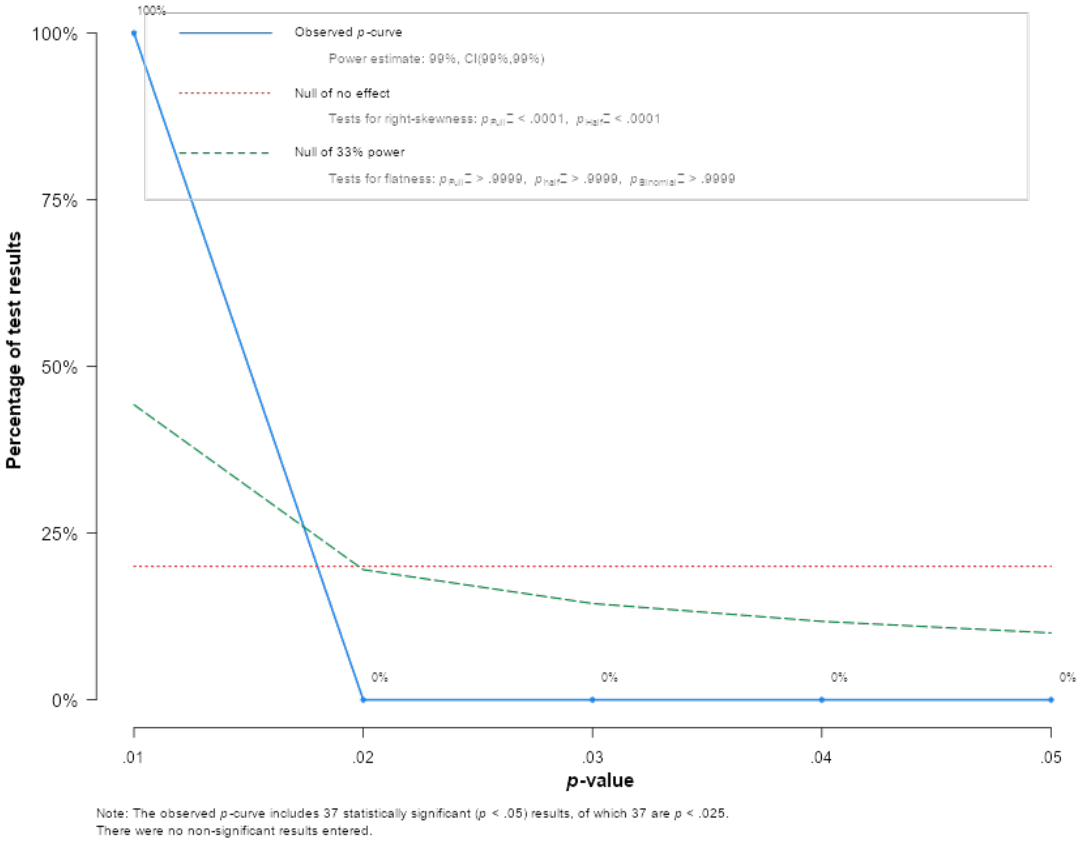


Figure 3 shows that the observed p-curve includes 37 studies at p<0.05 significance level and all of the studies are at p<0.025 significance level. The blue line represents the observed p-curve and the power estimate for the observed p-curve is 99%. In conclusion, when all the statistics and visualizations regarding publication bias were analyzed, it was determined that there was no evidence of publication bias.

Within the context of the study, the numerical output of the meta-analysis regarding the Fail-Safe N, which is a way of defining the p-value, was also analyzed. The fact that the p-value for the Fail-Safe N is smaller than the alpha value (p<0.001) indicates that the study is a strong study with low reliability. Within the scope of the study, it was determined that the p value for the Number of Error Protections was less than the alpha value of 0.05 (FSN=115083, p<.001). According to this result, it can be said that the study is a strong study with a high

level of reliability.

Findings and Interpretations on Risk of Bias

In order to evaluate the risk of bias in the research, a study identified as an outlier (Keleş-Altun & Atagün, 2019) was excluded from the analysis and the meta-analysis was performed again. As a result of the repeated analysis based on the random effects model, it was determined that the effect size obtained increased from 0.522 to 0.529. However, since this difference was very low, it was concluded that there was no risk of bias within the scope of the study.

Findings and Interpretation on Generalized Effect Size

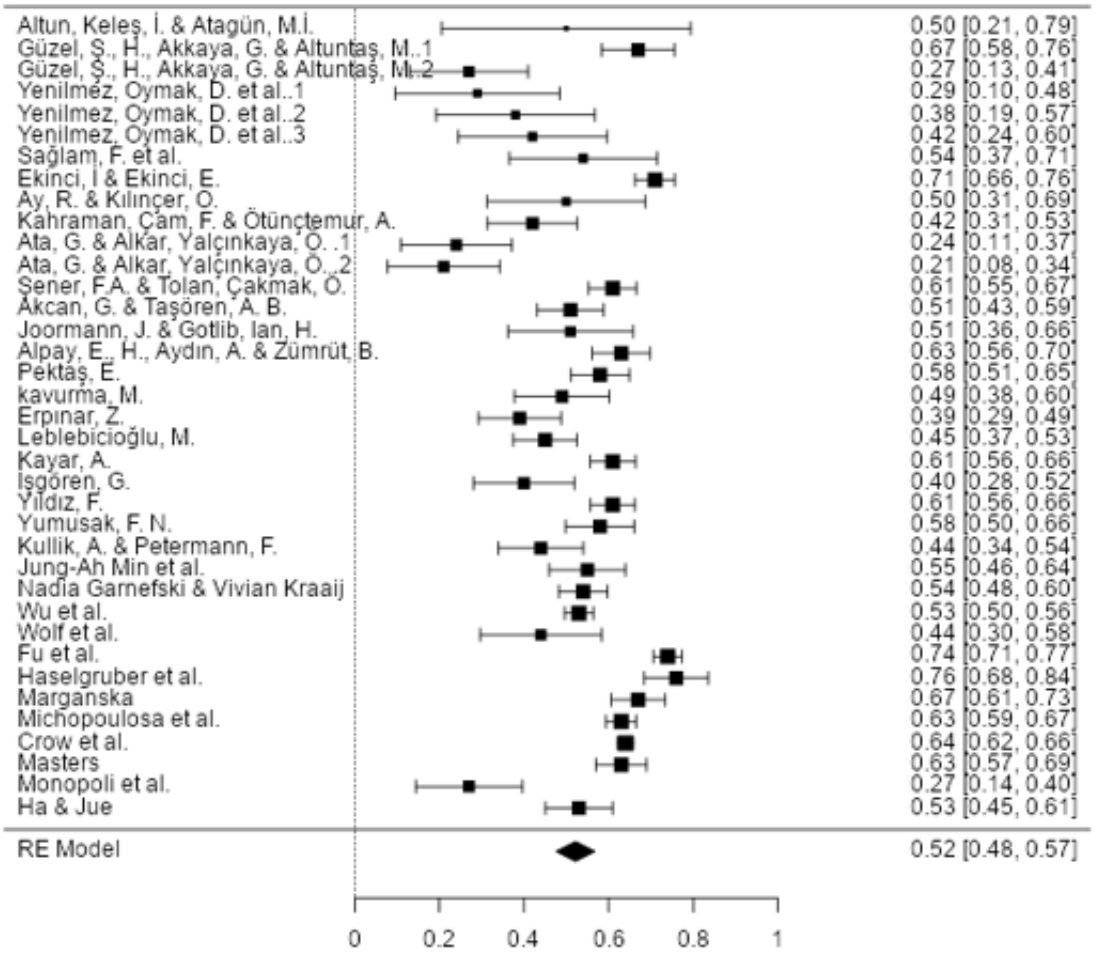
Following the process of searching for evidence of publication bias related to the studies included in the sample of the study, the generalized effect size should be calculated within the context of the preferred random effects model, taking into account the sampling frame of the study. Table 1 shows the overall effect size and the upper and lower confidence interval values for the overall effect size.

Table 1. Output for General Effect Size

Model	Effect Size	Standard Error	z	p	CI Lower	CI Upper
REM	0.522	0.02	22.5	<.001	0.47	0.56

When Table 1 is examined, it is observed that the generalized effect size value for the relationship between depression and emotion regulation is 0.52 with an error of 0.02. The lower limit of the generalized effect size is 0.47 and the upper limit is 0.56 at 95% confidence interval. When the point estimate value of 0.52 and the lower and upper confidence interval values of the generalized effect size are interpreted considering the effect size classification of Cohen et al. (2011), it can be said that the generalized effect size value is moderate. Another output of the meta-analysis is the forest plot. Figure 4. shows the forest plot.

Figure 4. Forest Graph



Considering the data on the effect sizes of the studies included in the study, it is seen that the effect size values for the studies vary between 0.76 (Haselgruber et al., 2021) and 0.21 (Ata et al., 2020). When the statistical results of the reliability values of the studies are evaluated holistically, it is noticeable that the reliability of all 37 of the 37 studies constituting the sample is above the acceptable level. The forest plot also includes study weights. The size of the square representing each study in the forest plot shows the weight of the study. When the study weights in the forest plot are analyzed, it can be said that the weight of the study conducted by Wu et al. (2013) is the highest.

After analyzing the forest graph, the heterogeneity statistics in Table 2 were analyzed.

Table 2. Heterogeneity Statistics

I^2	df	Q	*p*
%94.23	36	371.352	< .0001

Table 2 shows that the result of Cochran's Q Test is statistically significant (Q ~ (df = 36) ~ = 371.352, p<.0001). In other words, the change in effect size is larger than expected from sampling error. According to this result, it can be said that the actual effect size varies according to the studies. The I^2 statistic, another statistic that provides information about heterogeneity, shows the rate of change in the observed effect size that can be attributed to sampling error. Table 2 shows that I^2= 94.23%. I^2 provides information about the degree of inconsistency of the findings of the studies within the scope of meta-analysis and reflects the extent to which the confidence intervals obtained from different studies overlap with each other (Borenstein et al., 2009). The I^2 value obtained within the scope of meta-analysis is a relatively large I^2 value and this value means that the effect size varies significantly across studies. In addition to the Q and I^2 statistics, the lower limit value of 0.47 and the upper limit value of 0.56 in the 95% confidence interval for the mean effect size

provide information about how widely effect sizes vary between populations (based on standard deviation). Considering the statistically significant result of the Q statistic, the relatively high I^2 value and the relative width of the estimation interval, it can be said that there is a heterogeneity that needs to be examined. Within the context of the research, moderator analyses were used to explain the sources of heterogeneity.

Moderator Analysis

Meta-analysis finally examined whether the studies included in the analysis showed heterogeneous distribution. The heterogeneity of the combined studies was determined by Q test and I^2 value. In this framework, one of the aims of the study was to determine the differentiation of the relationship between depression and emotion regulation in terms of subgroups related to the language of publication, diagnosis and research field variable. Moderator analysis results are presented in Table 3.

Table 3. Distribution of Effect Sizes According to Subgroups of Moderator Variables

Moderator Variable	Levels of Moderator Variables	k	ES_{mean}	ES_{lower}	ES_{upper}	df	Q_B	*p*
Language of publication	Turkish	23	0.495	0.434	0.551	1	3.24	0.072
	English	14	0.578	0.507	0.640			
Sample type	Healthy	26	0.584	0.573	0.595	1	3.64	0.056
	Other	11	0.549	0.512	0.583			
Research area	Psychiatry	10	0.496	0.390	0.588	1	0.57	0.449
	Psychology	27	0.538	0.485	0.587			

The moderator analysis output regarding the sub-problem "Is there a statistically significant difference between the effect sizes of the studies according to the language of publication?" is given in the first row of Table 3. Within the scope of the relevant moderator analysis, the value to be examined for determining the sources of heterogeneity is the Q value. When the moderator analysis result for the first row is examined, it is concluded that there is no statistically significant difference between the effect sizes of the publication language (Turkish/English) variable (Q=3.24; p=0.07>.05). Accordingly, whether the studies are published in Turkish or English does not change the effect size.

The output of the moderator analysis conducted for the sub-problem "Is there a statistically significant difference between the effect sizes of the studies according to the target sample type?" is given in the second row of Table 3. Within the scope of the relevant moderator analysis, the value to be examined for determining the sources of heterogeneity is the Q value. When the moderator analysis result for the second row is analyzed, it is concluded that there is no statistically significant difference between the effect sizes of the target sample type (healthy/others) variable (Q= 3.64; p=0.056>.05). Accordingly, whether the target group is healthy or non-healthy does not change the effect size of the studies.

The output of the moderator analysis conducted for the sub-problem "Is there a statistically significant difference between the effect sizes of the studies according to the research area?" is given in the third row of Table 3. Within the scope of the relevant moderator analysis, the value to be examined for determining the sources of heterogeneity is the Q value. When the moderator analysis result for the third row is examined, it is concluded that there is no statistically significant difference between the effect sizes of the research field (psychiatry/psychology) variable (Q=0.57; p=0.44>.05). Accordingly, whether the research field of the studies is psychiatry or psychology does not change the effect size.

Discussion and Conclusion

The aim of the current meta-analysis study was to evaluate the studies on the relationship between emotion regulation difficulties and depression level with the help of meta-analysis method. In line with this purpose, meta-analysis was conducted with 37individual studies (N= 15750) that met the inclusion criteria. In addition to the study purpose, moderator analyses were conducted to determine whether there was a possible statistical difference on the relationship between emotion regulation difficulties and depression according to the language of publication, sample type and research area. The findings obtained from these analyses were analyzed and it was found that there was no significant difference in the relationship between emotion regulation difficulties and depression in all subgroups. Since emotion regulation abilities and depression is a complex structure, it

can be highly affected by culture (Aldoa et al., 2010). This situation can be affected by culture due to the expressiveness of emotions (Chen et al., 2022). In some cultures, emotional problems, difficulties in emotion regulation, mental health problems or depression may be perceived as a source of shame (Giromini et al., 2012). This may inhibit the recognition of emotional problems, sharing them with others and help-seeking behaviours. Because, in some cultures, forms of emotional expression may differ (Cheung et al., 2020). Cultural norms in which emotional expression is accepted or suppressed may affect a person's emotion regulation skills. In the current study, since the number and effect sizes of the articles published in Turkish and English are similar, it can be stated that there is no bias in the context of culture.

Within the scope of the study (Aldao et al., 2020) in which similar variables were used with emotional dysregulation and depression variables used in this study, it was observed that mixed samples resulted in larger effect sizes for the relationships between emotion regulation strategies and psychopathology. Considering this result, sample type was used as a moderator variable in the related study (Aldao et al., 2010). When the sample characteristics of the studies were analysed, it was seen that there was no difference between the effect sizes and the relationship between emotion regulation difficulties and depression did not change according to the sample characteristics. This result related to the sample type in the related study differs from the findings of Aldao et al. (2010). However, it should be taken into consideration that the relationships between emotion regulation and psychopathology are not different when two extreme groups such as healthy and unhealthy are compared (Kraft et al., 2023).

When the literature is examined, there are studies indicating that the relationships between psychological variables may vary in terms of worldviews, ideologies, values and concepts (Schwartz & Bardi, 2001; Matsumoto, 2006). Considering that the language of broadcasting can also be a variable related to the cultural context, the language of broadcasting was used as a moderator variable in the study. In the emergence of this result, it was concluded that the relationship between depression and emotion dysregulation was at a similar level in studies conducted in our country and studies conducted abroad, in other words, this relationship did not differ according to country or culture. This result is similar to the result of Hu et al. (2014) that culture is not a significant moderator variable between cognitive reappraisal and mental health between Eastern and Western cultures.

Considering that the concepts of emotion dysregulation and depression are among the study subjects of both psychology and psychiatry research (Berking & Wupperman, 2012), the variable of research area (psychology/psychiatry) was used as a moderator variable in the study. It was concluded that the relationship between depression and emotion dysregulation was at a similar level in psychiatry and psychology, in other words, this relationship did not differ according to research area. Although the related variable was accepted as a moderator variable in the scope of the research, it was determined that there was no variability between the two fields that constitute the study area in the relationship between emotion regulation and depression.

Within the context of the study, the results of 37 studies were evaluated by meta-analysis method in order to examine the relationship between emotion regulation difficulties and depression. In the study, it was determined that the effect sizes of the studies ranged between 0.21 and 0.76; at the same time, all of the effect sizes of the studies were positive and the generalized effect size value was 0.52, and according to this value, it was concluded that there is a relationship between emotion dysregulation and depression (Be et al., 2013). According to this result, studies examining the relationship between emotion regulation difficulties and depression show that there is a positive and moderate relationship between the two variables as a whole. Accordingly, when the studies conducted in different languages, in different fields and with different samples are evaluated as a whole, it is determined that emotion dysregulation positively increases the level of depression. It can be stated that the generalized effect size value calculated according to the random effect model represents a moderate effect according to Cohen et al.'s (2007) classification. It was observed that the effect size value obtained regarding the relationship between emotion regulation difficulties and depression was similar to the research results (Akcan & Taşören, 2020; Güzel et al., 2021; Keleş-Altun & Atagün, 2019; Wu et al., 2019).

As a result of the literature review, no study findings were found for the purpose of the study. The lack of a study on a similar topic does not allow for a comparison with the generalized effect size value obtained. Within the scope of the current study, it is thought that including not only the findings obtained from a single country but also the findings of studies with different sample characteristics increases the generalizability of the study

findings. The fact that there is no difference between the studies published in English and Turkish, with different sample characteristics and different research fields in terms of language of publication, sample characteristics and field of publication in measuring the effect of emotion dysregulation difficulties on the relationship between emotion dysregulation difficulties and depression shows that there is no difference between the theories discussed in terms of both languages of publication and the countries studied. This finding is thought to be due to the strength of the theories addressing the relationship between emotion regulation difficulties and depression.

The current meta-analysis study has limitations as in all other studies. The first one is the limitations of the meta-analysis method itself. The limitation of the current meta-analysis study is that correlational studies examining the relationship between variables were considered. In addition, only the studies that were accessible and within the scope of the study were evaluated in the study. Due to the different publication and acceptance dates of articles within the scope of the publication policies of peer-reviewed scientific journals, only the studies that were published and open to the access of readers were accessed and evaluated within the scope of the study. Although keywords were determined for the studies accessed with the help of scientific search engines and databases, the fact that the studies that could not be accessed could not be included in the current meta-analysis study is seen as another limitation of the study. When the literature review process within the scope of the current study was evaluated, it was seen that there was inadequate reporting practice regarding the studies. As a matter of fact, one of the most important limitations of the study is that 2510 of the 4582 studies accessed in scientific databases could not be included in the analysis due to lack of information. Of the remaining 2072 studies, 1744 were excluded from the analysis due to missing data and other reasons, and a total of 328 studies were screened and only 37 of them were included in the analysis. Another limitation is the use of analog ANOVA analysis, which is sensitive to different variables in subgroup analyses. The current study is also limited to the analysis of coded moderator variables. It is thought that the low numbers in some subgroups in the moderator analysis may have affected the results.

In meta-analysis studies, the problem of "publication bias" is encountered as a result of overestimating the actual population effects (Crocker & Algina, 1986; Pedhazur & Schmelkin, 1991; Thompson, 2003). The findings obtained as a result of the analyzes conducted within the scope of the current study revealed that there was no difference according to the language of publication, field of study and sample characteristics. For this reason, it is recommended that researchers should consider the variables considered in the study while interpreting the relationship between depression and emotion regulation difficulties and, if necessary, interpret the results of the analysis by controlling the variables that may cause possible differences.

Although the analysis of the current study with R and JAMOVI programs is considered as a limitation by some researchers, this is not considered as a limitation within the scope of the study due to the increasing use of open source and free programs instead of paid and closed-coded programs such as CMA in recent years and the findings obtained can be supported with richer materials. As a matter of fact, the results of p-uniform analysis and p-curve publication bias analysis performed within the scope of the study are considered as one of the superior aspects of the study.

The current study was conducted to determine the relationship between emotion dysregulation and depression, which is frequently used in the literature, and the generalised effect size value was 0.52. It is thought that this finding will guide future studies. Since psychopathologies are multi-structured and generally effective on emotions, determining the effect size between the two variables will be useful for the evaluation of psychopathologies. In addition, it will provide predictions for multifactor analyses such as structural equation modeling, which has been done frequently recently. The findings of the present study suggest that individuals with emotion regulation difficulties that may increase the risk of depression should be monitored and supported especially closely. In addition, it is an important point that emotion regulation difficulties should be addressed in depression treatments. Therefore, these findings are of great importance for the development of prevention and intervention strategies. Training programmes to improve emotion regulation skills, especially for young people and groups at risk, should also be expanded. These programmes offered in schools, workplaces and community centres can raise awareness about emotional resilience and emotion regulation from a young age.

Author Contributions: The authors contributed equally to the study.

Funding Disclosure: No funding was provided for this study.

Conflicts of Interest: The authors declare that they have no conflict of interest.

Data Availability: Data is available upon request from the corresponding author.

Ethical Disclosure: Due to the utilization of secondary data for the meta-analysis in this study, ethical approval was not required.

References

Akcan, G. & Taşören, A. B. (2020). Genç yetişkinlerde çocukluk çağı olumsuz yaşantıları, öz-şefkat ve duygu düzenleme becerileri depresyon belirtilerini yordar mı?. *Boğaziçi Üniversitesi Eğitim Dergisi*, 37 (2), 59-80. https://dergipark.org.tr/tr/pub/buje/issue/58375/842241.

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: a meta-analytic review. *Journal of Clinical Psychology. Rev*. 30, 217–237. https://doi.org/10.1016/j.cpr.2009.11.004.

Aldao, A., & Nolen-Hoeksema, S. (2010). Specificity of cognitive emotion regulation strategies: a transdiagnostic examination. *Behaviour Research And Therapy*, 48 (10), 974–983. Https://Doi.Org/10.1016/J.Brat.2010.06.002

Alpay, E., H., Aydın, A., &Bellur, Z. (2017). The mediating role of the emotion regulation difficulties on the relationship between childhood traumas, post traumatic stress symptoms and depression. *Journal of Clinical Psychology*; 20 (3): 218-226. https://doi.org/10.5505/kpd.2017.98852

Arditte, K. A. &Joormann, J. (2011). Emotion regulation in depression: Reflection predicts recovery from a major depressive episode. *Cognitive Therapy And Research*, 35 (6), 536-543. https://doi.org/10.1007/s10608-011-9389-4

Ata, G. & Yalçınkaya Alkar, Ö. (2020). Kişilerarası duygu düzenleme anketi: Birlikte kara kara düşünme ve birlikte yeniden değerlendirme'nin türkçeye uyarlanması. *Klinik Psikoloji Dergisi*, 4 (2), 136-150. https://doi.org/10.5455/kpd.26024438m000027

Ay, R. & Kılınçel, O. (2021). Depresyon tanısı alan hastalarda çocukluk çağı travması varlığı ve duygu düzenleme güçlüğü ile ilişkisi. *Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, 11 (1) , 67-75 . https://doi.org/10.33631/duzcesbed.819460

Berking, M., & Wupperman, P. (2012). Emotion regulation and mental health: recent findings, current challenges, and future directions. *Current opinion in psychiatry*, *25*(2), 128–134. https://doi.org/10.1097/YCO.0b013e3283503669

Bridges, L. J., Margie, N. G.,& Zaff, J. F. (2001). *Background for community-level work on emotional well-being in adolescence: Reviewing the literature on contributing Factors.* Washington, Dc: Child Trends. https://doi.org/10.1037/e316632004-001

Bylsma Lm, Morris Bh, & Rottenberg J. (2008). A meta-analysis of emotional reactivity in major depressive disorder. *Clinical Psychology Review*;28:676-691. doi: 10.1016/j.cpr.2007.10.001.

Cheung, R. Y., Bhowmik, M. K., & Hue, M. T. (2020). Why does acculturative stress elevate depressive symptoms? A longitudinal study with emotion regulation as a mediator. *Journal of Counseling Psychology*, *67*(5), 645. https://doi.org/10.1037/cou0000412

Crow, T., Cross, D., Powers, A., & Bradley, B. (2014). Emotion dysregulation as a mediator between childhood emotional abuse and current depression in a low-income African-American sample. *Child abuse & neglect*, *38*(10), 1590–1598. https://doi.org/10.1016/j.chiabu.2014.05.015

Dahl, R. E. (2001). Affect regulation, brain development, and behavioral/emotional health in adolescence. *Cns Spectrums*, 6(1), 60-72. https://doi.org/10.1017/s1092852900022884.

Düsing, R., Radtke, E. L., Kuhl, J., Konrad, C., Vandekerckhove, M., & Quirin, M. (2021). Emotion regulation ability compensates for the depression-related negativity bias. *Acta psychologica*, 220, 103414. Https://doi.org/10.1016/j.actpsy.2021.103414

Ehring, T., Fischer, S., Schnülle, J., Bösterling, A., & Tuschen-Caffier, B. (2008). Characteristics of emotion regulation in recovered depressed versus never depressed individuals. *Personality and ındividual differences*, 44, 1574-1584. Https://doi.org/10.1016/j.paid.2008.01.013

Ellis, A.J., Beevers, C.G., & Wells, T.T. (2009). Emotional dysregulation in dysphoria: support for emotion context insensitivity in response to performance based feedbeck. *Journal of Behavior Therapy and Experimental psychiatry*;40:443-454. https://doi.org/10.1016/j.jbtep.2009.05.002.

Ekinci, İ., & Ekinci, E. (2021). Evaluation of anxiety, depression, difficulty in emotion regulation and sleep quality in healthcare professionals during the Covid-19 pandemic; *Comprehensive Medicine,* 13(2): 61-68. DOI: 10.4274/iksstd.2021.04809

Erpınar, Z. (2017), *Duygu düzenleme, depresyon ve anksiyete arasındaki ilişkiler: yaş ve cinsiyet farklılıkları*.[Master Dissertation, Haliç University]. CoHE Thesis Center.

Fredrickson, B. L. (2003). The value of positive emotions: the emerging science of positive psychology is coming to understand why it's good to feel good. *American Scientist,* 91(4), 330-335. https://www.jstor.org/stable/27858244

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal Of Personality And Social Psychology*, 95(5), 1045-1062. https://doi.org/10.1037/a0013262

Fu, L., Wang, P., Zhao, M., Xie, X., Chen, Y., & Nie, J. (2020). Can emotion regulation difficulty lead to adolescent problematic smartphone use? A moderated mediation model of depression and perceived social support. Children and Youth Services Review, 108, 104660. https://doi.org/10.1016/j.childyouth.2019.104660

Garnefski, N., Legerstee, J., Kraaij, V., Van Den Kommer, T., & Teerds, J. A. N. (2002). Cognitive coping strategies and symptoms of depression and anxiety: a comparison between adolescents and adults. *Journal of Adolescence*, 25(6), 603- 611. https://doi.org/10.1006/jado.2002.0507.

Garnefski, N. & Kraaij, V. (2016). Specificity of relations between adolescents' cognitive emotion regulation strategies and symptoms of depression and anxiety, *Cognition and Emotion*, https://doi.org/10.1080/02699931.2016.1232698

Giromini, L., Velotti, P., de Campora, G., Bonalume, L., & Cesare Zavattini, G. (2012). Cultural adaptation of the difficulties in emotion regulation scale: Reliability and validity of an Italian version. *Journal of clinical psychology*, *68*(9), 989-1007. https://doi.org/10.1002/jclp.21876.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41–54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Gross, J. J. (1998). The emerging field of emotion regulation: an integrative review. *Review of general psychology*, 2, 271–299. Https://doi.org/10.1037/1089- 2680.2.3.271

Gross, J. J., & Thompson, R. A. (2007). *Emotion regulation: conceptual foundations*. In j. J. Gross (ed.), handbook of emotion regulation (Pp. 3e24). New York: Guilford Press. http://dx.doi.org/10.1080/00140130600971135.

Gross, J. J. (2008). Emotion and emotion regulation: personality processes and individual differences. In o. P. John, r. W. Robins, & l. A. Pervin (eds.), *Handbook Of Personality: Theory And Research* (Pp. 701–724). The Guilford Press.

Gross, J. J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion, 13*(3), 359–365. https://doi.org/10.1037/a0032135

Güzel, H. Ş., Akkaya, G. & Altuntaş, M. (2021). Özgül öğrenme bozukluğu tanısı olan çocukların depresif belirtileri ve benlik algıları arasındaki ilişkinin incelenmesi: Duygu düzenleme güçlüğünün aracı rolü. *Klinik Psikiyatri Dergisi*, 24(2), 228-238. https://doi.org/10.5505/kpd.2020.24008

Ha, J. H., & Jue, J. (2018). The mediating effect of emotion ınhibition and emotion regulation between adolescents' perceived parental psychological control and depression. *SAGE Open*, 8(3). https://doi.org/10.1177/2158244018793680

Haselgruber, A., Sölva, K., & Lueger-Schuster, B. (2020). Perspective matters: Differences between child- and caregiver-reports of emotion regulation mediating the relationship between cumulative childhood trauma and mental health problems in foster children. *Child abuse & neglect*, *107*, 104558. https://doi.org/10.1016/j.chiabu.2020.104558

Hu, T., Zhang, D., Wang, J., Mistry, R., Ran, G., & Wang, X. (2014). Relation between emotion regulation and mental health: a meta-analysis review. *Psychological Reports*, 114(2), 341–362. https://doi.org/10.2466/03.20.PR0.114k22w4.

İşgören, G. (2018). *Genç erişkinlerde bilişsel duygu düzenlemenin mükemmelliyetçilik ve depresyon*

ilişkisindeki rolü. [Master Dissertation, Işık University]. CoHE Thesis Center.
Joormann, J., & Gotlib, I. H. (2010). Emotion regulation in depression: Relation to cognitive inhibition. *Cognition & Emotion*, 24(2), 281–298. https://doi.org/10.1080/02699930903407948
Joorman, J., & Siemer M (2014). *Emotion regulation in mood disorders*. In j. J. Gross, Handbook of Emotion Regulation (2nd Ed.). Guilford Press, New York, London.
Joormann, J., & Stanton, C. H. (2016). Examining emotion regulation in depression: a review and future directions. *Behaviour research and therapy*, 86, 35–49. https://doi.org/10.1016/j.brat.2016.07.007
Just, N., & Alloy, L. B. (1997). The response styles theory of depression: Tests and an extension of the theory. *Journal of Abnormal Psychology, 106*(2), 221–229. https://doi.org/10.1037/0021-843x.106.2.221
Kavurma, M. (2014). *Büyük depresyon, yaygın endişe ve panik krizindeki duygu gidişatımızın etkisindeki gelişmeler*. [Master Dissertation, Dokuz Eylül University]. CoHE Thesis Center.
Kayar, A. (2021). *Üniversite öğrencilerinde çocukluk çağı travmasının depresif belirtiler ve kendine zarar verme davranışı ile ilişkisinde öz eleştirinin ve duygu düzenleme güçlüğünün aracı rolünün incelenmesi*. [Master Dissertation, Hacettepe University]. CoHE Thesis Center.
Keleş Altun, İ., & Atagün, M. İ.(2019). Sınır kişilik bozukluğunda benlik saygısı, duygu düzenleme güçlüğü ve duygulanım ilişkisi. *Anadolu Psikiyatri Dergisi*, 20(5):506-514. https://doi.org/10.5455/apd.26250
Kraft, L., Ebner, C., Leo, K., & Lindenberg, K. (2023). Emotion regulation strategies and symptoms of depression, anxiety, aggression, and addiction in children and adolescents: A meta-analysis and systematic review.*Clinical Psychology: Science and Practice*. Advance online publication. https://doi.org/10.1037/cps0000156
Kring, A. M., & Werner, K. H. (2004). *Emotion regulation and psychopathology*. ın p. philippot, & r. s. feldman (eds.), the regulation of emotion (1st ed.), (pp. 359- 385). Mahvah, Nj: Lawrence Erlbaum Associates, Inc.
Kring, A. M., & Sloan, D. S. (2010). *Emotion regulation and psychopathology*. New York: Guilford Press.
Kullik, A., & Petermann, F. (2013). Attachment to parents and peers as a risk factor for adolescent depressive disorders: the mediating role of emotion regulation. *Child psychiatry and human development*, *44*(4), 537–548. https://doi.org/10.1007/s10578-012-0347-5
Leblebicioğlu, M. (2018). *Algılanan stres, bilişsel duygu düzenleme stratejileri ve yeme tutumları arasındaki ilişkinin incelenmesi*. [Master Dissertation, Maltepe University]. CoHE Thesis Center.
Marganska, A., Gallagher, M., & Miranda, R. (2013). Adult attachment, emotion dysregulation, and symptoms of depression and generalized anxiety disorder. *The American journal of orthopsychiatry*, *83*(1), 131–141. https://doi.org/10.1111/ajop.12001
Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and Individual Differences*, 39, 1249–1260. https://doi.org/10.1016/j.paid.2005.06.004
Masters, M. R., Zimmer-Gembeck, M. J., & Farrell, L. J. (2019). Transactional associations between adolescents' emotion dysregulation and symptoms of social anxiety and depression: a longitudinal study. *The Journal of Early Adolescence, 39*(8), 1085–1109. https://doi.org/10.1177/0272431618806053
Matsumoto , D. (2006). Are cultural diff erences in emotion regulation mediated by personality traits?, *Journal of Cross-Cultural Psychology*, 37 (4), 421 - 437 . https://doi.org/10.1177/0022022106288478
Michopoulos, V., Powers, A., Moore, C., Villarreal, S., Ressler, K. J., & Bradley, B. (2015). The mediating role of emotion dysregulation and depression on the relationship between childhood trauma exposure and emotional eating. *Appetite*, *91*, 129–136. https://doi.org/10.1016/j.appet.2015.03.036
Min, J. A., Yu, J. J., Lee, C. U. & Chae, J. H. (2013). Cognitive emotion regulation strategies contributing to resilience in patients with depression and/or anxiety disorders. *Comprehensive Psychiatry*, 54(8), 1190–1197. Https://Doi.Org/10.1016/J.Comppsych.2013.05.008
Monopoli, W. J., Evans, S. W., Benson, K., Allan, N. P., Owens, J. S., DuPaul, G. J., & Bunford, N. (2020). Assessment of a conceptually informed measure of emotion dysregulation: Evidence of construct validity vis a vis impulsivity and internalizing symptoms in adolescents with ADHD. *International journal of methods in psychiatric research*, *29*(4), 1–14. https://doi.org/10.1002/mpr.1826
Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion regulation strategies and their relationship to depressive symptoms. *Personality and Individual Differences*, 51(6), 704–708.

https://doi.org/10.1016/j.paid.2011.06.012

Oymak Yenilmez, D., Atagün, M. İ., Keleş Altun, İ., Tunç, S., Uzgel, M., Altınbaş, K., & Oral, E. T. (2019). Bipolar bozukluk ve yineleyici depresif bozuklukta çocukluk çağı travmaları ve duygu düzenleme güçlükleri ile bilişsel süreçler arasındaki ilişki. *Türk Psikiyatri Dergisi*, 32(1), 8-16.. https://www.doi.org/10.5080/u23415

Ötünçtemur, A., & Çam Kahraman, F. (2020). Bilişsel duygu düzenleme stratejileri ile depresyon ve psikolojik yardım almaya ilişkin tutumlar arasındaki ilişkilerin incelenmesi. *İstanbul Kent Üniversitesi İnsan ve Toplum Bilimleri Dergisi*, 1 (2), 50-74. https://dergipark.org.tr/tr/pub/itbfkent/issue/56863/789750

Öztürk, M. O., & Uluşahin, A. (2014). *Ruh Sağlığı ve Bozuklukları* I. (12. Baskı). Ankara: Bayt Ltd. Şti.

Pektaş, E. (2015). *Üniversite öğrencilerinin algıladıkları ebeveyn kabul-reddi ile depresyon ve sürekli kaygı düzeyleri arasındaki ilişkinin incelenmesi: Duygu düzenleme güçlüklerinin aracı rolü*. [Master Dissertation, Hacettepe University]. CoHE Thesis Center. .

Rottenberg, J., Gross, J. J., & Gotlib, I. H. (2005). Emotion context insensitivity in 509ajör depressive disorder. *Journal of abnormal psychology*, *114*(4), 627–639. https://doi.org/10.1037/0021-843X.114.4.627.

Türkçapar, M. H. (2019). *Fark Et*, Düşün, Hisset, Yaşa. 1. Baskı. İstanbul: Epsilon Yayınevi.

Sağlam, F., Aslan, E., & Hurşitoğlu, O. (2020). BD patients and there is a positive correlation between difficulty in emotion regulation and impairment in functioning in depressive episodes, *Anatolian Journal of Psychiatry*,21(1):30-36. https://doi.org/10.5455/apd.36087

Schwartz , S. H., & Bardi , A. (2001). Value hierarchies across cultures taking a similarities perspective . *Journal of Cross-Cultural Psychology*, 32(3) , 268 – 290. https://doi.org/10.1177/0022022101032003002

Stikkelbroek, Y., Bodden, D., Kleinjan, M., Reijnders, M., & Van Baar, A. L. (2018). Correction: Adolescent depression and negative life Events, the mediating role of cognitive emotion regulation. *PLOS ONE*, *13*(1), e0192300. https://doi.org/10.1371/journal.pone.0192300

Sullivan, M., Bishop, S. M., & Pivik, J. (1995). The Pain Catastrophizing Scale: Development and validation. *Psychological Assessment*, *7*(4), 524–532. https://doi.org/10.1037/1040-3590.7.4.524

Şenel, A. F. & Çakmak Tolan, Ö. (2022). Ergenlerde internet bağımlılığının algılanan ebeveyn kabul/ reddi, duygu düzenleme ve psikolojik belirtiler bağlamında incelenmesi, *International Journal of Eurasia Social Sciences (IJOESS)*, 13(47), 1-22. DOI: http://dx.doi.org/10.35826/ijoess.3062

Watkins, E., & Teasdale, J. D. (2001). Rumination and overgeneral memory in depression: effects of self-focus and analytic thinking. *Journal Of Abnormal Psychology*, 110(2), 353-357. DOI: 10.1037/0021-843x.110.2.333

Wolf, J., Danno, D., Takeshima, T., Vancleef, L., Yoshikawa, H., Gaul, C. (2019). The relation between emotion regulation and migraine: A cross-cultural study on the moderating effect of culture. *Cephalalgia*. 40. https://doi.org/10.1177/0333102419885394.

Wu, H., Tang, P., Huang, X., Hu, X., & Luo, Y. (2013). Differentiating electrophysiological response to decrease and increase negative emotion regulation. *Chinese Sci. Bullet*. 58, 1543–1550. https://doi.org/10.1007/s11434-013-5746-x

Yıldız, F. (2018). *Ergenlerde bilişsel esneklik ile psikolojik belirtiler arasındaki ilişkide duygu düzenleme güçlüğünün aracı rolünün incelenmesi*. [Master Dissertation, Mersin University]. CoHE Thesis Center.

Yumuşak, F. N. (2019). *Üniversite öğrencilerinde duygu düzenleme güçlüğü ve duygusal tepkiselliğin psikolojik belirtiler ile ilişkisinin incelenmesi*. [Master Dissertation, Fatih Sultan Mehmet University]. CoHE Thesis Center.