



Effectiveness of rational emotive behavior therapy on the “Kancani” web application on stress levels of junior high school students

Faradisa Laila Maghfirani, Zahrina Mardhiyah*
Faculty of Psychology, Sebelas Maret University, Indonesia

ABSTRACT

Background: Adolescents frequently experience substantial emotional changes, making them vulnerable to stress, particularly distress, which can lead to adverse effects such as fear, anxiety, and frustration due to incongruence between expectations and irrational beliefs. Consequently, addressing negative stress in adolescents requires the development of rational thinking and the ability to confront irrational beliefs effectively.

Purpose: This study aims to assess the effectiveness of REBT interventions delivered through the “Kancani” web application in examining stress levels among junior high school students.

Method: This study employed a quasi-experimental design with a one-group pretest-posttest approach, involving 22 participants. The purposive sampling technique was employed to select participants. An intervention consisting of 9 sub-modules was provided over a period of 2 weeks. The measuring instrument used was the DASS-42 scale, especially those measuring the stress scale consisting of 14 items ($\alpha = .881$).

Findings: The results obtained were a decrease in the average stress level of participants, $t(21) = 2.141, p = .044$, Cohen’s $d = 0.456$.

Implication: Web Application “Kancani” is effective for decreasing stress levels of junior high-school. Prompting students to use kancani regularly and teacher evaluate it.

KEYWORDS

adolescent; junior high school; stress; web application

Introduction

Adolescence is the transition between childhood and adulthood, which results in the maturation of biological, neural, and psychosocial functions occurring simultaneously, causing a period that is sensitive to positive and negative experiences (Sisk & Gee, 2022; Santrock, 2018). All changes that occur during adolescence affect the way adolescents think, how they form feelings, make decisions, and interact with the surrounding environment (Santrock, 2018). Stress is an emotional condition that arises when individuals face an imbalance between environmental demands and their resources, triggered by the individual’s perception of an event as a threat. Changes that occur during adolescence, especially in immature emotional patterns, make adolescents vulnerable to stress (Kinantie, 2012).

Stress experienced by adolescents is usually caused by various factors such as pressure at school, bullying, friendship problems, family factors and even economic problems (Sukadiyanto, 2010). Lin and Huang (2014) revealed that stress has a negative impact that can harm every individual who experiences it, one of which is students who can experience anger, burnout, anxiety, frustration, decreased academic achievement and others. Distress or negative types of stress will have a negative impact on individuals such as the emergence of negative feelings in the form of fear, anxiety, and worry (Seto et al., 2020). The phenomenon of “Korean Barcode” is an example of the extreme impact experienced by adolescents, by hurting the body part of the hand

CONTACT Zahrina Mardhiyah ✉ zahrina.mardhiyah@staff.uns.ac.id 📍 Ketingan, Ir Sutami No.36 Street, Jebres, Surakarta, Central Java, Indonesia

Copyright © 2024 by The Author(s). Published by Faculty of Psychology, Universitas Diponegoro. This an open-access article under the CC-BY-SA License (<https://creativecommons.org/licenses/by-sa/4.0>)

with sharp objects (self-harm); self-harm is a kind of protective strategy to help relieve the individual's psychically known pain or to regain mental balance (Burešová et al., 2015), even to severe cases of suicide committed by adolescents for various reasons such as bullying at school that happened to a junior high school boy or to a girl who committed self-harm due to the loss (death) of parents; both of these phenomena came from the province of West Java, Indonesia (Ashri, 2023). Based on several cases previously described, this shows that the phenomenon of stress is experienced by many adolescents (Rogers et al., 2021; Utama, 2019).

There are several psychological approaches used to reduce stress, such as Mindfulness-based meditation (Bamber & Schneider, 2016), coping skills, social support interventions, cognitive behavioral therapy (Yusufov et al., 2019), and rational-emotive behavior therapy (REBT). REBT (Rational Emotive Behavior Therapy) is a behavioral therapy that aims to provide clear meaning about events that occur to individuals such as beliefs, cognitive, emotional, and behavioral consequences caused by these beliefs, so that in reality individuals can be rational in this context functionally appropriate, healthy and adaptive, but conversely individuals can also be irrational maladaptively. Compared to cognitive-behavioral therapy (CBT), REBT is more effective in adolescent populations with emotional problems (David et al., 2018).

The implementation of REBT-based interventions has been shown to be beneficial in alleviating stress symptoms (Onuigbo et al., 2018) and is effective in managing stress by identifying and reshaping individuals' thoughts, beliefs, and emotions. This approach helps individuals develop more rational and positive perspectives on stressful situations, leading to a stress-free life and the achievement of personal goals. Through cognitive, emotional, and behavioral techniques, individuals can counter irrational beliefs and thoughts related to stress (Onuigbo et al., 2018).

There are various studies that have used REBT approach as interventions, especially for teenagers, such as REBT intervention for teenage victims of bullying (Pambudhi et al., 2021), REBT to increase the self-esteem of bullying victims (Hasibuan & Wulandari, 2015), REBT counseling to improve adolescent self-confidence (Rahmawati, 2022). Research regarding REBT interventions, especially for stress in adolescents, is still rare. As for REBT intervention research on stress, namely on the academic stress of high school students through personal counseling (Suriatika & Nursalim, 2018) as well as literature studies regarding the effectiveness of REBT to reduce academic stress in students (Anggraeny & Ardani, 2023).

Vernon (2019) presents several compelling case for the suitability of the REBT approach for adolescents: first, interventions are usually packaged in a short form so that they are more effective for adolescents with characteristics that are easily bored; second, REBT theory takes into account the level of development in adolescents with a focus on using doing, seeing, and hearing activities; third, adolescents' ability to solve a problem logically is still limited so REBT is needed to help adolescents distinguish between facts and assumptions and irrational beliefs. Irrational beliefs are also not in accordance with reality. According to Ellis' (2002) theory of Rational Emotive Behavior Therapy (REBT), problems experienced by an individual can be caused by irrational assumptions and beliefs. The irrational beliefs experienced by an individual are not only caused by a particular situation, but also by the individual's evaluation of the situation, especially when the individual is unaware of the actual situation. These evaluations involve irrational beliefs such as rigid demands, dire beliefs, and low frustration tolerance (Chan & Sun, 2021). Therefore, REBT employs cognitive, emotional, and behavioral techniques with the objective of facilitating the elimination of irrational thoughts and beliefs, as well as the enhancement of rational thinking and action.

In the current digital era, internet media can serve as an effective conduit for disseminating mental health education to adolescents. This is a crucial consideration given that adolescents frequently express a preference for privacy and anonymity when discussing personal matters (Garrido et al., 2022). Suggestions from parents (with children aged 11-15 years) and health

workers in Indonesia regarding the provision of psychoeducation to improve mental health literacy include the following: 1) the presentation of intervention content in an animated or cartoon format with quizzes, 2) using formats with elements of gamification, and 3) utilizing technology to deliver interventions that are easily accessible to adolescents (Brooks et al., 2021). The research conducted by Dietvorst et al. (2022) demonstrated that mHealth (Mobile Health) interventions for preventive purposes were met with a high level of acceptance among adolescents. REBT intervention programs delivered through digital media have demonstrated efficacy in addressing mental health concerns among adolescents (Păsărelu et al., 2021). However, internet-based media with Indonesian version of the REBT approach, specifically designed to address the mental health issues of Indonesian adolescents is still limited. As a solution, *kancani* as a web application was developed to assist with daily emotional management and to support educational institutions in facilitating social-emotional learning among Indonesian adolescents.

"*Kancani*" is a digital media innovation in the form of a progressive web application or commonly known as PWA (Progressive Web App) which was developed as a safe place to learn to recognize, explore, express and manage emotions for teenagers in Indonesia. with a vision of helping educational units in Indonesia understand the emotional conditions of their students and facilitate their socio-emotional development early on. The "*Kancani*" was developed by four psychology students of Sebelas Maret University, with the help of a web developer, and two accompanying lecturers which was carried out from December 2022 to January 2023. Since *Kancani* was launched and used by students until now, the team has continued to ensure quality by always improving and developing.

The features of "*Kancani*" are designed to support the development of social-emotional competencies, such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Additionally, *Kancani* presents a series of REBT-based interventions in the form of videos, quizzes, and reflective exercises to assist adolescents develop their emotional regulation abilities, with the objective of achieving psychological well-being. The exercise feature of the web application "*Kancani*" represent a main feature component of application REBT-based intervention, where one of the modules contains a series of interventions with the application of REBT with the concept of "Thoughts and Choices" which contains 9 sub-modules aimed at introducing adolescent students to internalization problems and types of emotions, learning to identify symptoms of anxiety and depression, provide relaxation exercises to reduce physical tension, understand the concept of rational and irrational beliefs with model of distress (ABCDEF), and learn how to cope and solve a problem with the content of psychoeducational animated videos, infographics with interesting visuals, and reflective exercises with the concept of opposing irrational beliefs and increasing rational beliefs.

The exercise features accessible to students are as follows: 1) Emotional Check-in is an effort to build emotional awareness in teenagers (Moltrecht, 2021), where every day adolescents can choose from various emotions (joy, sadness, anger/annoyance, anxiety/fear, disgust, and surprise) representing their feelings on that day (self-report). The recap of the Emotional Check-in feature can be accessed through the supporting Mood in Pixel feature. The Emotional Check-in feature represents an implementation of the REBT approach aimed at assist individuals confront irrational thoughts or beliefs and in developing an understanding of how to manage thoughts, behaviors, and emotions in a healthier and more realistic way. 2) Exercise is designed to assist teenagers in learning how to manage their emotions through psychoeducational content or worksheets. In this study, exercise follows the principles of REBT with the ABCDEF model (Activating event, Belief, Consequence, Disputation, Effect, and new Feelings). REBT emphasizes that in component B, individuals can form rigid thoughts or beliefs, so this exercise helps teenagers identify and transform irrational beliefs into rational ones. To transform irrational beliefs into rational ones, individuals need the DEF component process: Dispute (debating

irrational thoughts in individuals), Effects (individuals feel new effects after debating their thoughts), and new Feelings (new feelings experienced by individuals after debating their irrational thoughts can be transformed into more rational ones) (Mahfar et al., 2019).

The primary aim of this study is to assess the effectiveness of the REBT intervention delivered through the "Kancani" web application in reducing stress levels among junior high school adolescents. It is hypothesized that the application of REBT intervention will result in a reduction in stress levels in junior high school adolescents. Consequently, this study will facilitate an understanding of the impact of REBT on stress levels in adolescents.

Method

Participants and Procedure

The initial participants ($N = 76$, 47 males & 29 females) were recruited from two private schools in the cities of Klaten and Surakarta, Central Java, Indonesia. Eligibility requirements included being a junior high school student; being able to read and write Indonesian fluently; being able to access the web application with each participant's chromebook or mobile phone; not being actively involved in receiving additional forms of intervention such as psychological therapy, medication, or others alike; and being consciously willing to complete the entire series of interventions (completing reflective exercises in the Thoughts & Choices module, from submodules 1-9).

During the course of the intervention, 54 participants dropped out, leaving a total sample of 22 ($N = 22$, 15 male & 7 female); with ages 12 ($n = 3$), 13 ($n = 7$), 14 ($n = 6$), 15 ($n = 3$), 16 ($n = 2$), 17 ($n = 1$); and grades seventh ($n = 12$), eighth ($n = 6$), ninth ($n = 4$). Pre-screening data showed that 11 participants (50%) experienced normal stress, 4 participants (18.2%) experienced mild stress, 5 participants (22.7%) experienced moderate stress, and 2 participants (9.1%) experienced severe stress.

Ethical clearance was granted by the Health Research Ethics Committee of Dr. Moewardi General Hospital before the start of the study (approval number 352/ III/ HREC/ 2023). In addition, because the participants were minors, the researchers also provided informed consent to the parents or guardians of all participants, which included the research objectives, intervention procedure, potential risks, and guaranteed anonymity or confidentiality of the participants. In addition, participants who provided informed consent to the researcher and met the requirements will be included in the official participant data.

Research Design

This study used quasi experiment research, which is an experimental design conducted without randomization, but still involves placing participants into groups (Armstrong et al., 2022).

Then for the research design chosen by the researcher is a one group pretest posttest design, this allows the results of the treatment to be more accurate, because it can be compared with the conditions before the treatment is carried out, see Table 1. In this study, measurements were conducted by administering a pretest and a posttest directly before and after the intervention. The decision not to include the control group was made in order to address the potential issue of mortality or elimination of participants due to unmotivated or inconsistent participation during the intervention period of two weeks. Furthermore, another rationale for the exclusion of the control group was to preclude the possibility of bias between the control and experimental groups, given their proximity (i.e., experimental contamination / contamination bias). This was particularly challenging in this study, given the location within a school, which made it difficult to maintain complete isolation between the control and experimental groups.

Table 1

The One-Group Pretest-Posttest Quasi-Experimental Design

	O1	X	O2
Group of Participants	<i>Pretest</i>	REBT-based Intervention delivered with the Kancani web app	<i>Posttest</i>

Instrument

The researchers employed a questionnaire based on the DASS-42 scale (Depression Anxiety Stress Scale-42), developed by Lovibond and Lovibond (1995; Szabo & Lovibond, 2022), to assess three emotional states: depression, anxiety, and stress. The scale consists of 42 items, with 14 items allocated to each dimension. This study utilized the adaptation by Anggraeini (2022) without any modifications to the original scale. The stress aspect ($\alpha = 0.937$) is found in item numbers 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35, 39 and focuses on reporting mood, motivation, low self-esteem, stress, anxiety, tension, and fear.

The use of the DASS 42 scale is appropriate for adolescent participants, as the core symptoms defining the domains of depression, anxiety, and stress in adolescents are similar to those previously found in adults (Szabo & Lovibond, 2022). The DASS-42 scale has been adapted and validated in more than 50 languages, including Indonesian. The DASS-42 stress scale includes several aspects that measure difficulty relaxing (number items: 3,8,10); there was nervousness (number items: 5,12); easily angry/anxious (number items: 1,4,14); disruptive/more reactive (number items: 2,7,9); and impatient (number items: 6,11,13).

Intervention

The participants attended a workshop for about one hour with the aim of introducing the web application “Kancani”, such as account registration, feature introduction, and quizzes to increase students’ interest. Participants were informed they could withdraw from the study at any time. After that, the intervention can be accessed independently from each participant’s account through the “Kancani” web application. Participants who successfully complete the entire series of interventions, consisting of 9 submodules, will be given a posttest by the researcher; these data will be used for statistical analysis to determine the effectiveness of REBT.

Table 2

Content of REBT-based Intervention

No.	Sub-module	Purpose	Features
1.	Introduction	Introduction to the program and objectives	
2.	Emotions	Psychoeducation on internalization issues	
3.	Anxiety and Depression	Identification of the characteristics of anxiety and depression and relaxation exercises	
4.	Relaxation	Relaxation and respiration exercises	
5.	Thinking Patterns	Identifying, challenging and replacing irrational beliefs within the self	
6.	Overcome your Negative Emotions	Confronting irrational thoughts with STAR (Stop, Think, Assess, Respond)	Exercise > Module: Thoughts and Choices
7.	Problem Solving	Learn practical problem-solving steps	
8.	Positive Emotions	Learn to practice focusing on positive emotions	
9.	Manage Your Emotions Independently	Review all new materials and skills and make a mental health first aid kit plan	

The intervention was delivered over a 2-week period by providing a series of REBT-based interventions that could be accessed on the “Kancani” web application from each research participant’s device. Participants completed the pretest on days one through three.

The details of each sub-module are adapted from Păsărelu et al. (2021), see Table 2. Then the module is provided with the order is as follows: sub-module 1 on the fourth day, sub-module 2 on the fifth day, sub-module 3 on the sixth day, sub-module 4 on the seventh day, sub-module 5 on the eighth day, sub-module 6 on the ninth day, sub-module 7 on the tenth day, sub-module 8 on the eleventh day, sub-module 9 on the twelfth day, and finally the posttest by participants on the thirteenth and fourteenth day.

Statistical Analysis

The data were analyzed using SPSS version 26. The initial stage involved testing the normality of data distribution using the Shapiro-Wilk test. Paired sample *t*-tests were used to evaluate the changes between pre-intervention and post-intervention assessments. Mean differences were calculated for primary outcomes, which are key outcomes measured to determine the effect or impact of an intervention.

Result and Discussion

The overall descriptive statistical results show that the average pretest score is 15.64 and the average posttest score is 13.82, or in other words, the average pretest score is higher than the average posttest score. The *t*-test results (Table 3) were obtained with a Sig. (2-tailed) of .044 ($p < .05$). This results showed the calculated *t*-value of 2.141 is greater than the table value (2.079), providing further support for this result. However, Cohen’s *d* values showed 0.456, which falls into the small effect size category.

Table 3

Paired Sample t-Test

	Pre-test	Post-test
<i>M(SD)</i>	15.6(6.8)	13.8(7.3)
<i>t</i>		2.141
<i>p</i>		.044 ^a
Cohen’s <i>d</i>		0.456

Notes. ^aTwo-tailed.

The success of a decrease in stress levels occurred in 13 people, while for subjects who did not experience changes there were 2 people and subjects who showed an increase in stress levels were 7 people. Thus, the results of this study showed the hypothesis is accepted. After the intervention with 9 submodules in the form of psychoeducational videos, infographics and reflective exercises, there were changes that occurred in the research subjects, especially changes in irrational thoughts and beliefs that turned into rational thoughts and beliefs; This aspect can be seen in the results of the work on the reflective exercises (see Figure 1) that are more positive in sub-module 6, namely the implementation of the STAR method (Stop, Think, Assess, and Respond), where the purpose of the STAR method is to deal with irrational negative thoughts, the students are invited to reflect through reflective exercises on the application of STAR in their respective lives.

This is consistent with the ABCDEF concept in REBT theory, which is used to help adolescents distinguish between facts and assumptions, identify irrational beliefs and then change them to more rational beliefs, and train in perspective taking to help adolescents solve problems more effectively (Vernon, 2019). The results of the study, which show a significant effect on stress levels from REBT (Rational Emotive Behavior Therapy)-based interventions with the “Kancani” web application, are consistent with Corey’s (2013) theory, which explains that

REBT aims to eliminate emotional disturbances, namely feelings of fear, guilt, anxiety, and anger, which are included in the category of stress. The fact that the research subjects experienced a decrease in stress levels after receiving the REBT intervention demonstrates the ability of the learners to replace their irrational beliefs with rational ones (Onuigbo et al., 2018).

Exercise: Everyday STAR

Setelah memahami STAR yang dapat membantumu untuk mengusir pikiran irasional, Yuk terapkan STAR dalam kehidupan sehari-hari!

1. Peristiwa yang membuatku berpikir dengan irasional
 Saat mau mengerjakan ujian
2. Ceritaku menerapkan STAR (part 1)
Stop
 Berhenti berpikir yang negatif, mulai berpikir yang positif
3. Ceritaku menerapkan STAR (part 2)
Think
 Aku merasa takut saat ingin mengerjakan ujian karena aku takut tidak mendapatkan nilai bagus dan malah remidi
4. Ceritaku menerapkan STAR (part 3)
Assess
 Pikiran ini justru merugikanku dan juga pikiran ini sesuai dengan fakta yang ada
5. Ceritaku menerapkan STAR (part 4)
Respond
 Setelahku pikir-pikir lagi jika aku tenang, tidak takut dan mau terus belajar aku akan bisa mengerjakan ujiannya dengan baik dan benar dan dapat mendapatkan nilai yang baik juga

Figure 1. *Reflective Exercise Results on Sub-module 6 (Courtesy of One Participant)*

The results of this study are further supported by previous research by Mahfar et al, (2019) regarding the ABCDEF model contained in the REBT approach, which can reduce irrational beliefs that cause stress in employees. Ellis (2002) revealed that one of the most effective ways to replace irrational beliefs with rational ones is by modifying an individual's thought process or belief system. This assertion is corroborated by the empirical evidence accumulated by REBT practitioners, which indicates that the replacement of irrational beliefs with rational beliefs is associated with a reduction in emotional distress due to stress (Vernon, 2019). Given that individuals possess the capacity to form irrational thoughts and beliefs, they are also endowed with the ability to question and alter those irrational thoughts and beliefs into rational beliefs through the application of REBT techniques (Dryden & Ellis, 2001). These interventions are presented in the form of video, text, and animation (David et al., 2020). Regarding the integration of digital media in REBT, it offers new opportunities and innovations for supporting adolescents facing problems. However, it is essential to conduct a rigorous and continuous evaluation phase (David et al., 2020). In order to facilitate future improvements, suggestions for further research in developing can provide feedback. This feedback can be provided either directly by an expert (a psychologist) or automatically regarding the results of exercises completed by the subject, emotion check-in activities, or other activities that are indicated to be experiencing negative emotions. This feedback is provided as an effort to address adolescent mental health problems, especially in addressing stress levels among junior high school students.

The limitations of this research are as follows: 1) the control group was not included in the study, which may have affected the internal validity of the research. The effectiveness of the intervention may be due to various contextual factors. Additionally, the number of final participants did not reach the ideal 34 according to the GPower analysis, limiting the generalizability of the results. 3) The application of REBT in reflective training sessions was conducted for only one day, which likely affected the seven subjects with increased stress and the two with no change. 4) There is no qualitative feedback from participants who completed or failed the intervention series. Collecting feedback from valid participants aims to assess the REBT intervention's impact on stress, while for non-completers, it seeks to identify reasons, such as lack of engagement.

In light of the limitations, including the absence of a control group, the researcher ensured study validity by validating instruments and selecting respondents with strict criteria. Baseline stress levels were kept consistent, and two measurements were taken to evaluate treatment effects. Despite the limitations, the findings suggest the REBT-based intervention is a viable approach for reducing stress in junior high school students in Indonesia.

Conclusion

This study tested the usefulness of the REBT intervention on the "Kancani" web application in reducing stress levels of junior high school students, where the results obtained were a decrease in the average stress levels of the participants, although it was not a significant decrease. However, from these results, researchers can conclude that the use of the REBT intervention is effective in managing stress levels. Future researchers can use the research findings as a literature study to develop existing or create new features that meet the needs of Indonesian adolescents. Then, suggestions that researchers can give to future researchers are: 1) include a control group in the experiment to maintain the internal validity of the experiment; 2) the study of the intervention period is adapted to the characteristics of adolescents; 3) change the intervention concept by providing psychoeducation in one session and then another session focusing on the application of REBT, which is designed for a longer period of time (the characteristic of the training lies in reflective practice); and 4) obtain qualitative feedback from participants about the progress of the intervention process in terms of what effects adolescents feel after receiving therapy or what causes adolescents to be unable to complete a series of interventions.

Acknowledgement

The article, "Effectiveness of Rational Emotive Behavior Therapy on the 'Kancani' Web Application on Stress Levels of Junior High School Students," was authored by Faradisa Laila Maghfirani and Zahrina Mardhiyah of the Faculty of Psychology. It was funded by the Faculty of Psychology using non-APBN funding for the 2024 fiscal year. This research was conducted with the support of the research grant scheme of the research group (HGR-UNS) B, titled "Mapping Mental Health and Its Management as an Effort to Improve the Psychological Well-being of the Community in Surakarta," with contract number 194.2/UN27/PT.01.03/2024.

References

- Anggraeni, A. D. (2022). *Uji validitas dan reliabilitas skala Depression, Anxiety, and Stress Scale-42 (DASS-42) versi bahasa Indonesia pada sampel emerging adulthood* [Unpublished master's thesis]. Universitas Gadjah Mada. <https://etd.repository.ugm.ac.id/penelitian/detail/215931>
- Anggraeny, H. D., & Ardani, T. A. (2023). Efektivitas Rational Emotive Behavior Therapy (REBT) dalam meningkatkan regulasi emosi peserta didik. *IDEA: Jurnal Psikologi*, 7(2), 23-33. <https://doi.org/10.32492/idea.v7i2.282>

- Armstrong, C., Kepler, J. D., Samuels, D., & Taylor, D. (2022). Causality redux: The evolution of empirical methods in accounting research and the growth of quasi-experiments. *Journal of Accounting and Economics*, 74(2-3). <https://doi.org/10.1016/j.jacceco.2022.101521>
- Ashri, A.F. (2023, November 4). Burden of living forced junior high school student in Cirebon to commit suicide. *Kompas*. <https://www.kompas.id/baca/nusantara/2023/11/04/beban-hidup-memaksa-siswa-di-cirebon-bunuh-diri>
- Bamber, M. D., & Schneider, J. K. (2016). Mindfulness-based meditation to decrease stress and anxiety in college students: A narrative synthesis of the research. *Educational Research Review*, 18, 1-32. <https://doi.org/10.1016/j.edurev.2015.12.004>
- Burešová, I., Bartošová, K., & Čerňák, M. (2015). Connection between parenting styles and self-harm in adolescence. *Procedia - Social and Behavioral Sciences*, 171, 1106-1113. <https://doi.org/10.1016/j.SBSPRO.2015.01.272>
- Brooks, S. K., Weston, D., Wessely, S., & Greenberg, N. (2021). Effectiveness and acceptability of brief psychoeducational interventions after potentially traumatic events: A systematic review. *European Journal of Psychotraumatology*, 12(1). <https://doi.org/10.1080/20008198.2021.1923110>
- Chan, H. W. Q., & Sun, C. F. R. (2021). Irrational beliefs, depression, anxiety, and stress among university students in Hong Kong. *Journal of American College Health*, 69(8), 827-841. <https://doi.org/10.1080/07448481.2019.1710516>
- Corey, G. (2013). *Theory and practice of counseling and psychotherapy*. Cengage Learning.
- David, D., Cotet, C., Matu, S., Mogoase, C., Stefan, S. (2018). 50 years of rational-emotive and cognitive-behavioral therapy: A systematic review and meta-analysis. *Journal of Clinical Psychology*, 74, 304-318. <https://doi.org/10.1002/jclp.22514>.
- David, D. O., Matu, S. A., & Cardos, R. A. (2020). Applications of rational-emotive and cognitive-behavior technologies with children and adolescents. *Springer Nature Switzerland*. https://doi.org/10.1007/978-3-030-53901-6_25
- Dietvorst, E., Aukes, M. A., Legerstee, J. S., Vreeker, A., Hrehovcsik, M. M., Keijsers, L., & Hillegers, M. H. (2022). A smartphone serious game for adolescents (Grow It! App): Development, feasibility, and acceptance study. *JMIR Formative Research*, 6(3). <https://doi.org/10.2196/29832>
- Dryden, W., & Ellis, A. (2001). Rational emotive behavior therapy. In K. S. Dobson (Ed.), *Handbook of cognitive-behavioral therapies* (2nd ed., pp. 295-348). Guilford Press.
- Ellis, A. (2002). *Overcoming resistance: A rational emotive behavior therapy integrated approach*. Springer Publishing Company.
- Garrido, S., Oliver, E., Chmiel, A., Doran, B., & Boydell, K. (2022). Encouraging help-seeking and engagement in a mental health app: What young people want. *Frontiers in Digital Health*, 4. <https://doi.org/10.3389/fdgth.2022.1045765>
- Hasibuan, R. L., & Wulandari, R. L. H. (2015). Efektivitas rational emotive behavior therapy (REBT) untuk meningkatkan *self esteem* pada siswa SMP korban bullying. *Jurnal Psikologi*, 11(2), 103-110. <http://dx.doi.org/10.24014/jp.v11i2.1559>
- Kinantie, O. A. (2012). Description of the stress level of students at SMA 3 Bandung class XII approaching 2012 national exam. *Students e-Journal*, 1(1), 31. <https://jurnal.unpad.ac.id/ejournal/article/view/739/0>
- Lin, S. H., & Huang, Y. C. (2014). Life stress and academic burnout. *Active Learning in Higher Education*, 15(1), 77-90. <https://doi.org/10.1177/1469787413514651>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales*. Psychology Foundation.
- Mahfar, M., Noah, S. M., & Senin, A. A. (2019). Development of rational emotive education module for stress intervention of Malaysian boarding school students. *Sage Open*, 9(2). <https://doi.org/10.1177/2158244019850246>

- Moltrecht, B., Patalay, P., Deighton, J., & Edbrooke-Childs, J. (2021). A school-based mobile app intervention for enhancing emotion regulation in children: Exploratory trial. *JMIR mHealth and uHealth*, 9(7). <https://doi.org/10.2196/21837>
- Onuigbo, L. N., Eseadi, C., Ugwoke, S. C., Nwobi, A. U., Anyanwu, J. I., Okeke, F. C., ... & Eze, P. (2018). Effect of rational emotive behavior therapy on stress management and irrational beliefs of special education teachers in Nigerian elementary schools. *Medicine*, 97(37). <https://doi.org/10.1097/MD.00000000000012191>
- Pambudhi, YA, Marhan, C., & Fajriah, L. (2021). Intervention based on rational emotive behavior therapy (REBT) for adolescent victims of bullying. *PEPADU Proceedings*, 3, 1-10. <https://proceeding.unram.ac.id/index.php/pepadu/issue/view/5>
- Păsărelu, C. R., Dobrean, A., Andersson, G., & Zaharie, G. C. (2021). Feasibility and clinical utility of a transdiagnostic internet-delivered rational emotive and behavioral intervention for adolescents with anxiety and depressive disorders. *Internet Interventions*, 26. <https://doi.org/10.1016/j.invent.2021.100479>
- Rahmawati, S. N. (2022). Konseling rational emotive behaviour therapy (REBT) untuk meningkatkan kepercayaan diri remaja. *Counsnesia Indonesian Journal of Guidance and Counseling*, 3(1), 38-44. <https://doi.org/10.36728/cijgc.v3i1.1856>
- Rogers, A., & Pilgrim, D. (2021). *A sociology of mental health and illness* (6th ed.). McGraw-Hill Education.
- Santrock, J. W. (2018). *Educational psychology* (6th ed.). McGraw-Hill Higher Education.
- Seto, S. B., Wondo, M. T. S., & Mei, M. F. (2020). The relationship between motivation and student stress levels in writing final assignments. *Basicedu Journal*, 4(3), 733-739. <https://doi.org/10.31004/basicedu.v4i3.431>
- Sisk, L. M., & Gee, D. G. (2022). Stress and adolescence: Vulnerability and opportunity during a sensitive window of development. *Current Opinion in Psychology*, 44, 286-292. <https://doi.org/10.1016/j.copsy.2021.10.005>
- Suriatika, F., & Nursalim, M. (2018). Konseling individu pendekatan rational-emotive behavior therapy untuk mengurangi stres akademik siswa kelas XII MIA SMAN 1 Babadan Ponorogo. *Jurnal Mahasiswa Bimbingan Konseling*, 9(1). <https://ejournal.unesa.ac.id/index.php/jurnal-bk-unesa/article/view/26271>
- Sukadiyanto, S. (2010). Stress dan cara menguranginya. *Jurnal Cakrawala Pendidikan*, 1(1). <https://doi.org/10.21831/cp.v1i1.218>
- Szabo, M., & Lovibond, P. F. (2022). Development and psychometric properties of the DASS-Youth (DASS-Y): An extension of the depression anxiety stress scales (DASS) to adolescents and children. *Frontiers in Psychology*, 13, Article 766890. <https://doi.org/10.3389/fpsyg.2022.766890>
- Utama, F. P. (2019). Stress dan strategi coping remaja perempuan: Sebuah fenomena psikososial di era milenial. *MUWAZAH: Jurnal Kajian Gender*, 11(2), 181-202. <https://doi.org/10.28918/muwazah.v11i2.2277>
- Vernon, A. (2019). *REBT with children and adolescents*. In W. Dryden & M. Bernard (Eds.), *REBT with diverse client problems and populations* (pp. 243-263). Springer International Publishing.
- Yusufov, M., Nicolero-SantaBarbara, J., Grey, N. E., Moyer, A., & Lobel, M. (2019). Meta-analytic evaluation of stress reduction interventions for undergraduate and graduate students. *International Journal of Stress Management*, 26(2), 132. <https://doi.org/10.1037/str0000099>