International Journal of Application on Social Science and Humanities
Vol. 1, No. 1, Feb 2023: pp 613-620 ISSN-L 2987-8241 (Electronic Version)

THE EFFECT OF EMOTIONAL REGULATION ON RISK-TAKING BEHAVIOUR IN LATE ADOLESCENCE

Jane Margaretha[1], Naomi Soetikno[2*], Meylisa Permata Sari[3]

[1]Faculty of Psychology, Universitas Tarumanagara, Jakarta
[2]Faculty of Psychology, Universitas Tarumanagara, Jakarta
Email: naomis@fpsi.untar.ac.id
[3]Faculty of Psychology, Universitas Tarumanagara, Jakarta
Email: meylisa.sari@fpsi.untar.ac.id
**Corresponding author*

Submitted: July 2022, Revised: December 2022, Accepted: February 2023

ABSTRACT

Late adolescence is associated with a period of vulnerability to engage in risk-taking behaviour. Risk-taking behaviour in late adolescence can be in the form of drinking, smoking, risky sexual behaviour, and speeding on the streets. Risk-taking behaviour can have a negative impact on the physical and mental health of late adolescence. Late adolescence's involvement in risk-taking behaviour can be caused by the limitations in controlling impulses and regulating their emotions. This study aims to determine whether emotional regulation has an influence on risk-taking behaviour in late adolescence. This research is a quantitative research using a non-probability sampling technique, namely purposive sampling by distributing the questionnaire online. Participants in this study consisted of 448 adolescents with an age range of 17-21 years. The measuring instrument used in this research are the Adolescence Risk-Taking Questionnaire (ARQ) from Gullone et al. (2000) and the Emotion Regulation Questionnaire (ERQ) from Gross and John (2003) which have been translated into Indonesian. The results of this study indicate that there is a significant negative effect between emotion regulation and risk-taking behaviour in late adolescence with a value of $R^2 = .314$, $F = 67.873$, $p = .000 < .05$. These results indicate that the higher the emotional regulation of late adolescence, the lower the level of involvement in risk-taking behaviour.

Keywords*: Emotion regulation, risk-taking behaviour, late adolescence*

1. PREFACE

Late adolescence is the most vulnerable period to engage in risk-taking behaviour. The tendency of individuals to engage in risk-taking behaviour is higher in late adolescence and young adulthood than before or after [1]. Risk-taking behaviour in late adolescence can include behaviours such as drinking, abusing illegal drugs, engaging in risky sexual activities, engaging in gambling activities, or engaging in dangerous sports [2]. A survey conducted by the Centers for Disease Control and Prevention (CDC) shows several risk-taking behaviours carried out by late adolescence, especially high school students. In 2019, there was a 7% decrease in the use of condoms among late adolescence who were sexually active. In smoking behaviour, 6% of late adolescence were reported to be active smokers and 24.1% of late adolescence had tried smoking in their lives [3]. In addition, late adolescence who have entered the legal age are more likely to engage in speeding behaviour. Another survey showed that in 2021, individuals aged 18 to 24 years were twice as likely to receive a fine for speeding on the road as compared to the rest of the population [4]. Some of the data above shows that late adolescence have a higher tendency to engage in risk-taking behaviour than other age groups.

Late adolescence is the stage of adolescent development starting from the age of 17 to 21 years. At this stage, adolescents usually have reached maturity in aspects of their physical

growth and are able to view an event or problem more comprehensively [5]. Late adolescence is a developmental period marked by change and exploration and has a lot of future potential. In this period, adolescents can see and have many future possibilities [6]. Late adolescence should be able to explore their roles and duties in a healthy manner so they can achieve a positive identity stage [7]. Based on this explanation, late adolescence should not get involved in a risk-taking behaviour in order to explore their roles and duties healthily.

Risk-taking behaviour is defined as a behaviour that can potentially have negative consequences on a person's physical and mental health in the future [2]. Risk-taking behaviour during late adolescence can potentially form a psychological and physical adaptive pattern that continues into adulthood such as addiction and crime [8]. In addition, risk-taking behaviour can cause mental health problems and increase the self-harm tendency to self-harm. Risk-taking behaviours such as alcohol use and risky sexual behaviour are associated with higher rates of depression in adolescence girls [9]. Risk-taking behaviour can also have an impact on the physical aspects of adolescents. Risky behaviour such as speeding can cause traffic accidents leading to injury and even death. Risky sexual behaviour also makes adolescents vulnerable to contracting sexually transmitted diseases and unwanted pregnancies [10].

There are several factors that make late adolescence take more risk than other age groups such as age, socioeconomic status, sensitivity to rewards, and the emotional regulation capacity. Research found that late adolescence engaged more in risky behaviour because the opportunity and legality to engage in risky behaviour, such as drinking alcoholic beverages, driving over the speed limit increases as the individual ages [11]. Socioeconomic factors such as access to health facilities, support from family, education taken, and the level of religiosity can also take part in late adolescences risky sexual behaviour and substance abuse [12]. Another research found that late adolescences are more sensitive to rewards and have not been able to control their impulses well. This can cause late adolescence to ignore the negative consequences of risky behaviour [13]. The capacity to regulate emotions also play a significant role in late adolescence risk-taking behaviour [14].

Emotion regulation is an individual's ability to control impulsive behaviour when experiencing negative emotions and is flexible with the aim of changing the intensity of the emotional response experienced [15]. Emotional regulation ability can be divided into cognitive reappraisal and expressive suppression. Cognitive reappraisal is a form of cognitive change that involves the process of analyzing situations that may elicit emotions by focusing on changing the emotional impact that these situations can have. Expressive suppression is a form of response modulation that involves the process of inhibiting the expressive behaviour of the emotion being felt [16]. Emotion regulation can help a people to manage their emotional arousal and to minimize negative emotions and choose effective ways to deal with stress [17,18].

Previous research shows that emotion regulation is a significant predictor of drunken behaviour in late adolescence. Emotional regulation has been shown to reduce impulsive behaviour in late adolescence, especially alcohol abuse or drunkenness [19]. Another study also showed that emotion regulation was able to predict overeating behaviour in late adolescence. Late adolescence who have difficulty regulating their emotions are more likely to engage in risky overeating behaviour [20].

 https://doi.org/10.24912/ijassh.v1i1.25918

Based on previous research, it can be concluded that late adolescences tend to engage in risky behaviours. It should be noted that late adolescence are the key to the next generation and they should be do their duties seriously for the nation's growth. Therefore, it is important for parents and education units to prevent late adolescence engage in a risk-taking behaviour. Another reason the researchers conduct research the effect of emotional regulation on risk-taking behaviour in late adolescence because there are still contradictive effect of emotional regulation on risk-taking behaviour. Previous research found that emotion regulation does not have a significant influence on the alcohol abuse behaviour in Italian immigrant adolescents. In addition, the two dimensions of emotion regulation also did not have a significant effect on the alcohol abuse risk behaviour of Italian immigrant adolescents [21]. From this result, it can be said that the effect of emotional regulation on risk-taking behaviour in late adolescence is still unclear. Therefore, researchers conducted research the effect of emotional regulation on risk-taking behaviour in late adolescence.

2. RESEARCH METHOD

Participant

The characteristics of the participants in this study were late adolescence aged 17 to 21 years and had engaged in risk-taking behaviour. Research participants were obtained by using purposive sampling, namely looking for participants who match the required characteristics. Participants in this study were 448 late adolescence and dominated by female (n = 270, 60.3%). Based on age, participants aged 21 years were the largest age group with a total of 123 (27.5%), while participants aged 17 years was the least age group with a total of 40 (8.9%).

Measurement

Adolescence risk-taking questionnaire

The measuring instrument used to measure the Risk-taking behaviour variable is the Adolescence Risk-Taking Questionnaire developed by Gullone et al. in 2000 [22]. This measuring instrument has two parts, namely risk behaviours and risk perceptions. Risk behaviours is part of the questionnaire that measures how likely risky behaviour is carried out by participants, while risk perceptions is part of the questionnaire that measures participants' perceptions of how risky the behaviour is. Each section has 22 items of repeated positive statements so that there are 44 statements.

The scoring of ARQ using a Likert scale with a score range of 0 to 4. In the risk behaviour section, a score of 0 states that it has never carried out risky behaviour and a score of 4 states that it is very often that risk behaviour. In the risk perceptions section, a score of 0 indicates that the behaviour is not risky and a score of 4 indicates that the behaviour is extremely risky. The meaning of the score obtained by the participants is that the higher the score obtained by the participant indicates the participant has a high risk-taking behaviour tendency, while the lower the score obtained by the participant indicates the participant has a low risk-taking behaviour tendency. The ARQ has four dimensions that can be measured, namely

thrill-seeking (i.e. Parachuting), rebellious (i.e. “Smoking”), reckless (i.e. “Speeding”), and antisocial (i.e. “Cheating”). The ARQ in this research has good reliability with Cronbach's alpha value of this variable of 0.937.

Emotion regulation questionnaire
The measuring instrument used to measure emotion regulation variables is a translation of the Emotion Regulation Questionnaire (ERQ) measurement tool developed by Gross and John in 2003 [16]. The ERQ consists of 10 items of positive statements that focus on knowing how individuals control their emotions. Filling this measuring instrument using a Likert scale with a score range of 1 to 7. A score of 1 indicates strongly disagree and a score of 7 states strongly agree. This measuring tool has two dimensions, namely cognitive reappraisal (i.e. "When I want to feel more positive emotions, I change what I think") and expressive suppression (i.e. “I don't show my emotions to other people”). This measuring instrument has good reliability with Cronbach's alpha value of this variable is 0.878.

Procedure
This study began by obtaining the ARQ to measure the risk-taking behaviour variable and the ERQ to measure the emotion regulation variable. After that, the researcher asked permission from the creator of the measuring instrument for the purposes of translation. The research was continued by looking for prospective participants whose characteristics had been determined through the google form media and distributing them on several social media platforms such as LINE, Whatsapp, Instagram, and Facebook.

Statistical Analysis
Data were analysed using IBM SPSS Statistics 25 for Windows. A linear regression test was conducted to determine the effect of emotional regulation on risk-taking behaviour in late adolescence by controlling for the age and gender of the participants.

3. RESULT AND DISCUSSION
Descriptive statistics were conducted to get the variables description of participants. Based on the data obtained, it was found that the average score of the risk-taking behaviour variable of participants was 1.176. Meanwhile, the average score of the emotion regulation variable of participants is 4.675. This score indicates that the participants have high emotional regulation abilities and low involvement in risk-taking behaviour.

Before conducting a linear regression analysis, there are several assumptions test that necessary to do. The assumptions test were standardized residual normality test, linearity test, and homoscedasticity test. The model of this study, namely effect of emotion regulation on risk-taking behaviour in late adolescence, had met all the assumptions criteria.

The results of linear regression analysis shows that emotion regulation was negatively and significantly related to risk-taking behaviour in late adolescence ($R^2 = 0.314$, $p < 0.05$). This result shows that emotion regulation predicts risk-taking behaviour in late adolescences by 31.4%, while the remaining 68.6% are influenced by other factors. Second, the results of linear regression analysis shows that gender is also significantly related to risk-taking behaviour in late adolescence ($p < 0.05$; $t = -7.336$) but not with age ($p > 0.05$; $t = 0.506$).

 https://doi.org/10.24912/ijassh.v1i1.25918

Researchers also analyze the difference effect between two dimensions of emotion regulation on risk-taking behaviour. The results shows that both dimension can predict risk-taking behaviour in late adolescences by 26.9%, while the remaining 73.1% are influenced by other factors ($R^2 = 0.269$, $p < 0.05$). Between two dimensions of emotion regulation, only cognitive reappraisal dimension have a significant effect on risk-taking behaviour in late adolescence ($p < 0.05$; $t = -11.346$) and not with expressive suppression dimension ($p > 0.05$; $t = -1.630$).

The results of this research shows that there is a significant negative effect between the two variables. Thus, if the score for the emotional regulation variable is high then the score for the risk-taking behaviour variable is low. On the other hand, if the emotional regulation variable scores low, the risk-taking behaviour variable scores high. The results of this research are in accordance with previous research which shows a negative relationship between risky behaviour and emotion regulation in adolescences. Late adolescences who engage in risky behaviour, namely gambling, have lower levels of emotional regulation when compared to the general group [23]. Adolescences will tend to engage with risk-taking behaviour when they have difficulty in regulating their emotions. Therefore, adolescences who are able to manage their emotions can help reduce involvement in risk-taking behaviour [14].

The results of this study also shows that gender has a significant influence on risk-taking behaviour in late adolescence. Boys have a higher risk-taking behaviour than girls. The perception of male adolescences tends to be less sensitive to risk-taking behaviour, causing male adolescences to be more involved in risk-taking behaviour compared to female adolescences [11]. Boys are more vulnerable to pressure from the social environment compared to girls so that it's easier for boys to engage in risky behaviour. They will tend to conform to gender stereotypes that link masculinity to violence and freedom such as drug use and aggressive behaviour. Therefore, male adolescences will be more involved in risk-taking behaviour when compared to female adolescences [24].

In addition, the results shows that there was no significant difference in the level of risk-taking behaviour in all age groups consisting of the 17-21 year old group with negligible differences in effects between the two variables. The peak of a person's tendency to engage in risk-taking behaviour is when entering late adolescence and then decreases with age. Therefore, the results of this study did not find a significant difference in the level of risk-taking behaviour because the age group of participants came from the same age group, namely late adolescence [1].

Furthermore, this research also looks more specifically at the different effects of each dimension of emotion regulation on risk-taking behaviour. The results showed that of the two dimensions of emotion regulation only one dimension have a significant effect on risk-taking behaviour, namely the cognitive reappraisal dimension. This finding is consistent with previous research which showed that the use of cognitive reappraisal dimension can significantly predict a person's well-being compared to the expressive suppression dimension [25]. The use of this cognitive reappraisal dimension is commonly found in the college age group and this finding is also consistent with previous research which shows the use of

cognitive reappraisal is indeed growing rapidly and is more effective when entering adolescence, causing the cognitive reappraisal dimension to be more commonly used by late adolescence [27].

4. CONCLUSIONS AND RECOMMENDATIONS

In this research it can be concluded that there is a significant effect of emotional regulation on risk-taking behaviour in late adolescence. The two variables also have a negative relationship so that this result is also in accordance with the research hypothesis. Thus, if late adolescence have a good capacity to regulate their emotions, they will have a lower involvement in risk-taking behaviour. In addition, it can be concluded that gender and cognitive reappraisal can significantly predict risk-taking behaviour in late adolescence, but not with age and expressive suppression dimension.

Further research should to expand the age characteristics of participants so that they are not limited to the category of late adolescence. By expanding the age characteristics of the participants, it is hoped that it will show significant age differences in risk-taking behaviour in future studies. Another suggestion that can be given is by linking the risk-taking behaviour with other variables such as peer pressure or peer pressure, impulsivity, and anxiety [11]. Further research can also expand the demographics of the participants such as the socioeconomic status of the participants to enrich the research results. Socioeconomic status is proven to have a negative correlation with risk-taking behaviour and needs to be included in the control variable [27]. Further research also need to look at the development of cyber-risk behaviour because the risk-taking behaviour in this study is still measuring physical risk behaviour. Given the development of the times and the ongoing pandemic, which causes most people to spend time online, cyber-risk behaviour needs to be investigated further.

Acknowledgement

The researcher would like to thank the participants who have helped the researcher to complete this research. The researcher also expresses gratitude to colleagues from the Faculty of Psychology, Universitas Tarumanagara who have helped in realizing this research.

REFERENCES

Pompili, S., & Laghi, F. (2018). Drunkorexia among adolescents: The role of motivations and emotion regulation. Eating Behavior, 29, 1-7. DOI: https://doi.org/10.1016/j.eatbeh.2018.01.001

Agambire, R., Ansong, C. A., & Adusei, C. (2019). Risky behaviours among adolescents in a rural community: A study conducted at Kwabre East District, Ashanti Region of Ghana. Cogent Medicine, 6(1), 1-19. DOI: https://doi.org/10.1080/2331205X.2019.1673653

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. American Psychologist, 55(5), 469-480. DOI: https://doi.org/10.1037/0003-066X.55.5.469

Boden, M. T., & Thompson, R. J. (2015). Facets of emotional awareness and associations with emotion regulation and depression. Emotion, 15(3), 399–410. DOI: https://doi.org/10.1037/emo0000057

Budget Direct. (2021, May 13). Speeding survey & statistics 2021. URL: https://www.budgetdirect.com.au/car-insurance/research/speeding- statistics.html

Buelow, M. T. (2020). Risky decision making in psychological disorders. DOI: https://doi.org/10.1016/C2017-0-02527-2

Center for Disease Control and Prevention. (2020, August 20). Youth risk behavior surveillance system (YRBSS). Centers for Disease Control and Prevention.

Duell, N., & Steinberg, L. (2021). Adolescents take positive risks, too. Developmental Review, 62, 1-11. DOI: https//doi.org/10.1016/j.dr.2021.100984

Duell, N., Steinberg, L.D., Icenogle, G., Chein, J.M., Chaudhary, N., Di Giunta, L., Dodge, K.A., Fanti, K.A., Lansford, J.E., Oburu, P., Pastorelli, C., Skinner, A.T., Sorbring, E., Tapanya, S., Uribe Tirado, L.M., Alampay, L.P., Al-Hassan, S.M., Takash, H.M., Bacchini, D., & Chang, L. (2017). Age patterns in risk taking across the world. Journal of Youth and Adolescence, 47, 1052-1072. DOI: https://doi.org/10.1007/s10964-017-0752-y

Estévez, A., Jáuregui, P., Lopez-Gonzalez, H., Mena-Moreno, T., Lozano-Madrid, M., Macia, L., Granero, R., Mestre-Bach, G., Steward, T., Fernández-Aranda, F., Gómez-Peña, M., Moragas, L., Del Pino-Gutierrez, A., Codina, E., Testa, G., Vintró-Alcaraz, C., Agüera, Z., Munguía, L., Baenas, I., Valenciano-Mendoza, E., … Jiménez-Murcia, S. (2021). The severity of gambling and gambling related cognitions as predictors of emotional regulation and coping strategies in adolescents. Journal of Gambling Studies, 37(2), 483–495. DOI: https://doi.org/10.1007/s10899-020-09953-2

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. Journal of Personality and Social Psychology, 85(2), 348–362. DOI: https://doi.org/10.1037/0022-3514.85.2.348

Gullone, E., Moore, S., Moss, S., & Boyd, C. (2000). Adolescent risk-taking and the five-factor model of personality. Journal of Adolescence, 23(4), 393–407. DOI: https://doi.org/10.1006/jado.2000.0327

Heffer, T., & Willoughby, T. (2021). A person-centered examination of emotion dysregulation, sensitivity to threat, and impulsivity among children and adolescents: An ERP study. Developmental Cognitive Neuroscience, 47, 1-11. DOI: https://doi.org/10.1016/j.dcn.2020.100900

Heller, A.S. and Casey, B. J. (2016). The neurodynamics of emotion: Delineating typical and atypical emotional processes during adolescence. Developmental Science, 19, 3-18. DOI: https://doi.org/10.1111/desc.12373

Jia X, Zhu H, Sun G, Meng H, & Zhao Y. (2021). Socioeconomic status and risk-taking behavior among chinese adolescents: The mediating role of psychological capital and self-control. Frontiers in Psychology, 12(7), 1-10. DOI: https://doi.org/10.3389/fpsyg.2021.760968

Laghi, F., Bianchi, D., Lonigro, A., Pompili, S., & Baiocco, R. (2019). Emotion regulation and alcohol abuse in second-generation immigrant adolescents: The protective role of

cognitive reappraisal. Journal of Health Psychology, 26(4), 513-524. DOI: https://doi.org/10.1177%2F1359105318820715

McCoy, S. S., Dimier, L., Samuels, D. V., & Natsuaki, M. N. (2019). Adolescent susceptibility to deviant peer pressure: Does gender matter ?. Adolescent Research Review, 4(1), 1-13. DOI: https://doi.org/10.1007/S40894-017-0071-2

McKewen, M., Skippen, P., Cooper, P. S., Wong, A. S. W., Michie, P. T., Lenroot, R., & Karayanidis, F. (2019). Does cognitive control ability mediate the relationship between reward-related mechanisms, impulsivity, and maladaptive outcomes in adolescence and young adulthood? Cognitive, Affective, & Behavioral Neuroscience, 19, 653–676. DOI: https://doi.org/10.3758/s13415-019-00722-2

Reniers, R. L. E. P., Murphy, L., Lin, A., Bartolome, S. P., & Wood, S. J. (2016). Risk perception and risk-taking behaviour during adolescence: The influence of personality and gender. PLoS ONE, 11(4), 1-14. DOI: https://doi.org/10.1371/journal.pone.0153842

Rice, F. P., & Dolgin, K. G. (2008). The adolescent: Development, relationships, and culture (12th Ed.). Pearson.

Sanci, L., Webb, M., & Hocking, J. (2018). Risk-taking behaviour in adolescents. Australian Journal of General Practice, 47(12), 829-834. DOI: https://doi.org/10.31128/AJGP-07-18-4626

Santrock, J. W. (2016). Adolescence (16th Ed.). McGraw-Hill Education.

Silvers, J.A. (2020). Extinction learning and cognitive reappraisal: Windows into the neurodevelopment of emotion regulation. Child Development Perspective, 14, 178-184. DOI: https://doi.org/10.1111/cdep.12372

Smout, A., Newton, N. C., Slade, T., O'Donoghue, B., & Chapman, C. (2020). The relationship between early risk-taking behavior and mental health problems among a nationally representative sample of Australian youth. Journal of Affective Disorders, 272, 239-248. DOI: https://doi.org/10.1016/j.jad.2020.04.040

Vally, Z., & Ahmed, K. (2020). Emotion regulation strategies and psychological wellbeing: Examining cognitive reappraisal and expressive suppression in an Emirati college sample. Neurology Psychiatry and Brain Research, 38, 27-32. DOI: https://doi.org/10.1016/J.NPBR.2020.09.001

Weinbach, N., Sher, H., & Bohon, C. (2018). Differences in emotion regulation difficulties across types of eating disorders during adolescence. Journal of Abnormal Child Psychology, 46(6), 1351-1358. DOI: https://doi.org/10.1007/s10802-017-0365-7

Weiss, N. H., Sullivan, T. P., & Tull, M. T. (2015). Explicating the role of emotion dysregulation in risky behaviors: A review and synthesis of the literature with directions for future research and clinical practice. Current Opinion in Psychology, 3, 22–29. DOI: http://dx.doi.org/10.1016/j.copsyc.2015.01.013