

# Impact factors for Adolescents' Emotion Regulation Ability and Choice of Strategy: An Overview

Zhengrong Zhu \*

Department of Psychological Studies, Temple University, Tokyo, 154-0004, Japan

\* Corresponding author: tun22750@temple.edu

**Abstract.** This study aimed to explore the importance and influence factors of adolescents' emotion regulation (ER). This study approached research purpose by summarizing and analyzing four major influencers of ER in adolescents: age, parental styles, culture, and education. As found, at a young age, adolescents show a lower ability to regulate emotions due to the development of the "hot system" and low Self Control (SC). Then, this study discussed the impact of parenting styles (PS) on adolescents' ER. Different PSs may indirectly lead to different ER abilities in their children. Past literature also presented that culture may influence children's choice of ER strategy. Two ER strategies were introduced to address cultural preferences for using them. Last, the teacher and positive education intervention's impact on students' ER ability was discussed. For future direction, it was suggested that more research be done on cultural influence on ER in adolescents.

**Keywords:** Adolescents; emotion regulation; parental style; positive education; culture; age.

## 1. Introduction

### 1.1. Emotion Regulation

Emotion regulation (ER) can be considered an essential contributor to emotion stability. However, when it comes to teenagers, they always seem to have lower ability in ER compared to adults. Thus, what factors influence teenagers' ability to regulate emotions? It is significant to explore this question because puberty is an emotionally fluctuating period in one's life. A great number of past studies reported that once one reaches puberty, the risk of conducting dangerous behaviors significantly increases, and there is a higher chance of serious consequences, even death [1]. Therefore, it is vital to have a comprehensive understanding of teenagers' physical and mental processes of ER. The purpose of this study is to summarize and analyze factors influencing teenagers' ER in past literature.

### 1.2. ER and Adolescents

ER happens when an individual consciously or unconsciously processes their emotions [2]. This topic is worth attention because it is one of the important deciding factors for psychological well-being throughout every stage of one's life. In fact, past literature has revealed the positive relationship between ER and mental well-being. For instance, one study aimed to examine the correlation between ER ability and daily well-being [3]. Participants are required to self-report their ER and happiness levels every day for two semesters. The data result indicates that participants with higher levels of ER ability tend to score higher on the happiness questionnaires. Despite the ability of adults to regulate emotions, adolescents' emotions are also worth exploring. According to the Merriam-Webster Dictionary, an adolescent is a young person developing into an adult, usually aged from 10 to 19. During this age period, they are experiencing puberty changes both mentally and physically, which may result in long-term mood swings. In the adolescent sample, the effect of ER skills on individual well-being was also observed. One study used a cluster sampling technique to pull their sample and measured adolescents' ER and level of well-being by self-report questionnaires [4]. The results show a strong positive correlation between adolescents' ER and subjective well-being. In parallel, another study asked their participants, who were teenagers aged from 9 to 16, to complete the ASRE scale and subjective happiness scale [5]. Researchers aim to examine the relationship

between ER and happiness levels. The results indicate that the positive ASRE subscale has a positive correlation with happiness and hope, and a negative correlation with sadness and depression. In other words, adolescents with high ER skills may find it easier to approach positive perspectives in life.

## **2. Influence Factors of ER**

### **2.1. ER and Age**

Past studies consistently agree that age is one of the significant influencers of adolescents' ER [6]. To address this, it is important to explain the dual-system model created by Metcalfe [7]. They stated that there are two systems regarding one's self-control (SC): the "hot" system and the "cool" system. The "Hot" system represents an individual's sensibility, which includes emotions such as desires and reflexes. Nevertheless, the "cool" system relates to people's rationality and flexibility. During one's adolescent period, the "hot" system will "overrun" the "cool" system, leading to a lower ability in SC [8]. To prove this, Steinberg, Albert, Cauffman, Banich, Graham, and Woolard [8] conducted research to examine the relationship between age and impulsivity level. They collected data from people aged from 10 to 30 from diverse backgrounds. The result indicated that participants aged from 10 to 15 self-reported the highest impulsivity scores, and the score showed a slow decline after 15 years old. In addition, another past study seeks to test the relationship between age and SC [9]. Researchers collected data from middle school students, college students, and their parents. Results revealed that there is a positive correlation between age and SC; the older an individual is, the better SC ability they may have. More importantly, regarding poor SC, data showed that adolescents aged from 16 to 17 scored significantly higher than every other age group. As Paschke et al. suggested in their research on the relationship between self-reported SC and ER, a higher level of SC predicts a stronger ability in ER [10]. Therefore, in the case of adolescents, their age determines their lower strength in SC, then predicts lower ability in their ER. To conclude the findings of the literature, with maturity of the "hot" system, immaturity of the "cold" system, high impulsivity, and low SC, age can serve as an essential factor in teenagers' ability to regulate emotions.

### **2.2. Impact of Parental Style on Adolescents' ER**

Multiple past research presented the impact of Parental Style (PS) on adolescents' ER. Jabeen et al. asked their adolescent participants to complete a survey that measured three perspectives of their parents' PS: authoritarian, authoritative, and permissive [11]. Another questionnaire aimed to measure adolescents' perception of ER; a higher score indicates a higher ability to regulate emotions. Participants are high school students who are in Grades 7, 8, and 9, aged from 12 to 15. The results of the study stated that the maternal authoritative parenting style (PS) positively predicts ER in teenagers. In fact, as discussed by the authors, this finding can be explained because the maternal authoritative PS indicates warmth and responsiveness, which offers children high security, thus leading to low impact from negative emotions and high ERs [12]. In addition, research results revealed that paternal permissive PS was a negative predictor of children's ER. To explain this, Jabeen et al. suggested that children who lack parents' control and education have a higher ability to form resistance to ER guidance and, therefore, experience difficulties in ER, especially problems with anger regulation [13]. Furthermore, the impact of PS on one's childhood can continue to affect one's ability to regulate emotions in adulthood. Tani et al. conducted a study aimed at the relationship between perceived PS and ER in adulthood [14]. Participants, who are aged from 25 to 65, self-reported their parents' PSs and ER through surveys. Results indicated a significant correlation between perceived PS, ER strategy, and emotion dysregulation. In detail, findings presented that paternal care was positively correlated with difficulties in ER; participants have better relationships with his or her fathers in childhood, and fewer difficulties are shown in ER in adulthood. Nevertheless, asking participants to recall their perceived PS may be biased, especially if the sample has reached adulthood. Future studies may conduct longitudinal studies on related topics to confirm the impact of

PSs on future ER. To conclude, PS can not only influence adolescents' ER but also have a profound impact throughout one's life.

### **2.3. ER and Culture**

ER can be impacted by one's cultural identity. According to Hofstede [15], countries' cultural dimension can be described by individualism, power distance, egalitarianism, affective autonomy, hierarchy, embeddedness, long-term orientation, and uncertainty avoidance. Matsumoto et al. [16] conducted cross-cultural research to examine the correlation between ER and cultural dimensions. The study included participants from 23 countries. The purpose of the questionnaire is to reveal the preference of participants' ER strategy: cognitive reappraisal and expressive suppression. According to Gross and John [17], cognitive reappraisal refers to the ability of an individual to actively reconstruct his or her cognition of the situation while experiencing an emotion, thereby affecting his or her emotional impact. Expression suppression is a strategy used by individuals to regulate emotions by suppressing or avoiding them in order to minimize the impact on the situation. Results revealed that participants with various cultural dimensions showed differences in preference for ER strategies. More specifically, the cognitive reappraisal facet has a negative correlation with countries described by uncertainty and power distance. The expressive suppression facet has a positive correlation with countries described by power distance, embeddedness, hierarchy, and long-term orientation and a negative correlation with countries described by individualism, affective autonomy, and egalitarianism. Mauss et al. [18] also reported a positive relationship between ER and cultural identity. Their study focused on Asian Americans and European Americans and used not only self-report surveys but also experiments. The contents of the questionnaire included cultural background, emotional control values, and ER. For the experiment, participants went through an anger activation process where their baseline responses were collected by physiological sensors. The results showed that when experiencing anger, there is no significant difference in the physiological response levels between Asian Americans and European Americans. However, Asian Americans expressed less anger about their experiences than European Americans. In other words, Asian Americans tend to use suppression strategies to limit their expression of anger even if they are experiencing the same level of anger as European Americans. Similarly, Kwon et al. [19] tested the difference in the use of ER strategies between American and Korean. Results revealed that Americans presented higher levels of anger expression and cognitive reappraisal than Koreans. The present study has described and analyzed the past literature on the relevant topic. However, a limited amount of research has been done on adolescents; it seems that more research needs to be carried out.

### **2.4. ER and Education**

The teacher can influence adolescents' ER. Shen and Zhang's [20] research presents a positive correlation between students' ER ability and teachers' emotional empathy. This research included 2074 middle and high school students and 54 head teachers in China. It was based on questionnaires on ER, temperament, and emotional empathy. Results indicated that teachers' modulation of emotional empathy is positively correlated with students' tendency to use cognitive reappraisal strategy. In addition, it was proved that a teacher's emotional empathy can positively regulate students' negative emotions. As the authors discussed in the article, when teachers provide emphatic responses toward students' emotional behaviors, such as responsive crying, students tend to feel respected and choose a more cooperative ER strategy over expressive suppression. To optimize and guarantee students' emotional development during schooling period, positive education program (PEP) was created [21]. The PEP refers to the combination of traditional academic classroom and student well-being intervention. The PEP aimed to promote students' mental well-being, including healthy ER strategy, by giving teachers positive education training. Seligman et al. conducted research to testify to the effectiveness of PEPs [21]. This research included 347 Grade 9 students; they were randomly assigned into two classes, one with a PEP and another one without. Questionnaires were completed to measure students' love of learning, kindness, social skills, behavioral problems, enjoyment, end of school, and academic standing. This PEP continued for one year and with two years of follow-up.

The result showed that students with positive education showed higher grades in Language Arts classes. In addition, there is a significant improvement in students' empathy, cooperation, assertiveness, and SC. As mentioned in the article before, higher SC has a correlation with higher ER ability; therefore, this finding may indirectly contribute to the impact of positive education on adolescents' ER ability. Shoshani and Steinmetz's research also agreed with the correlation [22]. Their study included teenagers aged 11 to 14 and aimed to examine the PEP's impact on students' mental health and ER skills. This program is a longitudinal repeated measures design. Participants were assigned into two groups, one with positive education intervention and one with the regular course arrangement. Participants were measured on their positive emotions, negative emotions, life satisfaction, self-efficacy, self-esteem, and basic mental health symptoms. Findings indicated that students with positive education intervention showed a decrease in anxiety levels and sensitivity in interpersonal relationships; moreover, there was an increase in students' positive emotions and ability to cope with pressures. The decrease in anxiety and the increase in positive emotion may result from the development of students' ER ability from the PEP.

### 3. Conclusion

To conclude, this study presents an overview of adolescents' ER and introduces its definition, types of strategies, importance, and influence factors. It is significant to explore this field because ER is an important contributor to adolescents' mental well-being. In terms of influencing factors of ER, this study summarized and discussed four aspects: age, PS, culture, and education. As presented in the previous paragraph, age has an impact on ER due to two factors, "hot and cool systems" and low SC. As past literature indicated, these would lead to lower ability in ER. PS is another impact factor because it can indirectly affect adolescents' subjective perspectives, thus influencing their ability to regulate emotions. Culture primarily affects one's ER by influencing their choice of ER strategies: cognitive reappraisal and expressive suppression. In fact, people with different cultural backgrounds would present different preferences for ER strategy. Last, this study discussed how the interaction between adolescents and their teachers affects their choice of ER. As mentioned previously, adolescents show a tendency to use cognitive reappraisal strategy if they receive emotional empathy from their teacher. Moreover, the PEP was explored to provide direct evidence that a healthy education style promotes students' ER ability.

The present study contributes to the literature by pointing out the significance of ER and analyzing major influence factors of it in adolescents. Suggestions for future research in relevant fields would be, as mentioned in culture and ER section, there is a limited finding on the influence of culture impact on adolescents' ER. Based on that, future research can try to examine the differences of cultural influence on ER between adults and adolescents. Exploring this may contribute to scholars' understanding of how deep-rooted cultural influences can affect one's ER choice. Another suggestion is that, to confirm the impact of PS on one's ER ability, a longitudinal study can be done to prevent participants' bias when trying to recall their childhood PS experiences. All in all, ER is an important field for people of all ages because it is directly correlated with mental health and life satisfaction throughout one's life.

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