



# A Review on the Development of Adolescents' Emotion Differentiation Ability

Wenrui Yu (✉)

Wuhan Britain-China School, Wuhan 430034, China  
3412006139@qq.com

**Abstract.** Emotions involve in humans' daily life and play a key role when individuals respond to important events. When individuals experience complex emotions, they need to first identify and differentiate between these emotions, which helps them find an appropriate method to cope with emotions appropriately. This is the ability to categorize different emotions, which is termed emotion differentiation. Adolescents are particularly needed to develop the ability to differentiate emotions, as they are more likely to suffer from puberty anxiety or other emotional issues. In this article, I discussed the significance of emotion differentiation to adolescents and identified two bases that are significant in developing adolescents' ability of emotion differentiation. I write a literature review by searching and reading relevant papers. According to previous studies, I found that developing this ability needs social learning, which means teenagers can develop emotion differentiation through interacting with their parents, teachers, and peers. Emotional processing also requires individuals' maturity at the biological level. Hence, to effectively develop an adolescent's emotion differentiation, teachers or parents should also consider the developmental stage of teenagers' brains. In conclusion, teenagers' ability to differentiate emotions can be promoted in social interactions, such as healthy parent-child relationships, school counseling, and peer support. Additionally, neural studies show that the cultivation of adolescents' emotion differentiation follows the developing progress of their limbic subcortical areas and prefrontal cortical regions, which respectively serve for emotional processing and cognitive control.

**Keywords:** emotion · emotion differentiation · adolescents · development

## 1 Introduction

When a teenager is stressed during the period of a final examination, while his or her parents are busy at work and classmates are unfriendly, the teenager may appear down-hearted due to neglect, loneliness, anger, and fear. These negative emotions experienced by a teenager are complex and promiscuous. If the teenager is messy with these emotions, then he or she may fail to properly cope with these emotional issues and may present social withdrawal and reduction in overall well-being. This condition accompanies adolescents' insufficiency in emotion differentiation, the ability to experience and label emotions precisely [1]. When teenagers lack emotion differentiation, they are

unable to find solutions to cope with and may suffer from troubles. Hence, it leads to a question: how can adolescents learn to develop the ability of emotion differentiation? In the following literature review, I will unfold my thinking of emotion differentiation, justifying its significance in well-being and the way to develop it from a psycho-social and biological basis.

## 2 Emotion Differentiation and Its Significance in Well-Being

Emotion differentiation is critical to our emotional health. Take the quarrel between A and B as an example: A was late for appointments with B many times; therefore, B felt unhappy and said something harsh to A. From A's perspective, A also experienced negative emotions (e.g., regret, anger, hurt) and may scolded back, leading to their broken relationship. However, If A can accurately differentiate his complex emotions, A may do something relaxing to calm down, admit his or her mistakes to B and make up their relationship. Moreover, researchers found differentiating negative emotions is crucial to emotional health, as negative emotions reveal broader emotional states and threatening signals [2]. Thus, it can be seen that high emotion differentiation enables people to precisely categorize their emotions and better regulate their emotions, as they know how to deal with negative emotions and take appropriate actions. For example, a previous study found people who are better at differentiating various negative emotions tend to use emotion regulation strategies (e.g., rumination and distraction, reappraisal and talking to others, suppression, masking, and self-soothing) more proactively [3]. Other research also supports the role of emotion differentiation in emotional health, which suggests that the low ability to differentiate emotions inhibits successful emotion regulation. By contrast, high emotion differentiation facilitates the effective regulation of emotions and further contributes to emotional health [1].

In addition to emotional well-being, emotion differentiation also benefits other aspects of humans' psychological well-being. This is evidenced by research that individuals with higher emotion differentiation would be less likely to experience stress and rumination and more likely to have high self-esteem [2]. Moreover, people who can accurately differentiate their emotions suffer fewer behavioral issues. For instance, a study found that people who can better describe their negative emotions tend to consume less alcohol to self-medicate [4]. Another research revealed that high differentiators are less likely to show aggressive impulses (i.e., failure to control anger-driven aggressive impulses when aroused is a common cause of aggression) when experiencing angry emotion [5, 6]. The researcher also found adolescents who are suffering from a mood disorder (e.g., depressive disorder, bipolar disorder, substance-induced mood disorder) are deficient in categorizing negative emotions; on the contrary, the development of emotion differentiation may reduce the possibility of mood disorder [7].

Actually, not only adolescents with mood disorders undergo low emotion differentiation; the whole community of adolescents is vulnerable to suffering from this puzzle. A previous study found that from 14 to 17 years old, negative emotion differentiation becomes lower relative to increasing age [8]. The other researcher showed that the curve for emotion differentiation is non-linear, which means it fell from childhood to adolescence and rose from adolescence to adulthood. Hence, adolescence is the period with

the lowest emotion differentiation because they have little knowledge of conceptualizing co-occurring emotions [9]. During this time, adolescents get rich emotion experiences as they experience academic stress and relationship confusion [10]. However, they merely feel negative about these concerns without knowing where their worries come from and why they worry. Then, emotional concepts learning becomes essential; otherwise, adolescents cannot clearly identify their mixed emotions, which may lead to behavioral issues. Therefore, it is clear that emotion differentiation is important and needed for adolescents. In the following paragraph, I will discuss the factors which may change adolescents' ability to differentiate emotions and the means to develop this ability.

### **3 The Development of Emotion Differentiation: The Psycho-Social Basis During Adolescence**

Precise differentiation of different emotions first requires an understanding of these emotional concepts. However, adolescents usually demonstrate limited knowledge of emotional concepts [9]. When they face complex emotional issues, they easily experience overlapped appraisals of different emotions and cannot label the specific type of emotion. For example, no matter feeling angry, anxious, or depressed, they similarly take these feelings as negative experiences, and this overlapped appraisal prevents them from knowing how to either fight for their rights, participate in relaxing activities, or meet with others to cheer them up. The research provides evidence that individuals who roughly appraise complex emotions as either feeling negative or positive tend to have lower emotion differentiation, as their understanding of emotions is over-simplified [11]. Therefore, how do people learn to conceptualize emotion and avoid appraisal overlap? When a baby boy has broken a bottle, his mother shows an angry facial expression and tone. Then the baby may associate his mistake with the mother's furious reaction and learn the concept of 'anger'. With the development of people, there were many interactions like this, and they learned basic emotional concepts through social interactions. It was found that people learn emotional concepts by observing the emotional responses of other people in particular events [12]. Hence, high-quality interpersonal relationships are conducive to developing teenagers' emotional concepts. The researcher found that a healthy parent-child relationship could enhance adolescents' ability to differentiate negative emotions; for example, talking about an emotional event with the mother can help the child better understand why he or she has that feeling in that case. Another study also suggested that parents' emotional support to children would raise adolescents' emotional adjustment [8, 13]. Therefore, healthy parent-child interaction is important for developing adolescents' emotion differentiation. Under this healthy interaction, teenagers may communicate more with parents and get more emotional understanding from them, therefore gaining more emotional concepts and increasing emotion differentiation.

Apart from parents, the development of adolescents' ability to differentiate emotions also needs support from teachers and their peers. In school settings, adolescents usually suffer from emotional challenges. (e.g., academic stress, puberty anxiety). Due to the stress, they are either less likely to distract their attention to emotions or identify emotions, therefore, experience low emotion differentiation. A researcher suggested that school counselors play a crucial role in promoting emotional development, so the

solution for this low ability could be counseling at school [14]. Before and after the examination, schools can organize an activity about 'understanding the discrete emotions people usually have' while enabling adolescents to realize and understand their mixed emotions. After the psychological education, they may identify their specific negative emotions and find appropriate emotion regulation strategies to cope with pressure. Additionally, peer support is also an essential determinant of teenagers' level of emotion differentiation. A study found that in comparison to coping with emotion alone, sharing feelings with others can better solve emotional issues, as others may offer different emotion regulation strategies [15]. As for adolescents, they can share emotional problems with their friends to co-reappraise the issues. However, the effectiveness of social sharing depends on their friends. If adolescents' friends can help them differentiate emotions, think positively, or distract their attention from negative emotions, it can be beneficial to them. Otherwise, they may all be lost in jumbled and negative emotions. The research evidenced that co-rumination in social sharing would reduce the ability to differentiate emotions [16]. For instance, both the teenager and friend feel angrier and experience more intense feelings after they discuss the unfair treatment experienced by the teenager. Hence, if teenagers and friends just grumble together without coming up with correct regulation strategies, their emotion differentiation cannot improve and may be lower. Apart from social influences on teenagers' development of emotion differentiation, biological impacts also need to be considered.

#### **4 The Development of Emotion Differentiation: The Biological Basis During Adolescence**

In order to develop emotion differentiation, the first step is to develop abundant emotion experiences. Indeed, teenagers usually experience more intense and complex emotions during adolescence. For instance, when children get praise from a teacher in front of the class due to their high grades, they may only feel happy. However, teenagers may experience more emotions: happiness from achieving high grades, shyness due to teachers' praise in front of the whole class, and pride from receiving classmates' admiration. The difference in emotional experience between childhood and adolescence could be attributed to the development of adolescents' limbic subcortical areas. It is evidenced by previous research that teenagers' limbic subcortical areas are more activated in response to emotional stimuli than younger children's limbic areas [17]. The limbic subcortical area is in charge of emotional processing, so as this area becomes more and more mature, adolescents can experience richer emotion experiences. Hence, in comparison with children whose emotional area is relatively underdeveloped, it is easier for adolescents to learn diverse emotional concepts as they are able to experience them in person [9].

Nevertheless, adolescents are also vulnerable to emotional issues because they are in puberty, a special life period wherein many adolescents may experience extremely intense feelings due to profound biological transitions [18]. For example, child B would respond and go for dinner quickly whenever he listened to his mother's call for dinner. In contrast, when B grows up and becomes a teenager, he may be impatient with his mother's requests and respond with silence or shout. The increasingly intense response to emotional stimuli is usually accompanied by teenagers' overreaction, ignorance, or

other inappropriate or even abnormal behaviors. The researcher found that the increased emotional intensity enables adolescents to become poor in regulating emotions and more vulnerable to suffering from psychopathology (e.g., depression, anxiety, and antisocial behavior) [19]. Actually, these negative consequences are not only the cause of high emotional reactivity; it is also due to the undeveloped prefrontal cortical regions. Research suggests that the prefrontal cortex is not fully mature until adulthood, so teenagers may be unable to exert control of their emotions because their efficiency of cognitive processing is lower than adults [17]. Further, it would be harder for an adolescent to identify and understand his or her complex emotions when he or she is still emotionally trapped, hence the low emotion differentiation.

Taken above, I think parents' and teachers' concerns are really crucial to the development of teenagers' emotion differentiation. At school, teachers may offer counseling to teach teenagers about different emotional concepts and tell them to be aware of their emotions, especially negative ones. At home, parents should not ignore or get angry when adolescents experience puberty anxiety or other negative emotions, as it is a common phenomenon throughout their biological development; they are expected to hold some tolerance for their child. Instead, parents should promote communication between their children and teach them to learn more about emotions. For instance, parents present as role models to children to bring more positive affect to them. Additionally, parents can afford emotional coaching and emotional support to children to develop their emotion differentiation [17].

## 5 Conclusion

In sum, adolescents are experiencing a special life course in which their emotional skills are plastic as they rapidly learn from others, and their emotional brains are becoming more and more mature. From a psycho-social basis, parents' emotional coaching and school counseling enable teenagers to learn emotional concepts. Positive peer support can inspire teenagers to understand their negative emotions from a different perspective. Through biological basis, parents and teachers can know the underlying reasons for teenagers' terrible emotions and offer guidance in the appropriate way and time. In life, this study shows that schools need to pay more attention to teenagers' emotional well-being by employing counselors to organize emotional concept learning activities. Moreover, parents need to realize that educating children should not only rely on schools; they also have the responsibility to care for teenagers' emotional health. Although sometimes teenagers may be sensitive and irritable, parents should offer more patience and supports to them. My study also encourages people to focus more on adolescents' emotional issues to figure out the facilitating and destroying factors in developing teenagers' emotion differentiation.

Emotions are informative signals of mental health. As to the limitation of this study, in my opinion, positive and negative emotions bring people different signals, as negative emotions enable people to detect their emotional issues (e.g., feeling hate sometimes signifies a potential threat), but positive emotions enable people to find their interests (e.g., feeling excited is a precursor of career interest). However, I did not distinguish these two types of emotions in my article. I think positive and negative emotion differentiation

play distinct and indispensable roles in people's emotional intelligence; hence both topics deserve academic attention. In future studies, I suggest researchers investigate negative and positive emotion differentiation separately and find their possible differences.

## References

1. Kalokerinos, E. K., Erbas, Y., Ceulemans, E., & Kuppens, P. (2019). Differentiate to regulate: Low negative emotion differentiation is associated with ineffective use but not selection of emotion-regulation strategies. *Psychological Science*, 30(6), 863–879.
2. Erbas, Y., Kalokerinos, E. K., Kuppens, P., van Halem, S., & Ceulemans, E. (2022). Momentary emotion differentiation: the derivation and validation of an index to study within-person fluctuations in emotion differentiation. *Assessment*, 29(4), 700–716.
3. Barrett, L. F., Gross, J., Christensen, T. C., & Benvenuto, M. (2001). Knowing what you're feeling and knowing what to do about it: Mapping the relation between emotion differentiation and emotion regulation. *Cognition & Emotion*, 15(6), 713–724.
4. Kashdan, T. B., Ferrisizidis, P., Collins, R. L., & Muraven, M. (2010). Emotion differentiation as resilience against excessive alcohol use: An ecological momentary assessment in underage social drinkers. *Psychological science*, 21(9), 1341–1347.
5. Pond Jr, R. S., Kashdan, T. B., DeWall, C. N., Savostyanova, A., Lambert, N. M., & Fincham, F. D. (2012). Emotion differentiation moderates aggressive tendencies in angry people: A daily diary analysis. *Emotion*, 12(2), 326.
6. Denson, T. F., Capper, M. M., Oaten, M., Friese, M., & Schofield, T. P. (2011). Self-control training decreases aggression in response to provocation in aggressive individuals. *Journal of Research in Personality*, 45(2), 252–256.
7. Demiralp, E., Thompson, R. J., Mata, J., Jaeggi, S. M., Buschkuehl, M., Barrett, L. F., ... & Jonides, J. (2012). Feeling blue or turquoise? Emotional differentiation in major depressive disorder. *Psychological science*, 23(11), 1410–1416.
8. Starr, L. R., Shaw, Z. A., Li, Y. I., Santee, A. C., & Hershenberg, R. (2020). Negative emotion differentiation through a developmental lens: Associations with parental factors and age in adolescence. *Personality and Individual Differences*, 152, 109597.
9. Nook, E. C., Sasse, S. F., Lambert, H. K., McLaughlin, K. A., & Somerville, L. H. (2018). The nonlinear development of emotion differentiation: Granular emotional experience is low in adolescence. *Psychological science*, 29(8), 1346–1357.
10. Arsenio, W. F., & Loria, S. (2014). Coping with negative emotions: Connections with adolescents' academic performance and stress. *The Journal of genetic psychology*, 175(1), 76–90.
11. Erbas, Y., Ceulemans, E., Koval, P., & Kuppens, P. (2015). The role of valence focus and appraisal overlap in emotion differentiation. *Emotion*, 15(3), 373.
12. Barrett, L. F. (2006). Solving the emotion paradox: Categorization and the experience of emotion. *Personality and social psychology review*, 10(1), 20–46.
13. Morris, A. S., Criss, M. M., Silk, J. S., & Houlberg, B. J. (2017). The impact of parenting on emotion regulation during childhood and adolescence. *Child Development Perspectives*, 11(4), 233–238.
14. O'Connor, P. (2018). How school counselors make a world of difference. *Phi Delta Kappan*, 99(7), 35–39.
15. Horn, A. B., & Maercker, A. (2016). Intra- and interpersonal emotion regulation and adjustment symptoms in couples: The role of co-brooding and co-reappraisal. *BMC psychology*, 4(1), 1–11.

16. Sels, L., Erbas, Y., O'Brien, S., Verhofstadt, L., & Kalokerinos, E. (2022). To Share or Not to Share: Social Sharing Predicts Decreased Emotion Differentiation.
17. Casey, B. J., Getz, S., & Galvan, A. (2008). The adolescent brain. *Developmental review*, 28(1), 62–77.
18. Susman, E. J., & Rogol, A. (2004). Puberty and psychological development.
19. Ahmed, S. P., Bittencourt-Hewitt, A., & Sebastian, C. L. (2015). Neurocognitive bases of emotion regulation development in adolescence. *Developmental cognitive neuroscience*, 15, 11–25.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

