



FACTORS AFFECTING EMOTION REGULATION
OF UNDERGRADUATE STUDENTS IN CHINA



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OF UNDERGRADUATE STUDENTS IN CHINA



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for the Degree of MASTER OF EDUCATION
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HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT
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This study aimed to explore the factors related to and affecting emotion regulation among undergraduate students at Kunming College of Arts and Sciences. A total of 326 senior students from the Faculty of Education were randomly selected to participate in the questionnaire survey. The data were collected using the Emotion Regulation and Factors Affecting Emotion Regulation Questionnaire (ERFAQ), a self-developed instrument constructed based on established theoretical models and validated scales. The ERFAQ covered key variables including authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use. The instrument showed high internal consistency, with a total Cronbach's alpha coefficient of 0.918. Through correlation analysis and stepwise multiple regression analysis, the following results were obtained: 1) There were significant positive correlations between authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, social media use, and students' emotion regulation (all $p < 0.01$). 2) Five factors significantly affected students' emotion regulation. Three of them were significant at the $p < 0.001$ level: academic stress, authoritative parenting style, and regulatory emotional self-efficacy; two were significant at the $p < 0.05$ level: cognitive control and social media use. Authoritarian and permissive parenting styles showed no significant effects. 3) The unstandardized regression equation was: $\hat{Y} = -0.385 + 0.327X_4 + 0.259X_1 + 0.234X_5 + 0.098X_6 + 0.084X_7$. 4) The standardized regression equation was: $Z = 0.349^{***}X_4 + 0.314^{***}X_1 + 0.254^{***}X_5 + 0.119^{**}X_6 + 0.093^{*}X_7$.

Keyword : emotion regulation, undergraduate students, authoritative parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, social media use

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First of all, I would like to express my special thanks to my supervisor, Dr. Thammachot Aeamtussana. His rigorous scholarship, patient guidance and meticulous suggestions have been throughout my research process. From topic selection, framework construction, questionnaire design and review, to data analysis and paper writing, every key link is inseparable from his careful guidance and support. He always helps me sort out research ideas and solve problems in a clear and organized way, so that I can smoothly advance the writing of the paper and continuously improve my academic ability. At the same time, I also sincerely thank my co-supervisor, Dr. Paradee Kambhu Na Ayudhaya. When I encounter problems and confusions, she always gives me timely responses and encouraging suggestions at the first time. Her concern is not only reflected in academics, but also gives me warmth and strength on the spiritual level. The support and guidance of the two supervisors are an important guarantee for me to successfully complete my studies and thesis, and I will remember it in my heart. I also sincerely thank all the professors in the Faculty of Education. It is their teaching and companionship that has laid a solid academic foundation for me. In the course, I not only learned systematic theoretical knowledge, but also continuously improved my critical thinking and research ability. These

accumulations have given me more confidence and direction when conducting independent research.

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Finally, I would like to express my most sincere gratitude to my family, classmates and friends. Thanks to my parents for their silent support and dedication behind me, I can concentrate on studying in Thailand without worries and successfully complete my studies. Their encouragement is my most solid source of support and strength. Thanks to my classmates and friends who have accompanied me all the way. They made me no longer lonely in this foreign study journey. We went to class together, did homework together, and racked our brains for papers together. These bits and pieces of memories will become the most precious part of my life. Everyone's company not only gave me academic support, but also gave me emotional comfort, so that I would not retreat in difficult times.

This paper is not only the result of my two years of hard study and research, but also a testimony to my growth, persistence and transformation. Although the two years were short, the gains and touches I gained will remain in my heart for a long time. The road ahead is still long, and I will continue to explore and move forward on the road of education and psychology with this gratitude and enthusiasm. I hope that what I have learned can help others in the end; I hope to live up to the trust and this journey.

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CHAPTER 1

INTRODUCTION

1.1 Background

Emotion regulation has been a profound and ever-changing topic since ancient times. In traditional Chinese medicine, emotion regulation has been given a pivotal role, for example, the saying that “Anger hurts the liver and worry damages the spleen”, which not only reflects China's ancient initial understanding of the concept of the interaction between physical and mental health but also reflects the ancient people's deep understanding of the link between emotion regulation and health. In Western culture, proverbs such as “Only those who remain calm can succeed” and “Let your emotions be your guide” demonstrate the two opposing views of Western philosophers on emotion regulation (Hou & Yu, 2006). Emotions, as people's subjective feelings and reactions to things, play a crucial role in human growth and development, and they are present in every aspect of learning and life (Huang, 2016). People do not have the ability to choose the circumstances of their birth, nor can they change the current social situation. Therefore, people can only adjust themselves to adapt to such an environment and the current situation. Moreover, if emotions can be used and adjusted appropriately, it is possible to make life better. It can be seen that emotion regulation is extremely important for personal growth (Li & Hu, 2014).

There is growing evidence that emotions not only enrich people's life experiences but also play a crucial role in their survival and adaptation processes (Cosmides & Tooby, 2000). Emotions play a vital role in everyday life, and it is difficult to imagine what a world devoid of them would look like. We can't feel the warmth of love when facing our parents; we don't feel disappointed when we fail in an important interview; we don't feel funny when we hear our friends recounting anecdotes from college; and we don't even feel embarrassed when we call our classmates by the wrong name. Without emotions, our colorful world would lose its color and become monotonous and gray (Gross, 1999). Emotions have a significant impact on people's physical and mental health, and good emotions are the basis for normal physiological functioning (Xu,

2002). Therefore, emotion regulation is of great significance to an individual's mental health, interpersonal relationships, and quality of life.

Emotion regulation refers to the methods people use to influence which emotions they experience, when they feel emotions, and how they perceive and express those emotions (Gross, 1998). Moreover, Gross and Levenson (1997) pointed out that emotion regulation is the manipulation and control of emotional causes or emotional responses by an individual or others, thereby causing changes in emotional components, including physiological reactions, subjective experiences, and expression behaviors. In addition, emotion regulation can be characterized as the collection of strategies through which individuals aim to alter the natural course of their emotional responses (Koole, 2009). In summary, emotion regulation is the process by which individuals use strategies to influence their emotional experience, timing of feelings, and expression, including the control of emotional causes and reactions, thereby triggering physiological responses and behavioral changes.

Emotion regulation can influence social interactions through a variety of mechanisms, one of the most obvious being that it affects the emotional climate in socialization. The expression of positive emotions is more likely to engage others, whereas the display of negative emotions may alienate others (Argyle & Lu, 1990; Furr & Funder, 1998). A recent study showed that undergraduate students who scored higher on measures of emotion regulation indicated better performance in interpersonal relationships. They get along well with friends and have fewer conflicts; they also have closer relationships with their parents, who provide them with more companionship, affection, and support (Lopes et al., 2003). Although emotion regulation in everyday life focuses primarily on reducing negative emotions, most people also try to regulate their positive emotions (Gross et al., 2006).

A survey on the current stress situation of undergraduate students showed that most students in colleges and universities generally suffer from different degrees of academic, employment, and interpersonal relationship stress (Antony et al., 1998), which also reflected the generally high level of psychological stress among students in

undergraduates and universities today. Emotion regulation is an important psychological process and an important ability for undergraduate students to make social adaptations, which has a significant impact on an individual's physical and mental health and quality of life (Gratz & Roemer, 2008). Previous studies on emotion regulation have mainly focused on children and adolescents, while relatively little attention has been paid to undergraduate students. Although undergraduate students' emotions gradually stabilize after forming their outlook on life and the world, their inner emotions are still rich and changeable due to the huge changes in their environment, the repositioning of their roles, and the continuous improvement of their cognitive abilities and social experiences (Wu, 2006). In addition, undergraduate students often face negative emotions such as anxiety and depression in their daily study and life. These emotions may stem from concerns about exams, a sense of powerlessness in dealing with complex interpersonal relationships, and confusion about future career choices. If these negative emotions are not effectively regulated, they may have a further negative impact on their normal life and study (Zhao, 2023). In order to better help undergraduate students effectively regulate their emotions and improve their mental health, research on the emotion regulation factors of this group is very necessary.

According to Yang and Yang (2022), senior students are approaching graduation and are facing multiple pressures such as employment pressure, social role changes, and life challenges. These pressures may lead to negative emotions such as anxiety, tension, and uneasiness. Especially during the COVID-19 pandemic, the incidence of anxiety and depression among undergraduate students during graduation season is relatively high. In the study by Peng et al. (2024), they found that the employment stress, employment anxiety, and depression levels of senior students were all at a medium to low level, with the anxiety level slightly higher than the depression level. In addition, female students were more likely to be anxious than male students, while male students were more likely to be depressed. Therefore, they concluded that family stress, school stress, and personal stress were the main factors affecting students' employment anxiety and depression. In addition, Zhao (2022) proposed that

with the development of society and the intensification of competition, undergraduate students are facing stress from academic, employment, interpersonal relationships, etc., which may lead to negative emotions such as anxiety, uneasiness, and depression. Moreover, senior students may face academic stress such as graduation thesis and examinations, which may lead to anxiety, tension, and other emotions. Furthermore, facing the severe employment situation and uncertainty in the future, they are under the expectations from family and society, which may cause them to feel stress and affect their emotional state. Therefore, exploring the factors that affect undergraduate students' emotion regulation is of great value to alleviating students' anxiety and depression caused by employment, academic and social expectations, and promoting mental health.

Emotions and emotion regulation involve a variety of factors and processes such as personal goals, hedonic experiences, and affective exchanges to past experiences including parent-child interactions and internalization of cultural rules (Campos et al., 2004). In addition, Wu (2006) reviewed the relevant literature and found that the current domestic and international studies on the influencing factors of emotion regulation mainly include: demographic factors such as gender and age, family factors (including parent-child relationship, parenting styles, and parents' ability to recognize, express, and regulate emotions), social cognitive ability, personality factors (temperament, emotional stability), and the social context of emotional experience. It can be seen that emotion regulation is influenced by a number of complex factors. Based on these theories and the reality of students' emotion regulation, it is possible to predict the factors that influence students' emotion regulation.

This study identified parenting styles, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use as potential factors affecting students' emotion regulation. Because they affect students' emotion regulation from four aspects: family, school, individual, and social media use. Parenting styles lay the foundation for individual emotion regulation; academic stress is a common problem faced by undergraduate students, which will affect students' emotional state; regulatory emotional

self-efficacy and cognitive control, as personal factors, play a key role in emotion regulation. In addition, social media use, as a modern lifestyle, has also become an external factor that cannot be ignored in affecting students' emotion regulation. It may provide emotional support or aggravate emotional distress. In summary, exploring these factors is helpful to fully understand and promote students' emotion regulation and mental health.

Parenting styles are the attitudes, behaviors, and strategies adopted by parents in raising and educating their children, and usually include the manner in which children are cared for, controlled, and disciplined, as well as the quality of interaction between parents and children. It reflects parents' expectations, attitudes, and behavioral styles towards their children. Parenting styles are usually divided into three types: authoritative, authoritarian, and permissive. A stable parent-child relationship provides children with emotional support and security to express their emotions freely, which is an important foundation for effective emotion regulation (Morris, Criss, et al., 2017). Being in an environment filled with closeness and a warm emotional climate helps children feel more comfortable expressing their emotions (Houlberg et al., 2012). Numerous studies have shown that emotional support is strongly associated with children's ability to regulate their emotions more effectively (Morris, Houlberg, et al., 2017).

Academic stress refers to the psychological and emotional burdens that students experience during the learning process as a result of academic loads, examination pressures, performance requirements, and other factors. Students' emotional states during the learning process are widely recognized as being closely linked to key outcomes such as academic performance and adaptability, and they also play a significant role in shaping both physical and mental well-being (Saklofske et al., 2012). Although this area has not been extensively explored, existing research suggests that positive emotional experiences are positively related to students' academic success and active engagement in learning activities (Lewis et al., 2009; Pekrun et al., 2009; Reschly et al., 2008). Students' academic stress is closely related to their ability to regulate their emotions. Those students with stronger emotional regulation skills are able

to maintain optimism in the face of academic challenges, deal with tension more effectively, and thus reduce overall feelings of academic stress (Sari et al., 2020).

Regulatory emotional self-efficacy refers to an individual's subjective evaluation of his or her ability to express positive emotions in positive situations and manage negative emotions in adversity, reflecting the role of self-efficacy in the process of emotional self-regulation (Caprara et al., 2008). According to Mesurado et al. (2018), regulatory emotional self-efficacy includes two aspects: self-efficacy in managing negative emotions, that is, the ability of individuals to improve negative emotions under pressure; and self-efficacy in express positive emotions, that is, the ability to individuals to express positive emotions in successful or pleasant situations. In addition, Bandura et al. (2003) proposed that regulatory emotional self-efficacy is a kind of self-efficacy, which refers to the degree of confidence of individuals in regulating their emotional state. It can be seen that regulatory emotional self-efficacy is an important reflection of individuals' emotion regulation ability and self-confidence.

Cognitive control refers to the psychological process by which an individual adapts to the environment and achieves goals by regulating attention, maintaining focus on goal-related information, inhibiting irrelevant information or automatic responses, and continuously monitoring and adjusting their own behavior. Hendricks and Buchanan (2016) showed that working memory, as a part of cognitive control, is associated with lowering negative emotions. In addition, their results suggest that cognitive control has a broad role in some aspects of emotion regulation, and in particular, that the process of updating working memory plays a specific moderating role in regulating negative emotions. There is an interplay between emotions and cognitive control, with cognitive control not only acting on emotions, but emotions are also able to influence our cognitive control (Okon-Singer et al., 2013; Pessoa, 2009).

Social media use refers to the behaviors and habits of individuals who interact, share information, exchange content, and make social connections through online platforms (e.g., Facebook, Instagram, Twitter, etc.). Social media addiction has become increasingly prevalent among young people in recent years, with addicts often choosing

to avoid and suppress negative emotions rather than reevaluate them, which can be detrimental to physical and mental health (Fokker et al., 2021). Excessive use of social media may lead to a variety of negative psychological and physiological effects in individuals, such as sleep disturbances, diminished self-esteem, reduced life satisfaction, and even depressive symptoms (Balhara et al., 2018; Kircaburun, 2016; Li et al., 2018). Research suggests that emotion regulation plays a key role in internet addiction. Social media platforms provide a positive social environment for adolescents, and through online interactions, they can enhance their sense of self-positivity (Valkenburg et al., 2005).

Overall, emotion regulation can improve an individual's emotional adaptability and self-control, enabling individuals to better cope with challenges and stress in life (Liu, 2024). As an educator, studying the factors affecting emotion regulation can help students better recognize and understand their emotions, provide a reference for teachers to develop more personalized teaching strategies and counseling programs, and help schools create a more harmonious and positive campus atmosphere.

1.2 Research Question

This study aimed to examine how undergraduate students' emotion regulation is associated with the following factors:

- 1) How are authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, social media use, and emotion regulation related?
- 2) What are the factors that affect emotion regulation?

1.3 Objectives of Research

- 1) To investigate the relationship between authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, social media use, and emotion regulation.
- 2) To investigate the factors that affect the emotion regulation of students at Kunming College of Arts and Sciences.

1.4 Significance of Research

The significance of this study can be summarized from the following perspectives. Firstly, for education, by studying these factors, colleges and universities can adjust their teaching content, cultivate students' emotion regulation ability, provide empirical support for mental health education in colleges and universities, and provide a reference basis for the design of mental health courses, and help them to develop more scientific and effective mental health intervention programs.

Secondly, for the society, undergraduate students are important builders of the future society, and studying the influencing factors of their emotion regulation can help to improve their mental health, reduce the social problems caused by negative emotions, and then promote social harmony and stability.

In addition, for mental health, understanding these factors will help undergraduate students to recognize and prevent mental illnesses, such as depression and anxiety disorders, to improve their psychological quality and to better cope with the stresses and challenges of life.

Meanwhile, from an academic point of view, the results of this study can provide theoretical supplementation for subsequent research in related fields and expand new research perspectives and methodological directions.

1.5 Scope of Study

1. Population

This study focused on a group of 890 fourth-year students from 15 classes in the faculty of education at Kunming College of Arts and Sciences. This college is located in Kunming, Yunnan Province, China.

2. Sample

According to the table of Krejcie and Morgan (1970), in order to improve the accuracy and validity of the data, a total of 326 students were randomly selected from a population of 890 as the study sample.

1.6 Research Variables

This study includes the following independent variables: 1) authoritative parenting style, 2) authoritarian parenting style, 3) permissive parenting style, 4) academic stress, 5) regulatory emotional self-efficacy, 6) cognitive control, and 7) social media use. While the dependent variable is emotion regulation.

1.7 Definition of Terms

1. Emotion Regulation

Emotion regulation refers to the process by which an individual monitors, assesses, and adjusts his or her emotional state in response to changes in the environment or to achieve specific goals. This process aims to bring about positive changes in emotions in terms of physiological activity, subjective experience, and expressive behavior in order to restore calm, maintain emotional stability, or enhance emotional experience. Among the five points of the emotion regulation process, the focus is on cognitive reappraisal and expressive suppression.

1) Cognitive reappraisal is a form of cognitive change that involves interpreting a potentially emotion-triggering situation in a way that modifies its emotional impact.

2) Expressive suppression is a form of response modulation that involves inhibiting ongoing emotion-expressive behavior.

2. Authoritative Parenting Style

Authoritative parenting style refers to a parenting approach marked by high responsiveness and high expectations. Parents adopting this style establish clear rules while offering warmth, open communication, and emotional support. They exercise balanced behavioral control, apply positive discipline, and foster independence within structured limits. Unlike authoritarian parents, they are actively involved in their child's life, allow flexible rule-setting based on logical reasoning, and prioritize guidance over punishment. This style is widely associated with children's emotional stability, self-confidence, and strong emotional regulation abilities.

3. Authoritarian Parenting Style

Authoritarian parenting style refers to a parenting approach characterized by high demands but low responsiveness. It emphasizes strict obedience, rigid rules, and strong psychological or behavioral control, often involving punishment to deter mistakes. Parents with this style prioritize discipline over dialogue, operate on the principle of “because I said so”, and tend to be less emotionally engaged with their children. As a result, this style may lead to emotional suppression, reduced autonomy, and impaired emotion regulation, due to the lack of warmth and emotional support.

4. Permissive Parenting Style

Permissive parenting style refers to a parenting approach characterized by high responsiveness and low demands, in which parents are warm and indulgent but provide few rules or expectations for behavior. This style often results in children having greater freedom and less structure, and has been linked to outcomes such as poor self-regulation, impulsivity, and difficulty adapting to rules and expectations in academic or social settings.

5. Academic Stress

Academic stress refers to the psychological burden triggered by the heavy tasks, performance requirements, examination assessments, and external expectations of students in the learning process. It is often driven by elevated academic expectations and competitive demands, leading to negative emotional experiences such as anxiety, nervousness, or frustration. Prolonged academic stress can have adverse impacts on students' psychological well-being and academic performance.

6. Regulatory Emotional Self-Efficacy

Regulatory emotional self-efficacy refers to an individual's confidence and belief in his or her ability to regulate emotions. Specifically, it involves an individual's belief that he or she can successfully manage his or her emotional experience, including being able to effectively control emotional responses, maintain emotional stability, and use appropriate strategies to reduce negative emotions and enhance positive emotions when facing stress, challenges, or difficult situations. In short, regulatory emotional self-

efficacy is an individual's self-evaluation and confidence in his or her ability to regulate emotions.

7. Cognitive Control

Cognitive control refers to an individual's continuous monitoring of his or her emotions, behaviors, and thoughts to identify and inhibit inappropriate reactions and interfering information, thereby ensuring adaptive responses in specific situations and maintaining attention and cognitive efficiency related to current goals. It mainly includes two aspects: cognitive control of emotions and appraisal and coping flexibility.

1) Cognitive control of emotions refers to an individual's perceived ability to control intrusive negative thoughts and emotions triggered by stressful situations.

2) Appraisal and coping flexibility refers to an individual's ability to consciously adjust behavior, actively evaluate stressful situations, and choose coping strategies.

8. Social Media Use

Social media use refers to the behavior of individuals to communicate with others, share information, and access content through online platforms. It includes browsing, posting, commenting, liking, private messaging, and other forms of interaction, and covers a wide range of platforms such as social networks, video sharing, blogs, forums, and so on. Social media are used with different frequencies, and purposes, and in different ways, usually involving activities such as socializing, entertainment, learning, information acquisition, and self-expression.

1.8 Framework of the Study

According to the research of scholars such as Anggraini and Widyastuti (2022), Bandura et al. (2003), Lee et al. (2024), Morris et al. (2002), and Valkenburg et al. (2005), which has impacts on emotion regulation, the following framework can be derived.

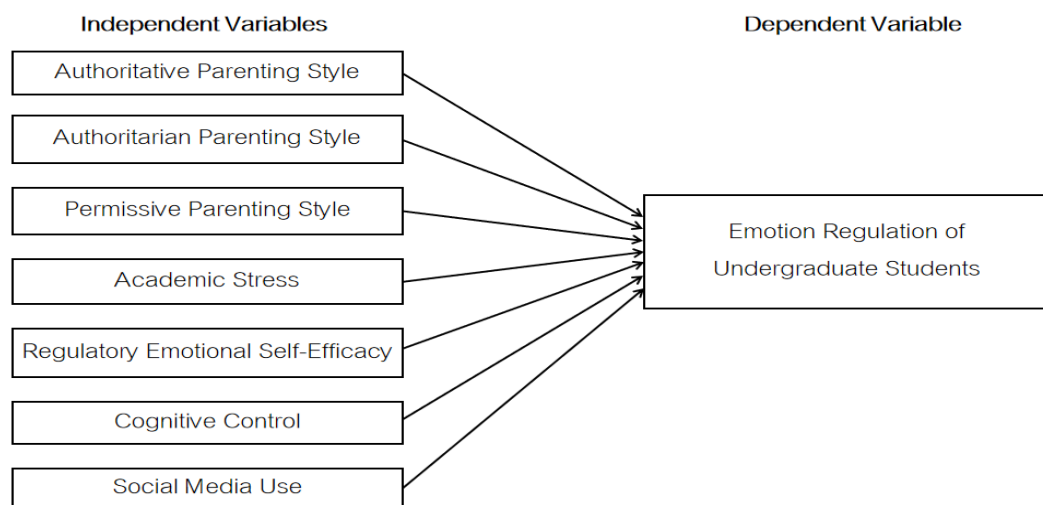


FIGURE 1 Framework of the Study

1.9 Research Hypothesis

1) Authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use are the factors related to the emotion regulation of undergraduate students.

2) The effects of authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use on emotion regulation among undergraduate student.

CHAPTER 2

LITERATURE REVIEW

This chapter provided a comprehensive review and description of emotion regulation as a dependent variable, as well as representing the seven independent variables that influence emotion regulation. This study analyzed each variable in detail in the context of the relevant theoretical literature and provided an in-depth analysis of the correlation studies between these independent variables and the dependent variable.

1. Emotion Regulation

- 1.1 Definitions of Emotion
- 1.2 Definitions of Emotion Regulation
- 1.3 Classifications of Emotion Regulation
- 1.4 The Process Model of Emotion Regulation
- 1.5 Importance of Emotion Regulation
- 1.6 Measurement of Emotion Regulation

2. Parenting Styles

- 2.1 Definitions of Parenting Styles
- 2.2 Classifications of Parenting Styles
- 2.3 Importance of Parenting Styles
- 2.4 Measurement of Parenting Styles
- 2.5 Authoritative Parenting Style and Emotion Regulation
- 2.6 Authoritarian Parenting Style and Emotion Regulation
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3. Academic Stress

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2.1 Emotion Regulation

2.1.1 Definitions of Emotion

The word “emotion” comes from the Latin word “emovere”, meaning “to move out” or “to agitate”, and usually refers to fluctuations in emotions associated with external events or objects that often prompt us to react in some way to those events or objects. These fluctuations often prompt us to react to these events or objects in a certain way. Since ancient times, these emotions have been given names such as shame, anger, fear, joy, embarrassment, and disgust, and have been divided into different categories (Von Scheve & Slaby, 2019).

Different scholars have different opinions about the definition of emotion, but a common conclusion can be drawn from these different views: emotion is a mental state, even if bodily signals also play a role in this mental experience (Cabanac, 2002). According to Reisenzein (2007), emotion is a process consisting of psychological

elements (e.g., appraisal, action tendencies, subjective experiences) and behavioral elements (e.g., physiological reactions, facial expressions, vocal expressions) interconnected through a causal relationship. Another scholar proposed that emotion is a coordinated change in multiple elements (including at least neurophysiological activation, motor performance, and subjective feelings, and possibly involving action tendencies and cognitive processes) that occur in response to important internal and external events in the organism (Scherer, 2000).

In general, emotion is an important concept in psychology. It is a transient but intense psychological response of an individual to an internal or external event, which includes three aspects: subjective feelings, physiological changes, and behavioral expressions. Together, these responses constitute our emotional experience of a particular situation or stimulus.

2.1.2 Definitions of Emotion Regulation

Emotion regulation (ER) refers to the process by which individuals regulate their emotions, which can affect when emotions occur, how emotions are experienced, and how emotions are expressed (Gross, 1998). Emotion regulation includes a range of automatic and controlled physiological, behavioral, and cognitive processes (Gross, 2001).

As defined by Cole et al. (2004), emotion regulation refers to changes associated with activated emotions. These changes include changes in the emotion itself (e.g., changes in the intensity and duration of the emotion); Thompson (1994) as well as changes in other psychological processes (e.g., memory and social interactions). Emotion regulation can refer to two different phenomena: one in which emotions act as regulators, referring to changes triggered by activated emotions, and the other in which emotions act as regulated objects, referring to adjustments and changes to activated emotions (Eisenberg & Spinrad, 2004).

Emotion regulation generally refers to an individual's capacity to regulate personal emotional reactions, which includes employing strategies to enhance, maintain, or diminish the intensity, duration, and trajectory of change in emotions,

whether positive or negative (Young et al., 2019). There are also other studies that point to emotion regulation as a dynamic process in which individuals continuously monitor, assess, and make necessary adjustments to their emotional states, the behavioral manifestations associated with their emotions, and the specific situations that trigger these emotions in order to achieve a set goal. This process is designed to enable individuals to better adapt to changes in the external environment and the demands of interpersonal relationships (Ma et al., 2011).

To conclude, emotion regulation is a process through which individuals influence their own or others' emotional states by applying specific strategies, leading to changes in physiological responses, subjective experiences, facial expressions, and observable behaviors. This process not only includes the regulation of high-intensity emotions, but also covers the fine-tuning of lower-intensity emotions.

2.1.3 Classifications of Emotion Regulation

In the study of emotion regulation, scholars have explored the types of emotion regulation in depth, revealing the different types and their effects on the mental health of individuals. Folkman and Lazarus (1988) categorized emotion regulation into two types: problem-focused coping and emotion-focused coping. Problem-focused coping focuses on changing the stressful situation through problem-solving approaches, such as reframing the problem and considering alternatives, to effectively reduce stress. Emotion-focused coping, on the other hand, reduces emotional stress through behavioral or cognitive modification strategies (e.g., avoidance, distraction, or prosopagnosia), in which the individual focuses primarily on his or her own emotions rather than on directly addressing the actual problem.

According to the definition of Gross (1998), emotion regulation can be categorized into two types: antecedent-focused emotion regulation and response-focused emotion regulation. Antecedent-focused emotion regulation occurs before the emotion arises and focuses on the source of the emotion, whereas response-focused emotion regulation occurs after the emotion arises and focuses on the process of the emotional response. In simple terms, antecedent-focused emotion regulation deals with

what triggers the emotion, while response-focused emotion regulation adjusts the performance of the emotion after it arises. In addition, their model views emotion regulation as taking place at different stages of the emotion generation process, encompassing both negative and positive emotion regulation, emphasizing the important impact of emotion regulation processes on mental health (Gross & John, 2002).

2.1.4 The Process Model of Emotion Regulation

Gross (1998) proposed a process model of emotion regulation (see Figure 2), which divides emotion regulation into two stages: one is antecedent-focused emotion regulation, which includes situation selection, situation modification, attentional deployment, and cognitive change; the other is response-focused emotion regulation, which includes response modulation (Gross, 1998, 2014). Gross's theory of emotion regulation process model is widely recognized, which effectively explains how emotion regulation is carried out (Wu, 2006).

1. Situation Selection

Situation selection refers to the individual's ability to regulate possible emotions to a certain extent by choosing to avoid or approach the people or things he or she is about to face. This choice may be conscious or unconscious (Gross, 1998). For example, if a person knows that attending a party may make him feel uncomfortable, he may choose not to go, which is to avoid negative emotions through situation selection. On the contrary, if he knows that watching a comedy movie will make him happy, he may choose to watch it, which is to pursue positive emotions through situation selection.

2. Situation Modification

Situation modification refers to a strategy and effort to influence emotional changes by adjusting and changing certain specific aspects of the situation that trigger emotions (Gross, 1998). For example, when a person faces a noisy neighbor, there are three ways to deal with it: leave the scene, choose to be patient, or take measures to stop it.

3. Attentional Deployment

Attentional deployment refers to the conscious adjustment of attention to different aspects of the same situation through shifting attention or selective attention (Gross, 1998). For example, during an exam, if there is noise interference from the outside world, individuals can focus on the content of the test paper and ignore the surrounding noise, thereby completing the test better.

4. Cognitive Change

Cognitive change refers to a strategy to regulate emotions by adjusting one's way of thinking (Gross, 1998). For example, if a person encounters setbacks at work, he or she can view them as opportunities to learn and grow rather than failures, thereby reducing the impact of negative emotions.

5. Response Modulation

Response modulation refers to changing the way emotions are expressed by taking actions after they occur (Gross, 1998). For example, when a person feels angry, he chooses to take a deep breath or leave the scene instead of losing his temper directly to control the expression of emotions.

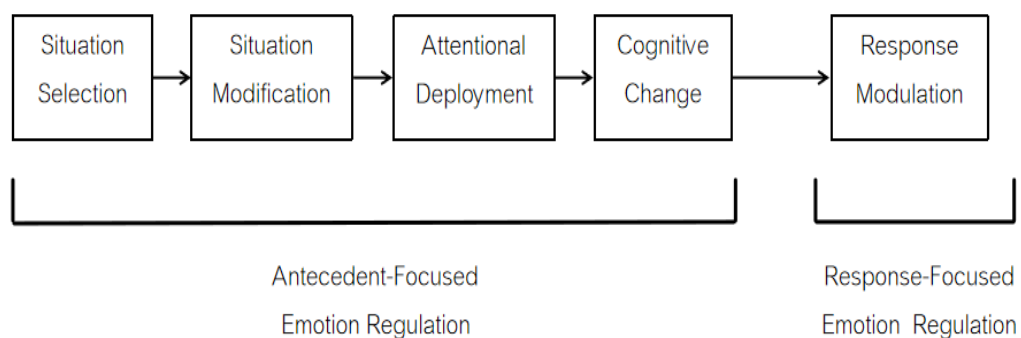


FIGURE 2 The Process Model of Emotion Regulation (adapted from Gross, 1998)

2.1.5 Importance of Emotion Regulation

Effective emotion regulation can reduce the impact of negative emotions such as anxiety and depression and prevent these emotions from accumulating into serious psychological problems. By actively coping with and expressing emotions, people are

able to better manage their mental states and maintain balanced mental health. Emotional expression and feelings have an indispensable role in our physical and mental health and can facilitate goal achievement, enhance interpersonal communication, and guide positive behaviors to promote health (Verzeletti et al., 2016).

Morris, Criss, et al. (2017) also emphasized that among children and adolescents, good emotion regulation is crucial to promote their social and emotional well-being. In addition, there are other studies that suggest that effective management of emotions plays an integral and extremely important role in maintaining the mental health of adolescents (Zhu, 2023). Moreover, Huang et al. (2024) pointed out that an important sign of undergraduate students' mental health is emotional stability and well-being, and the key to achieving this state lies in having excellent emotion regulation skills.

Therefore, effective emotion regulation skills help us to cope with the pressure and challenges in life and reduce the occurrence of negative emotions such as anxiety and depression, so as to maintain the stability of mental health. Mastering effective emotion regulation skills and methods is important for enhancing one's overall quality of life and sense of well-being.

2.1.6 Measurement of Emotion Regulation

In the study by Gross and John (2003), emotion regulation was assessed primarily by means of a self-report questionnaire. They developed the Emotion Regulation Questionnaire (ERQ), which contains two key dimensions: antecedent-focused emotion regulation (e.g., cognitive reappraisal) and response-focused emotion regulation (e.g., expressive suppression). Participants were asked to assess the frequency and tendency of use in emotion regulation based on their own experiences, thus measuring individual differences in these two regulation strategies.

Liu and Shi (2024) designed a series of self-administered questions to scientifically and validly measure five negative emotions commonly experienced by undergraduate students in their daily lives - anger, depression, exhaustion, anxiety, and discomfort. These questions were designed to directly reflect the core experience of

these emotions and asked subjects to rate them subjectively on a scale of 0 (indicating “not at all”) to 100 (indicating “extremely”).

Jin et al. (2023) used the Emotion Regulation Ability Questionnaire for undergraduate students developed by Wu (2006) in designing the questionnaire. The questionnaire covers five dimensions: emotion experience, emotion regulation styles, emotion control, negative emotion persistence and emotion stability, with a total of 24 items. The questionnaire uses a five-point scale ranging from 1 (not at all) to 5 (fully), with higher scores indicating greater emotion regulation ability.

2.2 Parenting Styles

2.2.1 Definitions of Parenting Styles

Parenting styles are narrowly defined as the educational influence of parents on their children (Ye, 2021). Parental influence on children can be understood in three ways: first, parenting goals, which are the directions that parents advocate and want their children to achieve; second, parenting styles, which are related to the emotional climate and environment created within the family; and lastly, parenting practices, which refer to the specific behaviors and measures that parents take to achieve the established parenting goals (Darling & Steinberg, 2017). Although the terms parenting styles and parenting practices are often used interchangeably, they should be distinguished from each other. Parenting styles are primarily concerned with the attitudes and methods of parenting, while parenting practices are more focused on the specific actions and initiatives that parents implement (Power, 2013). Since the 1940s, there has been an increased focus on research on parenting styles, while relatively little attention has been paid to parenting practices, which are not effective in predicting individual differences in children's socio-emotional development (Orlansky, 1949).

However, some scholars have proposed different definitions of parenting styles. The model proposed by Darling and Steinberg (2017) defines parenting styles as a set of attitudes toward child communication that together shape an affective climate in which parental demeanor is displayed. This includes specific, goal-driven actions (i.e., parenting behaviors) as well as non-goal-driven parenting behaviors, such as body

movements, shifts in tone of voice, or the natural flow of emotions. Baumrind (1991) proposed that a child's character is shaped not by a single parental behavior, but rather by the parent's overall behavioral pattern.

In summary, parenting styles can be viewed as an enduring and stable pattern of behavior developed by parents in their interactions with their children and the specific emotional climate that this pattern creates.

2.2.2 Classifications of Parenting Styles

Parenting styles are an important theme in psychological research, and different scholars have their own different opinions on the categorization of parenting styles. Baumrind (1971) theory divides parenting styles into three types: authoritative, authoritarian, and permissive. According to Baumrind (1971).

1) Authoritative parents: These parents have high expectations of their children and respond quickly to their children's needs. They expect their children to be confident, socially responsible, self-disciplined, and able to work with others. These parents provide warmth and support while maintaining high standards, setting clear guidelines, and monitoring behavior rather than relying on harsh or punitive measures to maintain control.

2) Authoritarian parents: These parents are equally strict with their children but lack emotional support. They emphasize obedience and respect for authority, and shape, control, and evaluate their children's behaviors and attitudes by strictly enforcing behavioral norms and using harsh punishments.

3) Permissive parents: These parents are less demanding but very emotionally involved with their children. They adopt a tolerant and accepting attitude, are less controlling and demanding, place less emphasis on mature behaviors, are passionate about parenting, and try to avoid conflict with their children.

Skinner et al. (2005) outlined six key elements of parenting: warmth, rejection, structure, chaos, autonomy support, and coercion. Researchers in China have categorized the components of parenting styles in the context of our cultural background. Yang and Yang (1999) explored mothers'

parenting styles and analyzed them mainly in five dimensions: doting, democratic, permissive, authoritarian, and inconsistent. Based on a cybernetic perspective, Chen (2021) proposed six dimensions of parenting styles, including providing care and support, transmitting parental values and expectations, ways of dealing with conflicting wishes, communicating and supervising, giving guidance, and ways of responding to whether goals are achieved or not.

2.2.3 Importance of Parenting Styles

Parenting styles have a significant impact on the development of children and adolescents, not only is the direct effect evident in the preschool years when the family is the primary site of activity, but the importance of family education remains prominent in the complex social and academic challenges of school life, where parenting styles continue to potentially or directly influence all aspects of a child's development (Wang & Fu, 2005). Darling and Steinberg (2017) defined parenting styles as the general climate of interactions between parents and children. This is an emotional context that sets the tone for the interaction between parents and children. Parenting styles are a key factor in the development of a child, impacting their psychological and social abilities. Parenting styles are significantly influenced by the example set by one's own parents (Joseph & John, 2008).

In addition, it has also been mentioned that parenting styles have an impact on children's cognitive abilities, personality formation, behavioral patterns, and socialization development (Ge & Du, 2015). A large number of studies have likewise shown that inappropriate parenting styles are one of the main factors leading to children's psychological, mental, and behavioral problems (Chen, 2018).

To summarize, parenting styles have a profound impact on children's growth. It not only affects children's personality, values, and behavior but also relates to their emotional health, self-confidence, and social skills. Positive and supportive parenting styles help develop children's self-esteem and independence, while overly strict or permissive parenting styles may lead to emotional problems or behavioral deviations. Therefore, parents should be aware of the importance of their behaviors and attitudes to

their children's development and strive to provide a positive, healthy, and stable parenting environment.

2.2.4 Measurement of Parenting Styles

The main method of measuring parenting styles, both nationally and internationally, is through retrospective self-report questionnaires, which involve assessing parenting behaviors by asking respondents to recall the way their parents treated them when they were growing up. An earlier parenting styles questionnaire was developed by the Swiss scholar Perris et al. (1980) in the 1980s called “EgnaMinnenav Barndoms Uppförstran”. The standardized version of the EMBU covers four main dimensions: rejection, emotional warmth, overprotection, and favoritism. The questionnaire is divided into two sections, one for fathers and one for mothers, and each section contains 81 identical questions to assess the parenting styles of fathers and mothers, respectively. The questionnaire has good reliability and validity.

Önder and Gülay (2009) used a questionnaire to measure authoritative, authoritarian, and permissive parenting styles. This scale was developed by Robinson et al. (1995) and included 62 items. Each question in the scale was assessed using a five-point Likert scale, which included the response options: “never,” “rarely,” “sometimes,” “often,” and “always.”

Some researchers have also developed questionnaires based on different theories of categorizing parenting styles. Buri (1991) developed the Parental Authority Questionnaire based on Baumrind (1991) theory of categorizing parenting styles. The questionnaire is a retrospective self-report instrument designed to assess adolescents' perceptions of their parenting styles and is categorized into two versions for fathers and mothers. Each version consists of 30 entries covering the three dimensions of authoritative, authoritarian, and permissive, with each dimension containing 10 items.

2.2.5 Authoritative Parenting Style and Emotion Regulation

Authoritative parenting style, as originally defined by Baumrind (1971), refers to a parenting approach characterized by high responsiveness and high demands. Parents adopting this style set clear expectations and rules while maintaining warmth,

open communication, and emotional support toward their children. This balanced combination of structure and nurturance creates a positive emotional climate that promotes children's emotional and social competence (Houlberg et al., 2012; Morris et al., 2007).

Previous research has demonstrated that authoritative parenting contributes significantly to the development of emotion regulation. Children raised by authoritative parents are more likely to internalize self-discipline, manage emotional impulses, and express their feelings in socially appropriate ways (Morris, Houlberg, et al., 2017; Morris et al., 2007). The emotional support and open dialogue characteristic of this parenting style enable children to feel secure when expressing their emotions and seeking guidance when facing emotional challenges (Houlberg et al., 2012).

Furthermore, Morris et al. (2013) emphasized that parenting practices involving warmth, acceptance, and responsiveness help children develop secure attachment and learn adaptive emotional expression. These components support children's acquisition of emotion regulation skills through emotional modeling, coaching, and co-regulation within the family environment (Morris, Criss, et al., 2017; Morris et al., 2002).

2.2.6 Authoritarian Parenting Style and Emotion Regulation

Authoritarian parenting style, according to Baumrind (1971), is characterized by high demands and low responsiveness. Parents who adopt this style emphasize obedience, strict discipline, and conformity, often using punitive strategies and psychological control while providing little warmth or emotional support. This emotionally restrictive environment may limit children's opportunities to express emotions and develop effective emotional coping strategies (Morris et al., 2007; Steinberg, 2005).

Research has shown that authoritarian parenting is negatively associated with children's emotion regulation abilities. Excessive behavioral and psychological control may suppress children's emotional autonomy and hinder their ability to modulate emotional responses (Morris et al., 2013; Morris et al., 2002). Moreover, psychological control exercised by authoritarian parents has been found to interfere with autonomy

development, which is essential for effective emotion regulation (Morris et al., 2002; Steinberg, 2005).

Morris et al. (2007) further noted that psychologically controlling parenting can create a climate of coercion and emotional instability, which undermines the development of regulatory processes. In such contexts, children may struggle to learn flexible emotional responses or apply adaptive coping strategies in emotionally demanding situations (Morris, Houlberg, et al., 2017).

2.2.7 Permissive Parenting Style and Emotion Regulation

Permissive parenting style, as defined by Baumrind (1971), is characterized by high responsiveness and low demands. Permissive parents are warm and accepting but tend to avoid enforcing rules, boundaries, or consistent expectations for behavior. They often prioritize children's freedom and emotional expression over structure and control, resulting in an indulgent and unstructured family environment.

This lack of structure may impair children's ability to develop self-discipline and emotion regulation skills. Studies have shown that children raised by permissive parents are more likely to display impulsivity, poor frustration tolerance, and difficulties adapting to structured environments such as school (Morris et al., 2013; Morris et al., 2007). These children may also struggle with delayed gratification and regulating their emotions in socially appropriate ways.

According to Morris et al. (2002), inconsistent discipline and lack of behavioral guidance may limit opportunities for emotional coaching and modeling. Without adequate boundaries and parental regulation, children may fail to learn strategies to manage emotional arousal effectively (Morris, Houlberg, et al., 2017). Although permissive parenting provides emotional support, the absence of demands and expectations can hinder children's development of healthy emotional regulation.

2.3 Academic Stress

2.3.1 Definitions of Academic Stress

Academic stress stems from the fear of academic failure, which can be caused by anxiety over not being able to achieve desired goals or distress caused by a lack of

awareness of potential failure. Students have to cope with a variety of academic challenges such as facing exams, answering questions in class, making progress in their studies, and meeting the expectations of teachers and parents (Lal, 2014). Thinking about it from another perspective, Bisht (1980) argued that academic stress refers to students' perceived academic-related needs, and stress occurs when these needs exceed the resources available to the student. This stress may manifest itself in different perceptions such as academic frustration, academic stress, academic anxiety, and academic conflict.

Psychologists generally agree that stress is an emotional state that encompasses discomfort and tension when an individual senses that the demands of the environment exceed his or her abilities (Chen, 2016). Learning stress, as a manifestation of stress in the academic domain, can also be defined as a sense of psychological oppression and tension resulting from academic load (Xu et al., 2010). Meanwhile, some researchers have also regarded academic stress as an emotional state that manifests itself as test anxiety and various discordant emotions arising from the learning process (Kadivar et al., 2011).

To summarize, academic stress is the psychological and emotional tension that occurs when students cope with academic tasks, including exams, homework, time management, and performance expectations, because the academic demands exceed their abilities. It not only affects learning efficiency but may also impair mental health and quality of life.

2.3.2 Academic Stress in China

For a long time, academic stress faced by students has been considered one of the key factors leading to numerous mental health problems. Students are often under pressure due to heavy academic loads, demanding academic requirements, and dissatisfaction with their grades. Chinese students generally suffer from heavy academic stress and burden due to the high expectations of their parents and intense competition with their peers (Sun et al., 2012). At the same time, Zhao et al. (2015) also noted that in a study conducted by the China Youth and Teenager Research Center in Beijing, the

researchers studied 2,400 students of all ages spread across six provinces. The results of the study showed that 76.2% of the students were depressed due to academic pressure and high parental expectations, while another 9.1% felt hopeless.

In addition, academic stress is considered the most significant stressor perceived and experienced by adolescents (Sang et al., 2018), which may have a negative impact on their mental health, including psychological and emotional distress (Giota & Gustafsson, 2021; Huang et al., 2020). Following the traditional Confucian philosophy, the Chinese education system tends to emphasize a variety of examinations and assessments, which leads to a high-pressure learning atmosphere for Chinese students (Li et al., 2007).

It can be seen that Chinese students' academic stress is mainly due to the highly competitive educational environment, the pressure to advance to higher education, the expectations of parents and society, and the educational system that emphasizes examination results, and prolonged exposure to these pressures can also have an impact on their mental health.

2.3.3 Reduction of Academic Stress

Stress management has been recognized as essential at the individual, societal, and institutional levels. In order to effectively alleviate stress among students, a range of scientific methods and techniques have been widely validated and applied, such as biofeedback therapy, life skills enhancement training, positive thinking meditation practices, yoga practices, and professional psychotherapy services, which have been found to be effective in reducing stress among students (Reddy et al., 2018). In another study, Hj Ramli et al. (2018) mentioned that teachers' job requirements and exams are the main factors that lead to students' academic stress, but by practicing positive thinking and self-regulation, students are able to control and alleviate this stress to some extent.

According to Kumaraswamy (2013), while moderate stress can promote personal growth, excessive stress can also overwhelm students, thus affecting their ability to cope. Therefore, it is important to establish student counseling centers to

provide professional psychological counseling and guidance; improve teaching methods and environments to reduce students' learning burden provide more support and encouragement, and so on. Through a series of measures, undergraduate students' study pressure can be effectively reduced (Kumaraswamy, 2013).

Bedewy and Gabriel (2015) suggested that early identification of students who may be facing stress and conducting stress management workshops are effective measures to reduce and prevent student stress. Other researchers have proposed improving the educational environment (Neveu et al., 2012), implementing coping strategies that target both emotional and problem-focused aspects of stress, and encouraging students to actively engage with available psychological support services (Iqbal et al., 2015).

2.3.4 Measurement of Academic Stress

The Educational Stress Scale for Adolescents (ESSA), which contains 16 questions, was used to assess students' academic stress. The scale is designed to quantify various correlates of academic stress, such as the pressure to learn, the amount of school work, worries about test scores, expectations of grades, and feelings of hopelessness. The ESSA is a scoring system using a five-point Likert scale, with scores ranging from 1 ("completely disagree") to 5 ("completely agree"), with higher scores indicating greater stress. Examples of ESSA scale questions are 'I feel a great deal of pressure in my daily studies,' and "I feel that my teacher assigns too much homework. " (Sun et al., 2011).

In the study by Bedewy and Gabriel (2015), they measured academic stress through the Perception of Academic Stress Scale (PAS). This scale contains 18 items categorized into four main factors: performance stress, perception of workload and exams, academic self-perception, and time constraints. Students rated each item on a 1 to 5 Likert scale to reflect their perception of sources of academic stress.

In addition, Khan et al. (2013) used Sheldon Cohen's Perceived Stress Scale (Cohen et al., 1983), abbreviated as PSS, to measure academic stress. The scale contains 10 items, such as sense of control, sense of coping, emotional reactions, etc.,

and uses a 5-point scale (0=never, 1=almost never, 2=sometimes, 3=often, and 4=always) to assess an individual's perception of stressful situations in life. And some of the questions on this scale need to be reverse-scored to ensure the accuracy of the measurement.

2.3.5 Academic Stress and Emotion Regulation

Sari et al. (2020) found through their study that there is a significant association between academic stress and emotion regulation. Students with strong emotion regulation are more able to maintain positive emotions and deal effectively with stress when facing academic stress, thus reducing the level of academic stress. In addition, emotion regulation plays a partial mediating role between academic stress, negative emotions, and psychosomatic symptoms. When students face academic stress, they may have difficulty accepting negative emotions, controlling their behavior, and achieving their goals, thus experiencing difficulties in emotion regulation, so students with difficulties in emotion regulation are more likely to experience negative emotions (e.g., anxiety, depression, etc.) and psychosomatic symptoms (e.g., headache, stomachache, etc.) (Teixeira et al., 2022).

According to Anggraini and Widyastuti (2022), students with better emotion regulation abilities tend to experience less academic stress, suggesting an inverse relationship between emotion regulation and academic stress. This further highlights the role of emotion regulation in helping students manage academic stress, particularly in practical learning situations. On the other hand, the lower the emotion regulation, the higher the academic stress experienced by the students. The negative correlation between academic stress and emotion regulation was also confirmed in a study by Zyusifa and Affandi (2021), where both researchers came to the same conclusion that students tend to experience less academic stress when they have strong emotion regulation skills, while students with weaker emotion regulation skills are likely to experience more academic stress.

2.4 Regulatory Emotional Self-Efficacy

2.4.1 Definitions of Self-Efficacy

Self-efficacy is defined as people's belief in their abilities, that is, the belief that they can achieve a certain level of performance, which in turn affects events in their lives. Self-efficacy beliefs determine people's emotions, thinking, motivations, and behaviors. These beliefs mainly produce different effects through four processes: cognitive processes, motivational processes, affective processes, and selection processes (Bandura & Wessels, 1997). According to Bandura (1977), self-efficacy refers to an individual's belief that he or she can successfully perform a specific behavior. Furthermore, Bandura (1982) defined self-efficacy as people's confidence and ability to judge to complete the required actions in a specific situation. In other words, it refers to an individual's belief in his or her ability to successfully perform a series of actions to deal with a specific situation.

Self-efficacy is a key component of Bandura (1977) social cognitive theory, which holds that behavior is strongly driven by self-influence. The construction of self-efficacy reflects an optimistic self-belief, which refers to the individual's belief that he or she can complete novel or challenging tasks or effectively cope with difficult situations in various areas of human functioning (Bandura, 1997). Moreover, Resnick (2008) mentioned that self-efficacy refers to an individual's judgment of his or her ability to plan and execute a course of action.

In summary, self-efficacy refers to an individual's belief in his or her ability to organize and perform necessary behaviors in a specific situation. This belief affects the individual's emotions, thinking, self-motivation, and behavior. It is an optimistic self-belief that manifests itself as an individual's confidence in successfully coping with challenges and completing tasks.

2.4.2 Definitions of Regulatory Emotional Self-Efficacy

Regulatory emotional self-efficacy includes two aspects: one is the self-efficacy of managing negative emotions, that is, the belief that the individual has the ability to improve the negative emotions generated in stressful situations and prevent adverse consequences; the other is the self-efficacy of expressing positive emotions, that is, the

belief that the individual can experience and express positive emotions such as happiness, enthusiasm and pride in successful or pleasant situations (Mesurado et al., 2018). In addition, Totan (2014) also mentioned that regulatory emotional self-efficacy is a kind of self-efficacy of emotion regulation, which refers to the confidence of an individual in his or her ability to manage and express emotions. It includes two aspects: one is the self-efficacy of managing negative emotions, that is, the confidence of an individual in controlling negative emotions such as anger and frustration; the other is the self-efficacy of expressing positive emotions, that is, the confidence of an individual in effectively expressing positive emotions such as happiness and excitement.

Regulatory emotional self-efficacy reflects the role of self-efficacy in the process of emotional self-regulation. It refers to an individual's subjective evaluation of his or her ability to express positive emotions in positive events and manage negative emotions in adversity (Caprara et al., 2008). In addition, according to Bandura et al. (2003), regulatory emotional self-efficacy is a kind of self-efficacy, which refers to the degree of confidence that an individual has in regulating his or her emotional state. Moreover, people with high self-efficacy can effectively cope with stress, improve subjective well-being, and play an important role in addictive behavior (Bandura et al., 2003).

In summary, regulatory emotional self-efficacy refers to an individual's confidence in his or her ability to regulate emotions, including the ability to manage negative emotions and express positive emotions. Specifically, it involves an individual's self-efficacy in regulating negative emotions under stress and expressing positive emotions in positive situations.

2.4.3 Sources of Self-Efficacy

According to Bandura and Wessels (1997); Bandura (1997); and Bandura (1982), the sources of self-efficacy are mainly Mastery Experiences, Vicarious Experiences, Verbal Persuasion, and Physiological States. These components interact and influence each other, and together affect the individual's self-confidence and sense of achievement.

1. Mastery Experiences

Mastery experiences refer to an individual's experience of successfully completing a task or performing well in the past. When individuals have successfully completed a task in the past, they tend to be more confident in their ability to successfully tackle a similar task again in the future (Bandura, 1977). Furthermore, Bandura (1986) emphasized that an individual's mastery experiences are the most influential source of information about self-efficacy. For example, a person who has successfully overcome anxiety in the past has a successful experience that becomes a mastery experience that enhances his self-efficacy and confidence in regulating his emotions in similar stressful situations in the future.

2. Vicarious Experiences

Vicarious experiences refer to the process of observing similar people successfully completing similar tasks. This can increase the observer's efficacy expectations and make them believe that they also have the ability to master similar activities (Bandura, 1986). For example, a person sees others successfully calm down their anxiety through deep breathing, and this observation makes him believe that he can also regulate his emotions in similar situations through the same method.

3. Verbal Persuasion

Verbal persuasion refers to enhancing an individual's sense of self-efficacy through verbal praise or support. Encouragement, positive reinforcement, or constructive suggestions can help people increase their confidence in their own abilities (Bandura, 1977). For example, when a person feels frustrated, his friend encourages him by saying, "You have overcome similar emotions before, and you can do it this time, too." This verbal encouragement increases his confidence in regulating his emotions.

4. Physiological States

Physiological states such as anxiety, stress, excitement, fatigue, and emotional states also provide information for efficacy beliefs. Since individuals can regulate their own thinking, self-efficacy beliefs will also significantly affect these physiological states themselves (Bandura & Wessels, 1997). In addition, Bandura (1997) pointed out that people's psychological environment is mainly created by themselves.

2.4.4 Measurement of Regulatory Emotional Self-Efficacy

Caprara et al. (2008) introduced the evaluation method of the regulatory emotional self-efficacy (RESE) scale. This scale was developed based on the self-efficacy theory by Bandura (1997), which suggests that an individual's beliefs will affect their behavior and results. The RESE scale is designed to assess an individual's self-efficacy in managing negative emotions (NEG) and expressing positive emotions (POS). The scale uses a Likert scale, ranging from 1 (not well at all) to 5 (very well), and participants rate each item according to their own situation. In addition, Muris (2001) used the Self-Efficacy Questionnaire for Children (SEQ-C) to measure the self-efficacy of adolescents. The questionnaire contains 24 items, which are divided into three dimensions: social self-efficacy, academic self-efficacy, and emotional self-efficacy. Each item is scored on a 5-point scale, with 1 representing "not at all" and 5 representing "very well".

Gunzenhauser et al. (2013) mainly introduced the Regulatory Emotional Self-Efficacy scale (RESE), which is used to measure the self-efficacy of individual emotion regulation, mainly including two aspects: self-efficacy of positive emotion expression (POS) and self-efficacy of negative emotion management (NEG). The scale uses a series of statements, such as "How good are you at avoiding feeling depressed when you feel lonely?", etc., and asks participants to respond using a 5-point Likert scale, where 1 means "not at all well" and 5 means "very well". The study has shown that the RESE scale has good reliability and validity and can effectively measure the self-efficacy of emotion regulation.

Tang et al. (2022) used the emotion regulation self-efficacy (RES) scale developed by Caprara et al. (2008) to assess athletes' emotion regulation ability. This section includes four items: 1. You express joy when good things happen to you; 2. You feel gratified by achieving what you set out to do; 3. You avoid getting upset when others keep giving you a hard time; 4. You reduce your distress when you do not receive the appreciation you feel you deserve. Each item is rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

2.4.5 Regulatory Emotional Self-Efficacy and Emotion Regulation

Xu and Du (2021) pointed out that regulatory emotional self-efficacy is an important psychological quality that is closely related to mental health. Individuals with higher regulatory emotional self-efficacy are more able to regulate emotions effectively, thereby reducing negative emotions such as anxiety and depression and maintaining good mental health. In addition, Caprara et al. (2008) pointed out that there are significant differences in how individuals manage their emotional experiences in daily life. On the one hand, this is because individuals have different skills in managing their daily lives, and on the other hand, their cognition of the adequacy of regulating emotions is different. It can be seen that regulatory emotional self-efficacy is closely related to the ability to regulate emotion.

Those who believe that they have the ability to regulate emotions will actively try to regulate emotions many times, and by constantly mastering emotion regulation strategies, they will gradually gain more emotional experiences that are more beneficial to themselves (Tamir & Mauss, 2010). It can be seen that regulatory emotional self-efficacy is related to emotion regulation ability. Furthermore, Bandura et al. (2003) mentioned that regulatory emotional self-efficacy affects the success rate of individual emotion regulation and is the basis of emotional ability. This means that if individuals are confident in their ability to regulate emotions, they are more likely to regulate emotions effectively.

High self-efficacy promotes emotion regulation. Adolescents who believe they can effectively deal with emotional problems are more able to control the impact of negative emotions and show appropriate behavior when facing stress (Cao & Zhang, 2018). On the contrary, low self-efficacy leads to difficulty in emotion regulation. Adolescents who lack confidence in emotion management are more likely to adopt an “avoidance” coping mode, resulting in more serious negative emotions and aggressive behaviors (Hai et al., 2015). In summary, regulatory emotional self-efficacy is an important influencing factor of emotion regulation, which reflects an individual's evaluation and confidence in his or her own emotion regulation ability.

2.5 Cognitive Control

2.5.1 Definitions of Cognitive Control

Cognitive control is a core concept in modern cognitive neuroscience, which originated from the “cognitive revolution” in the 1950s and 1960s, which rekindled interest in information processing (Gratton et al., 2018). Cognitive control generally refers to the ability to maintain attention to information relevant to the current goal while suppressing distracting or irrelevant information (Morton et al., 2011). Furthermore, Harnishfeger (1995) defined cognitive control as the suppression of irrelevant stimulus information from entering working memory in order to ensure the integrity of cognitive control. His study showed that a reduction in inhibition efficiency allows distracting information unrelated to the current task to enter working memory, thereby reducing the space available for processing task-relevant information and ultimately reducing the efficiency of cognitive processing.

According to Diamond (2013), individuals continuously monitor their emotions, behaviors, and thoughts and inhibit inappropriate responses when they are detected, which is known as cognitive control. In this process, individuals need to inhibit both internal needs and external temptations to maintain appropriate responses and behaviors. In another study, Miyake et al. (2000) proposed that cognitive control refers to an individual's ability to consciously inhibit automatic responses or dominant responses in order to make more adaptive responses in specific situations.

In summary, cognitive control refers to the psychological processes that enable individuals to regulate their thoughts, emotions, and behaviors to achieve specific goals. It includes managing attention, inhibiting automatic or impulsive responses, and adapting to new or changing situations.

2.5.2 Components of Cognitive Control

Cognitive control has both unity and diversity. Unity refers to the existence of shared core mechanisms or common factors among the various components of cognitive control; diversity refers to the fact that each cognitive control component is functionally unique and has its own specific role (Miyake et al., 2000). There is a certain degree of correlation between the performance of individuals in different cognitive tasks,

which indicates that various cognitive control abilities share some basic abilities. However, this correlation is not complete, and it also shows that each cognitive control ability has its own unique characteristics (Friedman et al., 2008; Miyake & Friedman, 2012). At the same time, Miyake and Friedman (2012) determined that cognitive control consists of three core components: inhibitory control, working memory, and cognitive switching. These components are responsible for inhibiting the interference of irrelevant information, flexibly switching attention between different tasks or information, and maintaining and operating working memory content related to the current task.

1) Inhibitory control: Inhibitory control ability refers to an individual's ability to actively control dominant responses (Miyake et al., 2000). Inhibitory control is one of the important abilities of individuals to adapt to the environment. Inhibitory control ability includes response inhibition ability, selective attention ability, memory, and emotion. Response inhibition ability is a purposeful behavior that refers to an individual's ability to exclude irrelevant interference when performing a task and focus on completing the goal or choosing an alternative behavior (Mostofsky & Simmonds, 2008). Selective attention is the ability to resist interference and belongs to the cognitive level. It refers to the ability to focus on target stimuli while ignoring interference from irrelevant stimuli (Diamond, 2013). People can ignore salient stimuli and focus on target stimuli according to their own needs. This process is called selective attention, which is a volition-based attention process (Posner & DiGirolamo, 1998).

2) Working memory: The system with limited capacity used to temporarily store and process information when individuals perform cognitive tasks is called working memory (Diamond, 2013). Working memory consists of two basic components: working memory capacity and attention filtering ability. Working memory capacity is a measure of how much information an individual can store. The capacity determines the amount of information stored. The larger the capacity, the more information can be stored, and the better the working memory performance (Johnson et al., 2013). Attention filtering ability involves selectively ignoring stimuli that are unrelated to the task at hand. Since an individual's working memory capacity is limited, the stronger the ability to filter irrelevant

stimuli, the better their performance in working memory tasks may be (Vogel et al., 2005).

3) Cognitive switching: Cognitive switching refers to an individual's ability to flexibly change his or her view of a problem, adapt to new demands, and make plans. It is an ability based on inhibitory control and working memory (Diamond, 2013).

2.5.3 Measurement of Cognitive Control

In the study by Botvinick et al. (2001), they mentioned the use of Eriksen flanker tasks and Stroop tasks, which assess cognitive control by introducing conflicts in information processing. In these tasks, participants need to process stimuli with interfering information and make correct responses. The generation and resolution of conflicts are used to measure the ability of cognitive control. At the same time, by adding conflict monitoring units and control signals, the conflict monitoring hypothesis is combined with the connectionist model to achieve the measurement and explanation of cognitive control.

The measurement of cognitive control in the study by Gabrys et al. (2018) was conducted through a short self-report measurement tool called the Cognitive Control and Flexibility Questionnaire (CCFQ). The questionnaire has a total of 18 items and is designed to assess an individual's ability to control intrusive, unwanted negative thoughts and emotions, and to respond flexibly to stressful situations. The CCFQ contains two key components:

1) Cognitive control of emotions: This aspect measures an individual's ability to regulate and manage their thoughts and emotions in stressful situations. It includes an assessment of the difficulty of diverting attention from negative thoughts and emotions, managing emotions, and staying focused.

2) Appraisal and coping flexibility: This aspect measures an individual's ability to think of multiple strategies to cope with stress, view situations from different perspectives, and reappraise situations to better manage emotions.

2.5.4 Cognitive Control and Emotion Regulation

Hendricks and Buchanan (2016) found that an individual's cognitive control processes (such as working memory updating, response inhibition, and task switching) affect the effectiveness of their emotion regulation, especially when facing negative emotions. Moreover, this study also emphasized the bidirectional relationship between emotion and cognitive control. Emotions not only affect cognitive control, but cognitive control also plays an important role in regulating emotions, especially the regulation of negative emotions. Effective cognitive control can improve emotional state by reducing negative emotions. Therefore, cognitive control, especially working memory updating in cognitive control, plays a core role in emotion regulation, helping individuals manage negative emotions more effectively.

According to Lee et al. (2024), the relationship between cognitive control and emotion regulation is mutually influential and interdependent. Specifically, cognitive control processes, such as attention control, inhibitory function, and cognitive flexibility, are essential for effective emotion regulation. Cognitive control is the basis of emotion regulation, and its defects can lead to maladaptive emotion regulation, while successful emotion regulation depends on intact cognitive control processes. In turn, emotion regulation strategies can affect cognitive control processes, while defects in emotion regulation ability can impair cognitive function. So they influence each other and jointly shape the individual's cognitive and emotional functions.

Souliere (2024) emphasized the cognitive nature of emotion regulation, suggesting that individuals are capable of influencing how they experience and express emotions through mental processes. In addition, Souliere (2024) mentioned that cognitive control is closely related to emotion regulation, which means that emotion regulation requires a large number of cognitive resources, such as working memory, attention, reasoning, and cognitive control. The study showed that individuals with greater cognitive control performed better in emotion regulation tasks.

2.6 Social Media Use

2.6.1 Definitions of Social Media

The term “social media”(SM) made its debut in 1994, within an online platform named Matisse, operating out of Tokyo (Bercovici, 2010). In research, “social media” is commonly used to refer to numerous types of online platforms covering blogs, business networks, microblogs, photo-sharing, enterprise social networks, forums, social games, video sharing, and virtual worlds (Aichner & Jacob, 2015). Due to the wide variety of social media platforms, their applications are extensive and go far beyond sharing personal photos or conducting advertisements and promotions (Aichner et al., 2021).

Social media has also become an important means of communication among family members. A study by Sponcil and Gitimu (2013) found that 91.7% of students used social media for the primary purpose of keeping in touch with family and friends. In addition, Williams and Merten (2011) argued that the integration of social media (SM) into daily life not only facilitates the deepening of relationships among family members but also becomes a key means for immigrant families to maintain their emotional ties and stay close to each other in the current wave of globalization and continued migration. Transnational communication between family members and relatives left behind is crucial (Parreñas, 2005).

In summary, social media are Internet-based platforms or applications through which users can create, share, and exchange content. Its core feature is interactivity, where users are recipients, creators, and distributors of content, facilitating real-time communication and global network connectivity. Common platforms include Weibo, WeChat, TikTok, Facebook, Instagram, etc.

2.6.2 Definitions of Social Media Use

In the concept of social media use, social media allows users to create personal information and share audiovisual, text, images, and other content with other users (Vandenbosch & Eggermont, 2012). Because of the characteristics of existing social media in my country, scholars have proposed a broader scope of social media use, that is, in addition to the obvious use of posting dynamics, browsing, liking, commenting, forwarding, and sharing content posted by others can all be regarded as social media

use (Chen, 2014). In terms of the definition of official platforms, the China Economic Internet Management Center believes that platforms that rely on Internet technology and establish social relationships are social media, and users' behavior on the platform is social media use (Ma, 2024).

Combining the views and practical cognition of other scholars, Ma (2024) believes that individuals who participate in social media and use the functions of social media platforms are called social media use, including online interpersonal communication with others by sending text, voice, pictures, videos, and other information. In addition, some studies have mentioned that through social media platforms, people upload information such as their life and work events to social media platforms in the form of videos, audio, pictures, text, etc., so that others can observe their life status (Zhu, 2022).

To sum up, social media use refers to the behavior of individuals interacting with others and sharing information through various functions on social platforms built on Internet technology. These behaviors include not only posting dynamic information such as text, voice, pictures, and videos, but also browsing other people's content, liking, commenting, forwarding, and sharing, and other forms of interaction.

2.6.3 Characteristics of Social Media

Social media has a variety of features that make it an important player in today's digital world. Jang et al. (2008) identified some of the characteristics of social media: quality of information, quality of system, interaction, and reward. Information quality refers to the timely updating of content to ensure the availability of valuable data and information. System quality, on the other hand, emphasizes maintaining the reliability and ease of use of the platform to ensure that users are able to search for and share information easily and efficiently (Zeithaml et al., 1996). Nelson et al. (2005) state that the key factors of information quality should include the accuracy, completeness, timeliness, and format of the information. Together, these factors determine the quality of the information generated, ensuring that the data accessed by users is both accurate and well-structured.

Khatib (2016) mentions that the characteristics of social media include: ease of use, interactivity and broad participation, fun and entertainment, ease of information delivery, high credibility, and facilitation of the buying process. The combination of these features makes social media an important tool for influencing consumer purchasing decisions. When there is an increase in interaction between the publisher and the receiver of information, the virtual community is transformed into a social place where participants can share information and gain emotional resonance (Burnett, 2000). In addition, Ha and James (1998) revisited the concept of interactivity and suggested that interactivity be defined as the extent to which communicators and audiences respond to each other's communication needs in five ways.

In addition to the features mentioned above, Chou (2014) mentions knowledge-sharing mechanisms, which facilitate the transfer of knowledge from one person to another and can usually enhance the value of knowledge by accelerating and extending its reach.

2.6.4 Measurement of Social Media Use

Jenkins-Guarnieri et al. (2013) proposed a scale called the Social Media Use Integration Scale (SMUIS) to measure the integration of social media use. The SMUIS scale consists of 10 questions and is divided into two subscales, one of which assesses the integration of social media in social activities and emotional connections, while the other subscale assesses the integration of social media in daily activities. At the same time, with the researchers' flexible design, SMUIS can be applied to measure the integration of the use of different social media platforms.

In the study by Maree (2017), it is the SMUIS scale developed by Jenkins-Guarnieri et al. (2013) that he used, and through this literature, people can get a clear picture of the structure of this scale. The SMUIS is a Likert-type scale that contains 10 entries and is divided into two subdimensions: Social Integration and Emotional Connection (SIEC) and Integration into Social Routines (ISR). Among them, the SIEC dimension contains six entries, such as "I feel that I lose contact with my friends if I am not logged on to Facebook" and "I like to communicate with others mainly through

Facebook”, which mainly reflect the individuals' emotional dependence on social media and the maintenance of social relationships. The ISR dimension contains four entries, such as “I like to check my Facebook account” and “Facebook has become a part of my daily life,” which reflect the extent to which social media is integrated into an individual's daily habits.

In addition to that, Tutgun-Ünal and Deniz (2015) mainly measured with the tool Social Media Addiction Scale (SMAS). It is a 41-item measurement tool designed to assess an individual's level of addiction to social media. The scale covers four main dimensions, including “occupation”, “mood modification”, “relief”, and “conflict”. The SMAS is a five-point Likert scale in which each item is rated according to the frequency or extent of an individual's social media use.

2.6.5 Social Media Use and Emotion Regulation

Social media platforms provide a positive social space for adolescents to interact online to enhance a positive sense of self (Valkenburg et al., 2005). Furthermore, media is often used to elicit or channel specific emotions and states of mind (Greenwood & Long, 2009). For example, watching television and listening to music have been shown to have a positive impact on individuals' mood management (Bowman & Tamborini, 2015; Knobloch, 2003; Leipold & Loepthien, 2015).

People may enhance positive emotional experiences by sharing positive events on social media or seeking social support. For example, Choi and Toma (2014) found that sharing positive events through social media can enhance positive emotional experiences. In addition, Schramm and Cohen (2017) mentioned that people choose different media platforms for emotion regulation based on their emotional state. For example, people are more likely to choose music in a negative emotional state, whereas they are more likely to choose television in a state of boredom (Greenwood & Long, 2009).

Interactive features on social media (e.g., messaging, phone calls) are important for staying in touch with friends and family, which helps to fulfill the human need to socialize and thus enhance mood. Applications including YouTube, Pinterest,

WhatsApp, and Instagram are able to provide interesting content and keep in touch with friends and family (Tag et al., 2022).



CHAPTER 3

RESEARCH METHODOLOGY

This chapter introduced the quantitative research methodological framework adopted in this study, which aimed to explore the various factors affecting undergraduate students' emotion regulation in China. Building upon the theoretical foundation established in the previous two chapters, this chapter detailed the research design, data collection procedures, and methods of data analysis.

3.1 Research Methodology

This study uses quantitative research methods to explore the factors influencing undergraduate students' emotion regulation in China. Quantitative studies usually use data analysis methods to explore the relationship and changes between variables to understand students' emotion regulation. In this study, data were collected through questionnaires to assess undergraduate students' emotion regulation and its influencing factors.

3.2 Population and Sample

1. Population

The population consists of 15 classes of students in the fourth year of the faculty of education at Kunming College of Arts and Sciences, with a total number of 890 students.

2. Sample

According to the table of Krejcie and Morgan (1970), in order to ensure the accuracy and reliability of the data, 326 students were selected as samples from a population of 890 using a simple random sampling method.

3.3 Research Instruments

The study developed a Likert 5-point scale questionnaire, namely the Emotion Regulation and Factors Affecting Emotion Regulation Questionnaire (ERFAQ). The questionnaire was composed of 66 items, divided into eight sections according to the

variables of the study. Drawing upon established scales, the items in each section were adapted to reflect the real-life context of emotion regulation among Chinese undergraduate students.

To ensure content validity, three experts independently evaluated the questionnaire items using the Index of Item-Objective Congruence (IOC). Items with an IOC score of 0.5 or above were retained. Based on the experts' evaluations, several items were refined to ensure conceptual clarity and alignment with the research objectives. The finalized questionnaire was pretested twice with a pilot sample, and the results indicated a high level of internal consistency and reliability across all variable scales.

As shown in Table 1, the reliability and validity of each subscale are presented in detail. The Emotion Regulation scale (10 items) showed excellent internal consistency, with a Cronbach's alpha of 0.941 and CITC ranging from 0.711 to 0.876. The three parenting style subscales also demonstrated strong reliability: the Authoritative Parenting Style scale (5 items) had a Cronbach's alpha of 0.867 and CITC between 0.660 and 0.721; the Authoritarian Parenting Style scale (5 items) had a Cronbach's alpha of 0.892 and CITC between 0.682 and 0.843; and the Permissive Parenting Style scale (5 items) showed a Cronbach's alpha of 0.879 with CITC ranging from 0.527 to 0.808. In addition, the Academic Stress scale (10 items) yielded a Cronbach's alpha of 0.917 and CITC ranging from 0.604 to 0.758. The Regulatory Emotional Self-Efficacy scale (10 items) showed strong internal reliability, with a Cronbach's alpha of 0.922 and CITC values from 0.541 to 0.827. The Cognitive Control scale (9 items) had a Cronbach's alpha of 0.905 and CITC ranging from 0.591 to 0.762, while the Social Media Use scale (10 items) showed a Cronbach's alpha of 0.899 and CITC from 0.551 to 0.799.

Overall, the full questionnaire consisting of 66 items demonstrated excellent internal consistency, with a total Cronbach's alpha of 0.918.

TABLE 1 Validity and Reliability of ERFAQ

Variable Scale	N of Items	IOC	Cronbach's Alpha	CITC
Emotion Regulation	10	1.00	0.941	0.711-0.876
Authoritative Parenting Style	5	1.00	0.867	0.660-0.721
Authoritarian Parenting Style	5	1.00	0.892	0.682-0.843
Permissive Parenting Style	5	1.00	0.879	0.527-0.808
Academic Stress	10	1.00	0.917	0.604-0.758
Regulatory Emotional Self-Efficacy	10	1.00	0.922	0.541-0.827
Cognitive Control	9	1.00	0.905	0.591-0.762
Social Media Use	10	1.00	0.899	0.551-0.799
Overall	66		0.918	

In the questionnaire, students need to fill in real personal information and then check the corresponding boxes in “Strongly Disagree”, “Disagree”, “Neutral”, “Agree”, and “Strongly Agree”. “Strongly Disagree” means that they completely disagree with the statement and their attitude is very strong; “Disagree” means that they disagree with the statement, but their attitude is relatively weak; “Neutral” means that they have no clear attitude towards the statement, neither agree nor disagree; “Agree” means that they agree with the statement, but their attitude is relatively weak; “Strongly Agree” means that they agree with the statement very much and their attitude is strong. Each item was rated on a five-point Likert scale: “Strongly Disagree” was assigned 1 point, “Disagree” 2 points, “Neutral” 3 points, “Agree” 4 points, and “Strongly Agree” 5 points. Further details of the questionnaire are presented below.

Section 1 gathered participants' age and gender information (see Table 2).

TABLE 2 ERFAQ Section 1

No.	Statement	Answer Sheet
1	Age (years)	
2	Gender (Male/ Female)	

Section 2 aimed to assess students' emotion regulation. This section refers to the design of Gross and John (2003), and Preece et al. (2020). It contains two subscales: cognitive reappraisal and expressive suppression. Sample statements: "When I feel happy, I change the way I think about my situation.", "When I feel sadness or anger, I don't express it.", etc (see Table 3).

TABLE 3 Excerpt of ERFAQ Section 2

Emotion Regulation						
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	When I feel happy, I will change my thoughts, such as "This is great, and I deserve it."					
2	When I want to feel less sad or angry, I change my thoughts, such as "Forget it, maybe he/she is just having a bad day."					
3	I keep my emotions to myself.					
4	When I am feeling happy, I am careful not to express it.					

Section 3 was dedicated to investigating the other factors affecting students' emotion regulation.

1) Authoritative Parenting Style

The design of statements related to authoritative parenting style was borrowed from several scales, such as PAQ (Buri, 1991); SPS (Abdul Gafor & Kurukkan, 2014). Sample statements include: "My parents always encouraged me to communicate verbally whenever I felt that family rules and restrictions were unreasonable.", "As I was growing up, I knew what my parents expected of me in the family, but I also felt free to discuss those expectations with them when I thought they were unreasonable.", etc (see Table 4).

TABLE 4 Excerpt of ERFAQ Authoritative Parenting Style

Authoritative Parenting Style						
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	My parents pointed out my mistakes in a way that I could understand.					
2	As I was growing up, my parents consistently gave me direction and guidance in rational and objective ways.					

2) Authoritarian Parenting Style

The development of statements on authoritarian parenting style was informed by established instruments such as the PAQ (Buri, 1991) and the SPS (Abdul Gafor & Kurukkan, 2014). Sample statements include: "As I was growing up, my parents didn't allow me to question any of the decisions they made.", "Whenever my parents told

me to do something as I was growing up, they expected me to do it immediately without asking any questions.”, etc (see Table 5).

TABLE 5 Excerpt of ERFAQ Authoritarian Parenting Style

Authoritarian Parenting Style						
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	My mother (father) felt that wise parents should teach their children early just who is the boss in the family.					
2	Even if their children didn't agree with them, my parents felt that it was for our good if we were forced to conform to what they thought was right.					

3) Permissive Parenting Style

The construction of statements pertaining to permissive parenting style was based on validated scales, including the PAQ (Buri, 1991) and the SPS (Abdul Gafor & Kurukkan, 2014). Sample statements include: “As I was growing up, my parents seldom gave me expectations and guidelines for my behavior.”, “While I was growing up, my parents felt that in a well-run home, the children should have their way in the family as often as the parents do.”, etc (see Table 6).

TABLE 6 Excerpt of ERFAQ Permissive Parenting Style

Permissive Parenting Style					
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree
1	As I was growing up, my parents didn't feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.				
2	Most of the time as I was growing up, my parents did what the children in the family wanted when making family decisions.				

4) Academic Stress

The academic stress statements are designed based on the framework provided by Lin and Chen (2009), Bedewy and Gabriel (2015), and Aina and Wijayati (2019). Sample statements: "I feel that the competition with my peers for grades is quite intense.", "Even if I pass my exams, I am worried about getting a job.", etc (see Table 7).

TABLE 7 Excerpt of ERFAQ Academic Stress

Academic Stress					
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree Strongly
1	I feel that my parents' expectations stress me out.				
2	I feel that after I entered university, my performance was not as good as I had expected.				
3	I feel that there is open strife and veiled struggles among classmates due to academic performance.				
4	I'm worried that I'll fail my courses this year.				

5) Regulatory Emotional Self-Efficacy

The statements reflecting self-efficacy were adapted from the questionnaire scale proposed by Caprara et al. (2008), Gunzenhauser et al. (2013), and Muris (2001), which contains two subscales: regulatory emotional self-efficacy for positive emotions and negative emotions. Sample statements: "I think I feel satisfied when I accomplish the goals I set for myself.", "I believe I can successfully pick myself up after unpleasant things happen to me.", etc (see Table 8).

TABLE 8 Excerpt of ERFAQ Regulatory Emotional Self-Efficacy

Regulatory Emotional Self-Efficacy						
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I think I can express enjoyment freely in social situations.					
2	I think when I face difficulties, I can effectively avoid becoming discouraged.					
3	I think I can express joy when good things happen to me.					
4	I believe I can keep from getting dejected when I experience negative emotions.					

6) Cognitive Control

The cognitive control statements were developed according to the structure of Gabrys et al. (2018) and Botvinick et al. (2001). Example statements include: “I can stay focused even when I have upsetting thoughts or feelings.”, “I can easily let go of intrusive thoughts or emotions.”, etc (see Table 9).

TABLE 9 Excerpt of ERFAQ Cognitive Control

Cognitive Control						
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I find it easy to put aside unpleasant thoughts or emotions.					
2	I can stay focused even when I have upsetting thoughts or feelings.					
3	I am good at regaining cognitive focus.					
4	I control my thoughts and feelings by considering the specific situation.					

7) Social Media Use

Social media use statements were developed based on Jenkins-Guarnieri et al. (2013), Maree (2017), and Tutgun-Ünal and Deniz (2015). Example statements: “When I’m not logged into social media, I feel disconnected from my friends.”, “I enjoy browsing content shared by others on social media.” etc (see Table 10).

TABLE 10 Excerpt of ERFAQ Social Media Use

Social Media Use					
No.	Statement	Strongly Disagree	Disagree	Neutral	Agree Strongly Agree
1	I get upset when I can't log on to social media.				
2	Using social media is part of my daily life.				
3	Social media plays an important role in my social relationships.				
4	I comment on content shared by others on social media.				

The mean scores from the 5-point Likert scale were interpreted using a five-category system based on Nyutu et al. (2021). The interpretation was as follows:

1) 1.00–1.80 (Low level): This range indicated that the variable measured was perceived as very limited or rarely present among respondents. Recognition or endorsement of the variable was minimal.

2) 1.81–2.60 (Medium low level): This range indicated a somewhat low degree of the variable's presence. The variable existed to a limited extent but was not strongly recognized or affirmed by most respondents.

3) 2.61–3.40 (Medium level): This range reflected a moderate or neutral presence of the variable. Respondents neither strongly endorsed nor rejected the variable, indicating an average level of perception.

4) 3.41–4.20 (Medium high level): This range indicated a fairly strong presence of the variable. Respondents generally acknowledged or reported frequent perception of the variable.

5) 4.21–5.00 (High level): This highest range suggested a strong and consistent presence of the variable. Respondents clearly recognized and strongly endorsed the variable.

3.4 Data Collection

The questionnaire was conducted online and distributed by class teachers through student group chats. The content of the questionnaire was divided into three sections: personal information, emotion regulation, and seven predictor variables related to emotion regulation. A total of 326 valid responses were collected and included in the data analysis.

3.5 Data Analysis

The completed questionnaires were comprehensively analyzed using a variety of statistical methods.

1) Descriptive statistical analysis was conducted to calculate measures such as mean and standard deviation using the SPSS program.

2) Correlation analysis was conducted to explore the relationships between 1) authoritative parenting style, 2) authoritarian parenting style, 3) permissive parenting style, 4) academic stress, 5) regulatory emotional self-efficacy, 6) cognitive control, and 7) social media use and the emotion regulation of undergraduate students at Kunming College of Arts and Sciences.

3) Multiple regression analysis was performed to examine the predictive effects of 1) authoritative parenting style, 2) authoritarian parenting style, 3) permissive parenting style, 4) academic stress, 5) regulatory emotional self-efficacy, 6) cognitive control, and 7) social media use on the emotion regulation of undergraduate students at Kunming College of Arts and Sciences.

CHAPTER 4

RESEARCH RESULT

Drawing upon a review of relevant literature, this study identified seven key factors influencing emotion regulation. To thoroughly examine the impact of these factors, the research methodology incorporates data obtained from the questionnaire survey and is analyzed using the SPSS program:

1) Descriptive Statistical Analysis: Core variables were summarized using basic statistical measures such as minimum, maximum, mean, and standard deviation.

2) Correlation Analysis: This study assessed the associations between the independent variables: authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use, and the dependent variable, emotion regulation. The strength and direction of these associations will be interpreted through the sign and magnitude of the correlation coefficients.

3) Stepwise Multiple Regression Analysis: This analysis aimed to investigate how the independent variables, authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use collectively predict the dependent variable, emotion regulation.

In the preceding analyses, several statistical indicators were applied. To facilitate a clearer understanding of these indicators, brief explanations are presented below:

N refers to the sample size;

Min shows the minimum value;

Max indicates the maximum value;

M represents the mean score;

SD reflects the standard deviation;

R stands for the multiple correlation coefficient;

R^2 stands for the coefficient of determination;

Y stands for Emotion Regulation;
 X_1 stands for Authoritative Parenting Style;
 X_2 stands for Authoritarian Parenting Style;
 X_3 stands for Permissive Parenting Style;
 X_4 stands for Academic Stress;
 X_5 stands for Regulatory Emotional Self-Efficacy;
 X_6 stands for Cognitive Control;
 X_7 stands for Social Media Use.

4.1 Descriptive Analysis

Each variable in the questionnaire was measured using a five-point Likert scale. The final score for each variable was calculated as the mean of its corresponding items, with possible values ranging from 1 to 5. For scales “Emotion Regulation (Y)”, “Authoritative Parenting Style (X_1)”, “Authoritarian Parenting Style (X_2)”, “Permissive Parenting Style (X_3)”, “Academic Stress (X_4)”, “Regulatory Emotional Self-Efficacy (X_5)”, “Cognitive Control (X_6)”, and “Social Media Use (X_7)”. To facilitate interpretation, the mean scores have been divided into the following categories: 1.00-1.80 indicates a low level, 1.81-2.60 indicates a medium low level, 2.61-3.40 indicates a medium level, 3.41-4.20 indicates a medium high level, and 4.21-5.00 indicates a high level. The descriptive statistics for all variables examined in this study are summarized in Table 11.

TABLE 11 Variable Description

	N	Min	Max	M	SD	Level
Emotion Regulation (Y)	326	1.00	5.00	3.25	0.70	Medium
Authoritative Parenting Style (X_1)	326	1.00	5.00	3.31	0.85	Medium
Authoritarian Parenting Style (X_2)	326	1.00	4.80	3.05	0.84	Medium

Permissive Parenting Style (X_3)	326	1.00	5.00	3.10	0.91	Medium
Academic Stress (X_4)	326	1.20	5.00	3.37	0.75	Medium
Regulatory Emotional Self-Efficacy (X_5)	326	1.70	5.00	3.51	0.76	Medium High
Cognitive Control (X_6)	326	1.11	5.00	3.38	0.85	Medium
Social Media Use (X_7)	326	1.60	5.00	3.70	0.77	Medium High

Y Emotion regulation had a minimum value of 1.00 and a maximum value of 5.00. The mean score was 3.25, and the standard deviation was 0.70, indicating a medium level of emotion regulation among students.

X_1 Authoritative parenting style had a minimum score of 1.00 and a maximum score of 5.00. The mean score was 3.31, with a standard deviation of 0.85, suggesting a medium level of authoritative parenting perceived by students.

X_2 Authoritarian parenting style, the scores ranged from a minimum of 1.00 to a maximum of 4.80. The mean was 3.05, and the standard deviation was 0.84, reflecting a medium level as perceived by students.

X_3 Permissive parenting style recorded a minimum score of 1.00 and a maximum score of 5.00. The mean value was 3.10, and the standard deviation was 0.91, indicating that students perceived permissive parenting style at a medium level.

X_4 Academic stress had a minimum score of 1.20 and a maximum score of 5.00. The mean score was 3.37, and the standard deviation was 0.75, indicating that the level of academic stress among students was at a medium level.

X_5 Regulatory emotional self-efficacy had a minimum score of 1.70 and a maximum score of 5.00. The mean was 3.51, and the standard deviation was 0.76, indicating that students perceived their regulatory emotional self-efficacy at a medium high level.

X₆ Cognitive control showed a minimum value of 1.11 and a maximum value of 5.00. The mean score was 3.38, with a standard deviation of 0.85, indicating that students demonstrated cognitive control at a medium level.

X₇ Social media use ranged from a minimum of 1.60 to a maximum of 5.00. The mean score was 3.70, and the standard deviation was 0.77, indicating a medium high level of social media use among students.

As shown in the preceding analysis, the mean values of all variables range from 3.05 to 3.70, indicating that most variables fall within the medium to medium high level based on the defined classification criteria. The minimum values range from 1.00 to 1.70, while the maximum values generally reach up to 5.00, except for the authoritarian parenting style, which has a slightly lower maximum of 4.80. This shows that participants generally made use of the full range of the Likert scale when responding. In addition, the standard deviations for all variables fall between 0.70 and 0.91, indicating a low to moderate level of dispersion, meaning that most participants' responses did not deviate substantially from the mean.

4.2 Correlation Analysis

Pearson correlation analysis was conducted to explore the association between emotion regulation and the seven identified independent variables: authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use (see Table 12).

TABLE 12 Correlation Analysis

	Y	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇
Y	1	0.426**	0.211**	0.166**	0.467**	0.399**	0.241**	0.238**
X ₁		1	0.300**	0.152**	0.068	0.152**	0.201**	0.048
X ₂			1	0.381**	0.119*	0.019	0.000	0.046
X ₃				1	0.123*	0.085	-0.032	0.024
X ₄					1	0.206**	0.044	0.305**
X ₅						1	0.148**	0.046
X ₆							1	0.077
X ₇								1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Pearson correlation analysis was conducted to explore the associations between emotion regulation and the seven influencing factors. Table 12 presents the correlation coefficients, ranging from 0.166 to 0.467, which reflect the strength of association between each variable pair. Of the seven influencing factors, Authoritative Parenting Style (X₁) showed a significant positive correlation with Emotion Regulation (Y) ($r = 0.426$, $p < 0.01$), Authoritarian Parenting Style (X₂) exhibited a significant positive correlation with Emotion Regulation (Y) ($r = 0.211$, $p < 0.01$), Permissive Parenting Style (X₃) demonstrated a significant positive correlation with Emotion Regulation (Y) ($r = 0.166$, $p < 0.01$), Academic Stress (X₄) was similarly positively correlated with Emotion Regulation (Y) ($r = 0.467$, $p < 0.01$), Regulatory Emotional Self-Efficacy (X₅) had a significant positive correlation with Emotion Regulation (Y) ($r = 0.399$, $p < 0.01$), Cognitive Control (X₆) exhibited a significant positive correlation with Emotion Regulation (Y) ($r = 0.241$, $p < 0.01$), and Social Media Use (X₇) demonstrated a significant positive correlation with Emotion Regulation (Y) ($r = 0.238$, $p < 0.01$). All significant correlations for X₁, X₂, X₃, X₄, X₅, X₆, and X₇ are reported at the 0.01 level (two-tailed).

4.3 Regression Analysis

Building on the correlation analysis, the seven influencing factors were shown to have significant relationships with emotion regulation. Accordingly, a stepwise multiple regression model was constructed in which X_1 to X_7 served as the independent variables, and Y functioned as the dependent variable.

TABLE 13 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.683 ^a	0.466	0.454	0.51629

As shown in Table 13, the regression model yields an overall R value of 0.683, indicating a moderately strong relationship between the combined independent variables (X_1 to X_7) and the dependent variable (Y). The coefficient of determination, R^2 value, is 0.466, meaning that approximately 46.6% of the variance in Y can be accounted for by the predictors included in the model. The adjusted R^2 , which provides a more refined estimate by considering model complexity, is 0.454.

TABLE 14 Regression Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		t	p-value
	B	Std. Error	Beta			
1	(Constant)	-0.385	0.246		-1.566	0.118

X_1	0.259	0.037	0.314	7.088***	<0.001
X_2	0.044	0.039	0.052	1.131	0.259
X_3	0.027	0.034	0.035	0.793	0.429
X_4	0.327	0.042	0.349	7.881***	<0.001
X_5	0.234	0.039	0.254	5.934***	<0.001
X_6	0.098	0.035	0.119	2.812**	0.005
X_7	0.084	0.039	0.093	2.148*	0.032

*** p<.001, ** p<.01, * p<.05

Table 14 displays the significance levels of the regression coefficients for the model's independent variables. The analysis identified five variables with p-values below the 0.05 significance threshold, indicating that these predictors had a statistically significant influence on the dependent variable. Ranked in order of decreasing standardized Beta coefficients, the five most influential factors are: Academic Stress (X_4), Authoritative Parenting Style (X_1), Regulatory Emotional Self-Efficacy (X_5), Cognitive Control (X_6), and Social Media Use (X_7). According to the results above, the corresponding regression equations are presented as follows.

The regression equation in unstandardized form is:

$$\hat{Y} = -0.385 + 0.327X_4 + 0.259X_1 + 0.234X_5 + 0.098X_6 + 0.084X_7$$

The regression equation in standardized form is:

$$Z = 0.349^{***}X_4 + 0.314^{***}X_1 + 0.254^{***}X_5 + 0.119^{**}X_6 + 0.093^{*}X_7$$

CHAPTER 5

CONCLUSION AND DISCUSSION

5.1 Objectives of the Study

1) To explore the relationship among authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, social media use, and emotion regulation.

2) To investigate the factors that affect the emotion regulation of students at Kunming College of Arts and Sciences.

5.2 Research Hypothesis

1) Authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use are the factors related to the emotion regulation of undergraduate students.

2) The effects of authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use on emotion regulation among undergraduate students.

5.3 Research Methods

This study used a quantitative research method to explore the factors that affected the emotion regulation of Chinese undergraduates. Based on the questionnaire survey data, the study understood the students' emotion regulation in specific situations and quantified and evaluated their emotion regulation and related influencing factors.

5.4 Conclusion and Discussion

5.4.1 The Correlations between the Predictors and Emotion Regulation

The correlation analysis revealed that all seven influencing factors on undergraduate students' emotion regulation were significantly associated at the 0.01

level. These factors include: 1) authoritative parenting style, 2) authoritarian parenting style, 3) permissive parenting style, 4) academic stress, 5) regulatory emotional self-efficacy, 6) cognitive control, and 7) social media use. The correlation coefficients ranged from 0.166 to 0.467, all showing positive associations with emotion regulation.

1) Authoritative parenting style was found to have a significant positive correlation with emotion regulation, with a coefficient of 0.426 ($p < 0.01$). This could be explained by the emotionally secure and structured environment typically provided by authoritative parents, which may help students develop effective self-regulation skills. In a study of Chinese young adults, Kang and Guo (2022) found that authoritative parenting was positively linked to cognitive reappraisal and prosocial behavior, highlighting its role in promoting emotional regulation. Similarly, Jin and Chen (2024) showed that authoritative parenting was positively associated with emotion regulation among Chinese preschool children, with sleep quality mediating this effect. In the Chinese context, these parenting practices are often underpinned by Confucian values, such as self-cultivation, filial piety, and respect for authority, which are integral components of the Confucian-informed concept of training described by Chao (2000). These cultural values may further motivate students to regulate their emotions in socially appropriate and goal-oriented ways, particularly when facing academic or interpersonal challenges. Therefore, the positive association observed in this study is consistent with both Western developmental theories and culturally specific values embedded in Chinese parenting norms.

2) Authoritarian parenting style showed a modest but statistically significant positive association with emotion regulation, with a correlation coefficient of 0.211 ($p < 0.01$). A result that contrasts with findings from many Western studies, which often link authoritarian control to poor emotional outcomes such as suppression or dysregulation (Morris et al., 2007; Steinberg, 2005). This could be explained by culturally specific interpretations of parental control in Chinese society. In the Chinese cultural context, parenting practices involving high control and expectations are often interpreted not as oppression but as a form of care and ambition, particularly reflecting the deep-rooted

aspiration for children to “become dragons” (Fong & Won Kim, 2011). According to Markus and Kitayama (2014), the theory of self-construal further supports this perspective, suggesting that in collectivist cultures, individuals tend to develop an interdependent self, which places value on family harmony, obedience, and social roles. From this viewpoint, parental control, when not excessive, may be interpreted as a legitimate expression of involvement and commitment to the child's success, thus encouraging emotionally disciplined behavior.

However, it is also important to consider the threshold at which authoritarian parenting may become detrimental. When control becomes overly rigid, lacks emotional warmth, or inhibits individual expression, it may lead to emotional suppression, internal conflict, or even maladaptive regulation, as suggested by Morris et al. (2007), who emphasized that emotionally unresponsive parenting undermines the development of emotion understanding and regulation in children. Therefore, while the positive correlation observed may reflect culturally adaptive interpretations of moderate control, this effect is likely contingent on the presence of emotional support and the avoidance of excessive intrusion.

3) Permissive parenting style demonstrated a significant but relatively weak correlation with emotion regulation, with a correlation coefficient of 0.166 ($p < 0.01$). This could be explained by the emotionally responsive yet low-control nature of permissive parenting. While such parents may create a supportive atmosphere that fosters emotional openness, they often fail to set consistent behavioral boundaries, which are essential for the development of self-regulation. Baumrind (2005) described permissive parenting as high in responsiveness but low in demands, a pattern that may result in children having limited experience with frustration, impulse control, or goal-directed behavior. Morris et al. (2013) further noted that a lack of parental structure may impair children's ability to internalize consistent emotion regulation strategies, particularly when they encounter stress. This issue may be especially pronounced in the context of Chinese higher education, which is highly competitive and performance-driven. Students from permissive backgrounds may enter university lacking the self-discipline

and frustration tolerance needed to manage academic setbacks, long-term goals, and social expectations. In this high-pressure environment, shaped by intense entrance examinations like the Gaokao and a cultural emphasis on perseverance, emotional regulation may become more difficult for those without prior exposure to structured behavioral demands, as suggested by Sun and Shek (2012), who observed that Chinese students under academic stress often struggle with behavioral control and emotional adjustment in demanding learning environments. Consequently, although permissive parenting provides emotional acceptance, its long-term impact on emotion regulation appears limited, especially when facing the demands of an achievement-oriented educational system.

In summary, although all three parenting styles were positively associated with emotion regulation, their mechanisms differ. Authoritative parenting promotes emotional balance through warmth and structure. Authoritarian parenting fosters emotional discipline through culturally accepted forms of control. Permissive parenting facilitates emotional expression but may fail to provide the behavioral scaffolding essential for consistent regulation. These findings highlighted how parenting dynamics, shaped by cultural values, influence emotional development among Chinese undergraduate students.

4) Academic stress demonstrated the strongest positive correlation with emotion regulation among all variables, with a correlation coefficient of 0.467 ($p < 0.01$). At first glance, this result might appear counterintuitive, as academic stress is commonly associated with emotional difficulties. However, this finding may reflect the important role of adaptive coping and emotional self-regulation in managing inevitable academic demands. Compas et al. (2014) found that stress does not inherently lead to maladaptive outcomes; rather, the emotional consequences of stress depend on how individuals appraise and respond to it. Students who perceive academic stressors as challenges are more likely to engage in constructive coping strategies such as problem-solving or cognitive reappraisal, which are integral components of effective emotion regulation. This is consistent with Sari et al. (2020), who found that students with

stronger emotion regulation and coping skills reported significantly lower levels of academic stress, supporting the notion that emotion regulation capacity mediates perceived stress levels rather than stress directly enhancing regulation. Similarly, Teixeira et al. (2022) observed that students with high regulatory capacity were more likely to reframe stress constructively and maintain emotional balance under academic pressure. Therefore, the positive correlation observed in this study is not to be interpreted as academic stress improving emotional functioning; rather, it reflects that students with stronger regulation skills are better equipped to handle stress effectively. This highlights the need for universities to focus on cultivating students' emotional resilience and adaptive coping skills, rather than attempting to normalize or increase academic stress itself.

5) Regulatory emotional self-efficacy showed a significant positive correlation with emotion regulation, with a correlation coefficient of 0.399 ($p < 0.01$). This result supports existing literature suggesting that students with higher self-efficacy beliefs in emotion regulation are more likely to employ adaptive emotional strategies. Caprara et al. (2008) emphasized that regulatory emotional self-efficacy enhances emotion regulation through two key pathways: reducing anxiety in emotionally intense situations and promoting the use of constructive regulation methods. Similarly, Mesurado et al. (2018) found that students with higher emotional self-efficacy are better equipped to manage interpersonal conflicts and academic stress through proactive regulation techniques. These findings align with the process model of emotion regulation proposed by Gross (2014), which identified cognitive reappraisal, the reinterpretation of stressors, as a central strategy in regulating emotional responses. Students who believe in their ability to manage emotions are more likely to engage in such strategies when facing academic or social pressures.

6) Cognitive control demonstrated a significant positive correlation with emotion regulation, with a correlation coefficient of 0.241 ($p < 0.01$), aligning with cognitive neuroscience research on executive functions. As Hendricks and Buchanan (2016) noted, cognitive control, which includes working memory updating, response inhibition,

and task switching, modulates neural pathways involved in processing negative affect and directly supports emotion regulation. Specifically, inhibitory control helps suppress impulsive emotional reactions, working memory maintains regulatory strategies under pressure, and cognitive flexibility enables adaptive reappraisal of stressful situations (Miyake et al., 2000). These three components collectively promote emotional stability by allowing individuals to shift attention, inhibit distractions, and reframe negative experiences. This process is consistent with the dual-process model of emotion regulation, in which cognitive control operates as a top-down mechanism overriding automatic, bottom-up emotional impulses (Pessoa, 2009). In this study, students with higher cognitive control scores showed a greater capacity for applying cognitive reappraisal during academic stress, supporting prior findings that stronger executive functioning reduces emotional volatility (Gross, 2015; Miyake et al., 2000).

7) Social media use demonstrated a weak but significant positive correlation with emotion regulation, with a correlation coefficient of 0.238 ($p < 0.01$), reflecting its dual role in emotional processes. As Choi and Toma (2014) revealed, intentional use, such as sharing positive experiences or reaching out to friends during stressful times, can enhance emotional well-being by fostering social connection and self-expression, aligning with Valkenburg et al. (2005)'s theory of social media as a positive social space. Conversely, Fokker et al. (2021) emphasized that excessive or passive use (e.g., mindless scrolling) is linked to emotional dysregulation, as it increases exposure to idealized portrayals of others' lives and reduces meaningful face-to-face interaction. This aligns with social comparison theory (Kircaburun, 2016), which suggested that viewing selectively curated content can negatively affect emotional self-perception. The modest correlation found in this study suggests a nuanced relationship: while platforms like WeChat or Instagram can support emotion regulation through deliberate and supportive engagement (e.g., messaging close friends for comfort or encouragement), the emotional impact largely depends on how purposefully and mindfully users interact with the content. This supports the media multiplexity theory (Williams & Merten, 2011), which posited that the emotional effects of social media depend on how it is integrated

into offline social networks. Thus, the positive association may reflect students' strategic use of social media to seek support and manage emotions, while the relatively weak strength of the correlation underscores the importance of using such platforms with intention and balance.

5.4.2 The Effects of the Predictors on Emotion Regulation

The regression analysis included seven factors related to emotion regulation, of which five emerged as significant influencing factors: 1) academic stress, 2) authoritative parenting style, 3) regulatory emotional self-efficacy, 4) cognitive control, and 5) social media use. Included among these were academic stress, authoritative parenting style, and regulatory emotional self-efficacy demonstrated statistical significance at the 0.001 level; cognitive control was significant at the 0.01 level; and social media use showed significance at the 0.05 level. In contrast, authoritarian and permissive parenting styles did not exhibit statistically significant effects.

1) Academic stress emerged as the most influential factor affecting emotion regulation in this study, with a standardized beta value of 0.349 ($p < 0.001$), indicating a strong and significant direct effect. At first glance, this result appears to contrast with several previous studies that identified a negative correlation, suggesting that excessive academic stress tends to impair students' emotional regulation abilities (Anggraini & Widyastuti, 2022; Zyusifa & Affandi, 2021). However, this discrepancy may be understood in light of the cultural context. In Chinese educational environments, academic stress is often regarded not only as a burden but also as a necessary force driving achievement, self-discipline, and resilience, especially within Confucian cultural traditions that emphasize endurance, responsibility, and personal growth (Wang & Fu, 2005). Students with stronger emotion regulation skills may not only experience and report stress more consciously but also possess the internal strategies to manage it constructively. This interpretation is consistent with Gross (2015)'s antecedent-focused model of emotion regulation, in which individuals can alter emotional outcomes by reframing stressful events, such as exams or performance expectations, as opportunities for growth rather than threats. Supporting this, Sari et al. (2020) found that

students with higher emotion regulation capacity tend to adopt more adaptive coping strategies like planning, cognitive restructuring, and problem-solving when faced with academic demands. Nonetheless, it is important to note that academic stress can also become maladaptive when chronic or overwhelming, potentially leading to anxiety, suppression, emotional fatigue, or academic burnout (Teixeira et al., 2022; Yang & Yang, 2022). Therefore, the positive association observed in this study may reflect a culturally specific adaptation, where academic stress is internalized and regulated as a motivational driver. To sustain this adaptive balance, universities should implement structured interventions such as mindfulness programs, time management training, and emotional regulation workshops, as these have been shown to enhance psychological resilience (Kumaraswamy, 2013).

2) Authoritative parenting style was the second most influential predictor of emotion regulation, with a standardized beta value of 0.314 ($p < 0.001$). This finding aligns with a substantial body of research underscoring the benefits of authoritative parenting for emotional development. Baumrind (2005) conceptualized authoritative parenting as a style marked by high warmth, responsiveness, and firm but reasonable control. Authoritative parents provide emotional support, set clear expectations, and maintain open communication with their children, thereby fostering a secure and structured environment. According to Morris, Houtberg, et al. (2017), such emotionally supportive family contexts are essential for developing self-regulatory capacities, as children learn to recognize, express, and manage their emotions through guided interactions. Campos et al. (2004) proposed the concept of a “family emotion regulation template,” suggesting that the interactions within an authoritative family serve as a model for children’s own emotion regulation strategies. In the Chinese context, Wang and Fu (2005) emphasized that authoritative parenting practices are generally interpreted positively by students, as they reflect both care and high expectations. This cultural framing may help explain why children raised in authoritative households are more likely to develop cognitive reappraisal techniques, for example, reframing academic setbacks as learning opportunities, thereby enhancing their emotional

regulation. The integration of warmth and structure in this parenting style appears to offer both emotional security and behavioral boundaries, fostering emotional competence over time.

In contrast, authoritarian and permissive parenting styles did not emerge as significant predictors of emotion regulation in the regression analysis. This finding is somewhat inconsistent with traditional theoretical expectations, which suggested that authoritarian parenting, characterized by high control and low emotional warmth, can impede emotional development due to its suppressive nature (Baumrind, 2005; Morris et al., 2013). However, one possible explanation lies in cultural reinterpretation. In Chinese family contexts, strict parental behavior may be perceived by students as a form of care and concern, especially when linked to educational support and long-term success. As Wang and Fu (2005) noted, parental control in Confucian cultures is often internalized by children as a sign of responsibility rather than emotional detachment, potentially reducing its negative psychological effects. Permissive parenting, on the other hand, was also not a significant predictor. Its combination of high warmth but low structure may result in insufficient guidance for children to develop consistent emotional strategies (Baumrind, 2005; Morris, Houlberg, et al., 2017), which could explain its lack of predictive power in this study.

Overall, the results of this study reinforce the culturally robust effectiveness of authoritative parenting in promoting emotion regulation, highlighting the importance of balancing warmth and structure in both family and educational contexts.

3) Regulatory emotional self-efficacy was a significant predictor of emotion regulation, with a standardized beta value of 0.254 ($p < 0.001$). This finding strongly supports the theoretical frameworks put forward by Bandura et al. (2003) and Caprara et al. (2008). Bandura et al. (2003) defined self-efficacy as an individual's core belief in their capacity to manage emotional challenges and influence outcomes through intentional regulation. This concept is not merely about confidence but is deeply ingrained in one's ability to execute specific actions related to emotional management. Caprara et al. (2008) further refined this concept, emphasizing that regulatory emotional

self-efficacy has two crucial dimensions: the belief in managing negative emotions and expressing positive emotions effectively. For instance, in a high-stress academic situation like preparing for final exams, students with high regulatory emotional self-efficacy, as per the definitions by Bandura et al. (2003) and Caprara et al. (2008), are more likely to adopt adaptive strategies. They might use cognitive reappraisal, a technique highlighted in Gross (2015)'s work on emotion regulation. Instead of seeing the exam as an insurmountable threat, they reframe it as an opportunity to showcase their knowledge, which helps in reducing anxiety. Research by Bandura et al. (2003) also indicates that students with high self-efficacy are more proactive in seeking support. In the face of interpersonal conflict, such as a disagreement with a roommate, they are more likely to initiate a calm conversation to resolve the issue rather than avoiding the situation. This is in contrast to those with lower self-efficacy, who, as numerous studies suggest (Caprara et al., 2008), may resort to avoidance or suppression. Avoidance in such cases could lead to pent-up emotions, eventually resulting in more significant emotional outbursts or long-term negative emotional states. Caprara et al. (2008) emphasized that self-efficacy not only determines strategy choice but also directly shapes emotional resilience. In the context of this study, students with higher regulatory emotional self-efficacy scores demonstrated greater resilience in the face of academic pressure, such as handling multiple assignments and tight deadlines. They were also better at navigating interpersonal conflicts, like group project disputes, and psychological distress, including feelings of homesickness. This is consistent with the broader body of research on self-efficacy, which shows that a strong belief in one's emotional management capabilities can buffer against various stressors, leading to more effective emotion regulation and overall well-being.

4) Cognitive control had a moderate but significant effect on emotion regulation, with a standardized beta value of 0.119 ($p < 0.01$), a finding that aligns with the perspectives of Pessoa (2009), Hendricks and Buchanan (2016), and a substantial body of research on executive functioning. Hendricks and Buchanan (2016) emphasized the critical role of executive functions, such as working memory, attentional shifting, and

inhibitory control, in promoting emotional stability. Working memory, for instance, enables individuals to hold and manipulate information relevant to emotional regulation; in a stressful exam situation, a student may draw upon relaxation techniques or positive self-statements stored in working memory to manage anxiety. Miyake et al. (2000) proposed that these executive functions are interrelated and collaboratively support higher-order cognitive processes. In emotion regulation, working memory helps maintain regulatory goals and ensures the consistent application of appropriate strategies. Attentional shifting, another key facet, allows individuals to redirect focus away from negative stimuli. As discussed by Gross (2015) in his model of antecedent-focused emotion regulation, attentional deployment is a core strategy; students with strong attentional control can focus on constructive solutions during interpersonal conflict, rather than ruminating on negative emotions. Inhibitory control, as highlighted by Pessoa (2009), enables suppression of impulsive emotional reactions. In a high-pressure university environment, where emotional triggers such as poor grades or academic feedback are common, students with strong inhibitory control can pause and choose rational, constructive responses instead of reacting impulsively. This reflects the dual-process model of emotion regulation, wherein inhibitory control provides a top-down mechanism to override bottom-up emotional impulses. Together, these cognitive capacities provide the foundation for effective emotion regulation, particularly within cognitively demanding university settings. In the Chinese context, studies have shown similar outcomes; Sang et al. (2018) found that students with higher levels of cognitive control demonstrated greater emotional resilience and were better equipped to handle academic stress and interpersonal challenges, which subsequently improved their academic performance. Overall, these findings reinforce the critical role of cognitive control in supporting adaptive emotional functioning among undergraduate students.

5) Social media use had the smallest effect size among the significant predictors of emotion regulation, with a standardized beta value of 0.093 ($p < 0.05$), highlighting its nuanced and context-dependent role in emotional processes. This finding aligns with Valkenburg et al. (2005)'s social compensation theory, which suggests that moderate

and intentional social media use, such as joining study groups on WeChat or sharing personal reflections, can enhance emotional well-being by offering platforms for low-pressure self-expression and peer support. For instance, students may turn to TikTok for humorous or inspirational content during stressful academic periods or use WeChat to coordinate group study, gaining brief emotional relief. However, this positive effect is conditional. Fokker et al. (2021) warned of the emotional risks associated with passive or excessive use, such as mindless scrolling through idealized feeds, which often leads to social comparison and emotional dysregulation. This is consistent with Kircaburun (2016)'s application of social comparison theory, which found that exposure to others' curated online personas can provoke feelings of inadequacy, particularly among users with lower self-esteem. Within Chinese university contexts, Jenkins-Guarnieri et al. (2013) noted that students who use social media reactively, such as for endless entertainment browsing, are more susceptible to emotional exhaustion. In contrast, those who engage in goal-directed interactions, like participating in peer support groups or sharing learning resources, demonstrate stronger emotional control. The conditional nature of these outcomes is further explained by the media multiplexity theory (Williams & Merten, 2011). This theory posited that the emotional effects of social media depend on how well online engagement is integrated with offline relationships. For example, students who use WeChat to maintain close friendships or collaborate academically may experience emotional benefits, whereas those who rely exclusively on virtual affirmation may face greater emotional instability.

This dual effect, beneficial when used intentionally, yet potentially harmful when used passively, helps explain the modest beta value observed in this study. It also underscores the importance of encouraging purposeful digital engagement and promoting healthy social media habits to support students' emotional well-being.

5.5 Suggestions

The study aimed to provide practical suggestions for undergraduate students to enhance their emotion regulation abilities. The relevant recommendations are as follows.

5.5.1 For Undergraduate Students

1. Manage Academic Stress Effectively

Academic stress was found to be the strongest predictor of emotion regulation in this study. Undergraduate students are encouraged to recognize academic stress as a common but manageable part of university life. Effective strategies such as goal setting, time management, and breaking large tasks into smaller, manageable steps can help reduce emotional overload. In addition, students can practice relaxation techniques such as mindfulness meditation, breathing exercises, or light physical activity to release accumulated tension. Seeking academic support from peers or instructors and maintaining regular routines can enhance one's sense of control. When students learn to respond to academic demands in an adaptive way, they are more likely to maintain emotional stability and resilience. It is also important for students to identify early signs of stress and take proactive steps rather than waiting until emotional exhaustion sets in. By building constructive stress-coping habits, students can better protect their emotional well-being throughout their academic journey.

2. Understand and Reframe Parental Influence

The study showed that authoritative parenting style has a significant positive impact on emotion regulation. Students who experienced such parenting may already benefit from internalized emotional models based on support, autonomy, and open communication. However, for those who grew up in different family environments, it is still possible to improve emotional self-regulation by understanding and reframing parental influence. Reflecting on how family interactions shaped one's emotional patterns can provide important insight into current behaviors. Journaling, talking with a counselor, or discussing family dynamics with trusted peers can help students process their emotional histories. Instead of blaming past experiences, students are encouraged to become aware of learned patterns, such as suppression, dependency, or avoidance, and gradually shift toward more adaptive responses. Developing emotional autonomy does not mean rejecting one's upbringing, but rather learning to choose what emotional strategies best serve one's current goals and well-being.

3. Build Confidence in Managing Emotions

Regulatory emotional self-efficacy is a strong predictor of students' ability to regulate emotions effectively. Students with higher confidence in managing their emotional experiences tend to cope more constructively with challenges and maintain balance in emotionally demanding situations. To build this self-belief, students can begin by acknowledging small emotional achievements, such as calming themselves after frustration or expressing needs assertively. Regular self-reflection, self-affirmation, and replacing negative inner dialogue with constructive thinking can strengthen emotional confidence. Participating in emotional awareness workshops or peer discussion groups can also be beneficial. As students become more aware of their emotional capacities, they gradually develop the belief that they can handle emotional difficulties, rather than being overwhelmed by them. This positive expectation can motivate students to apply healthier emotion regulation strategies such as reappraisal, problem-solving, or seeking support when needed, thereby improving their overall emotional resilience and academic functioning.

4. Strengthen Cognitive Control and Focus

Cognitive control plays an important role in managing emotional reactions, particularly in academic and social settings. Students can strengthen this ability by practicing attentional control and cognitive flexibility through simple daily habits. Techniques such as mindfulness meditation, journaling, and focused breathing can help train attention and increase awareness of thought patterns. Additionally, limiting distractions during study time, setting clear intentions before tasks, and practicing delayed gratification can foster discipline and executive function. These habits improve students' ability to pause and assess emotional triggers rather than reacting impulsively. Cognitive control also helps students reinterpret stressful situations more constructively, which reduces emotional intensity. Over time, improved mental regulation contributes to more consistent emotional responses, enabling students to handle stress, conflict, and uncertainty with greater adaptability and maturity. Emotional regulation is not only a matter of willpower but also of training the mind to work in harmony with emotional goals.

5. Use Social Media Purposefully

Social media use was found to be a significant but modest predictor of emotion regulation. While online platforms offer opportunities for social connection, expression, and information, excessive or unconscious use can lead to emotional disturbances, such as comparison-based anxiety or avoidance of real-life emotions. Students are encouraged to reflect on how social media affects their mood and set healthy boundaries for its use. Establishing daily screen-time limits, disabling non-essential notifications, or scheduling social media-free time can help students stay emotionally centered. In addition, engaging more actively rather than passively, such as creating meaningful content, interacting positively with others, or using platforms for learning, can increase a sense of purpose and agency. When used with intention, social media can support emotion regulation rather than undermine it. Awareness and moderation are key to ensuring that digital engagement contributes positively to one's emotional life, rather than serving as an escape or stress amplifier.

5.5.2 For University Educators and Mental Health Support

1. Create a Supportive Academic Environment

Given the significant impact of academic stress on emotion regulation, educators and universities must take an active role in reducing excessive academic pressure. This can be achieved by designing fair and transparent evaluation criteria, maintaining consistent communication about expectations, and fostering collaborative rather than purely competitive classroom environments. Instructors can promote student autonomy by allowing flexible deadlines where appropriate and encouraging a growth mindset toward failure. Academic advising services should support students in course planning and time management, helping them avoid overload and burnout. Faculty should also be trained to identify signs of academic distress and guide students to available support services. By creating a learning atmosphere that values both academic challenge and emotional well-being, universities can help students develop resilience and perform at their best without compromising mental health.

2. Promote Reflection on Family and Emotional Backgrounds

University educators and counseling services can support students in understanding the impact of early family environments on current emotional functioning. While educators cannot change students' upbringing, they can facilitate personal growth by offering opportunities for reflection and self-understanding. Workshops, seminars, or writing exercises focused on emotional identity and family dynamics can help students process emotional patterns inherited from their past. Counseling centers can also incorporate techniques such as narrative therapy or genogram work to assist students in examining their emotional roots. Encouraging these reflections does not aim to assign blame but to empower students with greater emotional autonomy. By helping students recognize how past experiences influence present behavior, educators contribute to their ability to choose more adaptive emotional responses and move toward psychological independence.

3. Embed Emotional Skills Training in the Curriculum

To emphasize the role of emotional self-efficacy and cognitive control in emotion regulation, universities should integrate emotional learning into general education or co-curricular programming. Emotional intelligence workshops, resilience-building seminars, and skill-based courses on self-regulation can be designed to equip students with practical tools for managing emotions in daily life. These programs should include active methods such as role-plays, peer feedback, and applied self-reflection to encourage engagement and internalization. Faculty across disciplines can incorporate brief emotional regulation practices into their teaching, for example, starting classes with mindfulness exercises or promoting respectful dialogue during discussions. Institutions that treat emotional competence as part of academic success not only enhance student well-being but also cultivate more focused, adaptable, and collaborative learners who are better prepared for personal and professional challenges.

4. Support Executive Function Development

Since cognitive control contributes significantly to students' ability to regulate emotions, universities can play a role in strengthening students' executive functioning skills. This can be achieved through structured support such as academic coaching,

concentration training workshops, and time management programs. Creating study spaces that minimize distractions, offering digital literacy courses, and encouraging goal-setting practices can further support cognitive regulation. Additionally, curriculum design can incorporate metacognitive activities, such as self-assessment tasks and learning reflections, that train students to monitor and adjust their own thinking. Mental flexibility and inhibitory control are not just cognitive skills, but also emotional tools that help students resist unhelpful impulses and shift perspectives in emotionally charged situations. By intentionally fostering executive function alongside academic content, universities enhance students' ability to stay mentally and emotionally regulated.

5. Guide Responsible Social Media Use

As social media plays an increasingly central role in student life, universities should actively promote digital well-being. Educators and student affairs professionals can design awareness campaigns and host discussions about healthy digital habits, online identity, and the emotional effects of social media overuse. Courses on media literacy can address how algorithms shape emotional exposure and how students can navigate online environments critically and consciously. Peer-led programs can also be effective in promoting social connection without overdependence on digital platforms. Encouraging offline engagement through campus events, volunteering, or clubs provides alternative sources of emotional support and satisfaction. By fostering a culture of balanced technology use, universities help students build sustainable emotional routines that integrate, rather than compete with, their offline mental health goals.

5.6 Suggestions for Further Research

The study investigated seven factors affecting the emotion regulation of undergraduate students in China: authoritative parenting style, authoritarian parenting style, permissive parenting style, academic stress, regulatory emotional self-efficacy, cognitive control, and social media use. Although the findings provide theoretical insights and practical implications, there remain some areas where further research is warranted in order to deepen and expand this line of inquiry.

First, future research should expand the sample source to enhance the representativeness and generalizability of the research results. The sample of this study is limited to senior students of a faculty of education in a certain university in Yunnan Province, which cannot fully reflect the emotion regulation characteristics of undergraduate students in different regions and majors across the country. Therefore, it is recommended that subsequent research include student samples from different grades, professional backgrounds and geographical regions, especially covering variables such as urban-rural differences, family socioeconomic background, and cultural identity, so as to more comprehensively reveal the social and cultural background and group differences of emotion regulation. This will help identify the potential influencing mechanisms of factors such as gender, major, and growth environment in the process of emotion regulation.

Second, future research can adopt more diverse and rigorous research methods to enhance the depth and scientificity of the research. This study used a quantitative questionnaire method, which can identify the correlation between variables, but it is difficult to reveal its causal mechanism and development process. It is recommended that longitudinal research can be carried out in the future to track the changes in students' emotion regulation ability at various stages of college; at the same time, qualitative methods (such as interviews and focus groups) can be combined to gain an in-depth understanding of students' regulation experience and decision-making process in specific situations. In addition, experimental methods or neuropsychological measurement tools, such as working memory tasks and emotional interference tests, can also be introduced to more objectively capture the interaction between emotion regulation and cognitive control. The use of mixed research methods will help integrate macro trends and micro mechanisms and build a more complete theoretical model.

Third, future research should further promote the transformation of theory into practice, and develop and evaluate intervention programs for college students' emotion regulation ability. This study found that emotion regulation self-efficacy and cognitive control ability are important predictors of effective emotion regulation. Therefore, it is

recommended to develop psychological training programs suitable for college students based on theoretical frameworks such as cognitive behavioral therapy, mindfulness training or emotional intelligence improvement, such as group counseling courses, university elective courses or digital mental health tools. At the same time, it is also possible to explore the integration of multiple resources such as families, mentors, and school psychological counseling centers to build an ecological emotional support system. Relevant intervention studies should focus on the long-term effectiveness of the project and evaluate its role in promoting students' academic performance, mental health level and social adaptability.

In summary, future research should continue to deepen in terms of expanding sample diversity, adopting multiple research methods, and promoting intervention empirical research. This will not only help to improve the theoretical system of undergraduate emotion regulation, but also provide a feasible path and scientific basis for the practice of mental health education in colleges and universities.

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APPENDIX

APPENDIX 1

Emotion Regulation And Factors Affecting Emotion Regulation Questionnaire (Index of Item-Objective Congruence)

Variables Scale	NO.	Statement	N of Experts	IOC
\	1	Age(years)		
\	2	Gender(Male/ Female)		
Emotion Regulation	1	When I feel happy, I will change my thoughts, such as "This is great, and I deserve it."	3	1.00
	2	When I want to feel less sad or angry, I change my thoughts, such as "Forget it, maybe he/she is just having a bad day."		1.00
	3	When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.		1.00
	4	When I feel happy, I change the way I think about my situation.		1.00
	5	I control my emotions by changing the way I think about my current situation.		1.00
	6	When I want to feel less sad or angry, I change the way I think about my situation.		1.00
	7	I keep my emotions to myself.		1.00
	8	When I am feeling happy, I am careful not to express it.		1.00
	9	I control my emotions by not expressing them.		1.00
	10	When I feel sadness or anger, I don't express it.		1.00
Authoritative Parenting Style	1	My parents always encouraged me to communicate verbally whenever I felt that family rules and restrictions were	3	1.00

		unreasonable.		
	2	As I was growing up, I knew what my parents expected of me in the family, but I also felt free to discuss those expectations with them when I thought they were unreasonable.		1.00
	3	As I was growing up, my parents directed the activities and decisions of the children in the family through reasoning and discipline.		1.00
	4	My parents pointed out my mistakes in a way that I could understand.		1.00
	5	As I was growing up, my parents consistently gave me direction and guidance in rational and objective ways.		1.00
Authoritarian Parenting Style	1	As I was growing up, my parents didn't allow me to question any of the decisions they made.	3	1.00
	2	Whenever my parents told me to do something as I was growing up, they expected me to do it immediately without asking any questions.		1.00
	3	My parents have always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.		1.00
	4	My mother (father) felt that wise parents should teach their children early just who is the boss in the family.		1.00
	5	Even if their children didn't agree with them, my parents felt that it was for our good if we were forced to conform to what they thought was right.		1.00
Permissive Parenting Style	1	As I was growing up, my parents seldom gave me expectations and guidelines for my behavior.	3	1.00
	2	While I was growing up, my parents felt that in a well-run home, the children should have their way in the family as often as the parents do.		1.00

	3	My parents have always felt that what children need is to be free to make their own decisions, and to do what they want to do, even if this doesn't agree with their parents' wishes.		1.00
	4	As I was growing up, my parents didn't feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.		1.00
	5	Most of the time as I was growing up, my parents did what the children in the family wanted when making family decisions.		1.00
Academic Stress	1	I feel that sometimes the amount of information provided by the teacher is too much, making it difficult for me to learn and absorb the knowledge effectively.	3	1.00
	2	I feel that there is a vast difference between my current results and my high school results.		1.00
	3	I feel that the competition with my peers for grades is quite intense.		1.00
	4	I feel that my parents' expectations stress me out.		1.00
	5	When I have to give a speech or presentation, I get nervous or worry that I will not perform well and be judged by my classmates.		1.00
	6	I feel that after I entered university, my performance was not as good as I had expected.		1.00
	7	I feel that there is open strife and veiled struggles among classmates due to academic performance.		1.00
	8	I'm worried that I'll fail my courses this year.		1.00
	9	I find it difficult to effectively balance and schedule my time between academic and social activities.		1.00
	10	Even if I pass my exams, I am worried about getting a job.		1.00
	1	I think I feel satisfied when I accomplish the goals I set for myself.	3	1.00
	2	I think I can be very happy about my success.		1.00

Regulatory Emotional Self-Efficacy	3	I think I can express enjoyment freely in social situations.	3	1.00
	4	I think I can express joy when good things happen to me.		1.00
	5	I believe I can successfully pick myself up after unpleasant things happen to me.		1.00
	6	I believe when I get really scared, I can successfully calm myself down again.		1.00
	7	I think when I face difficulties, I can effectively avoid becoming discouraged.		1.00
	8	I think I can avoid flying off the handle when I get angry.		1.00
	9	I believe I can keep from getting dejected when I experience negative emotions.		1.00
	10	I think I can get over irritation quickly for wrongs I have experienced.		1.00
Cognitive Control	1	I can stay focused even when I have upsetting thoughts or feelings.	3	1.00
	2	My thoughts and emotions do not interfere with my ability to concentrate.		1.00
	3	I can easily let go of intrusive thoughts or emotions.		1.00
	4	I find it easy to put aside unpleasant thoughts or emotions.		1.00
	5	I feel like I can control my thoughts and emotions.		1.00
	6	It's easy for me to ignore distracting thoughts.		1.00
	7	I can easily shift my focus away from negative thoughts or feelings.		1.00
	8	I am good at regaining cognitive focus.		1.00
	9	I control my thoughts and feelings by considering the specific situation.		1.00
Social Media Use	1	When I'm not logged into social media, I feel disconnected from my friends.	3	1.00

	2	I enjoy browsing content shared by others on social media.		1.00
	3	I use social media to feel more connected with others when I feel alone.		1.00
	4	I would be disappointed if I couldn't use social media at all.		1.00
	5	I like to use social media.		1.00
	6	I get upset when I can't log on to social media.		1.00
	7	Using social media is part of my daily life.		1.00
	8	I think that my life would be less enjoyable and tasteless without social media.		1.00
	9	Social media plays an important role in my social relationships.		1.00
	10	I comment on content shared by others on social media.		1.00



APPENDIX 2

Emotion Regulation And Factors Affecting

Emotion Regulation Questionnaire (Corrected Item-Total Correlation)

Variables Scale	NO.	Statement	CITC
\	1	Age(years)	
\	2	Gender(Male/ Female)	
Emotion Regulation	1	When I feel happy, I will change my thoughts, such as "This is great, and I deserve it."	0.736
	2	When I want to feel less sad or angry, I change my thoughts, such as "Forget it, maybe he/she is just having a bad day."	0.716
	3	When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.	0.736
	4	When I feel happy, I change the way I think about my situation.	0.876
	5	I control my emotions by changing the way I think about my current situation.	0.794
	6	When I want to feel less sad or angry, I change the way I think about my situation.	0.714
	7	I keep my emotions to myself.	0.752
	8	When I am feeling happy, I am careful not to express it.	0.711
	9	I control my emotions by not expressing them.	0.810
	10	When I feel sadness or anger, I don't express it.	0.761
Authoritative Parenting Style	1	My parents always encouraged me to communicate verbally whenever I felt that family rules and restrictions were unreasonable.	0.678
	2	As I was growing up, I knew what my parents expected of me in the family, but I also felt free to discuss those expectations with them when I thought they were unreasonable.	0.721

	3	As I was growing up, my parents directed the activities and decisions of the children in the family through reasoning and discipline.	0.684
	4	My parents pointed out my mistakes in a way that I could understand.	0.660
	5	As I was growing up, my parents consistently gave me direction and guidance in rational and objective ways.	0.703
Authoritarian Parenting Style	1	As I was growing up, my parents didn't allow me to question any of the decisions they made.	0.709
	2	Whenever my parents told me to do something as I was growing up, they expected me to do it immediately without asking any questions.	0.751
	3	My parents have always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.	0.843
	4	My mother (father) felt that wise parents should teach their children early just who is the boss in the family.	0.682
	5	Even if their children didn't agree with them, my parents felt that it was for our good if we were forced to conform to what they thought was right.	0.706
Permissive Parenting Style	1	As I was growing up, my parents seldom gave me expectations and guidelines for my behavior.	0.706
	2	While I was growing up, my parents felt that in a well-run home, the children should have their way in the family as often as the parents do.	0.783
	3	My parents have always felt that what children need is to be free to make their own decisions, and to do what they want to do, even if this doesn't agree with their parents' wishes.	0.742
	4	As I was growing up, my parents didn't feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.	0.808
	5	Most of the time as I was growing up, my parents did what the children in the family wanted when making family decisions.	0.527
	1	I feel that sometimes the amount of information provided by the teacher is too much, making it difficult for me to learn and absorb the knowledge effectively.	0.730

Academic Stress	2	I feel that there is a vast difference between my current results and my high school results.	0.604
	3	I feel that the competition with my peers for grades is quite intense.	0.732
	4	I feel that my parents' expectations stress me out.	0.691
	5	When I have to give a speech or presentation, I get nervous or worry that I will not perform well and be judged by my classmates.	0.674
	6	I feel that after I entered university, my performance was not as good as I had expected.	0.611
	7	I feel that there is open strife and veiled struggles among classmates due to academic performance.	0.758
	8	I'm worried that I'll fail my courses this year.	0.705
	9	I find it difficult to effectively balance and schedule my time between academic and social activities.	0.680
	10	Even if I pass my exams, I am worried about getting a job.	0.731
Regulatory Emotional Self-Efficacy	1	I think I feel satisfied when I accomplish the goals I set for myself.	0.820
	2	I think I can be very happy about my success.	0.767
	3	I think I can express enjoyment freely in social situations.	0.697
	4	I think I can express joy when good things happen to me.	0.827
	5	I believe I can successfully pick myself up after unpleasant things happen to me.	0.779
	6	I believe when I get really scared, I can successfully calm myself down again.	0.778
	7	I think when I face difficulties, I can effectively avoid becoming discouraged.	0.603
	8	I think I can avoid flying off the handle when I get angry.	0.669
	9	I believe I can keep from getting dejected when I experience negative emotions.	0.572
	10	I think I can get over irritation quickly for wrongs I have experienced.	0.541

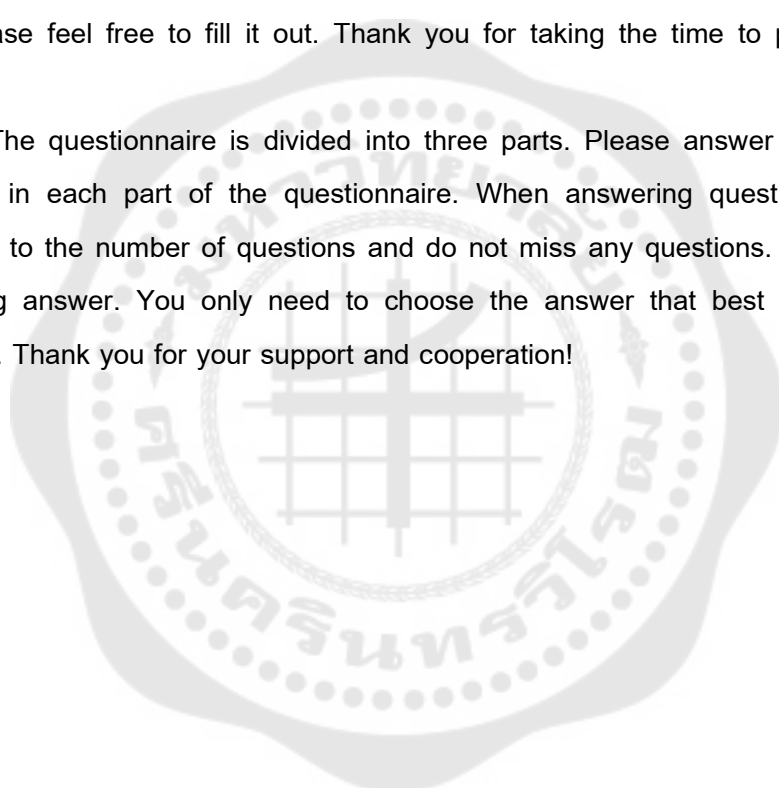
Cognitive Control	1	I can stay focused even when I have upsetting thoughts or feelings.	0.681
	2	My thoughts and emotions do not interfere with my ability to concentrate.	0.755
	3	I can easily let go of intrusive thoughts or emotions.	0.696
	4	I find it easy to put aside unpleasant thoughts or emotions.	0.762
	5	I feel like I can control my thoughts and emotions.	0.591
	6	It's easy for me to ignore distracting thoughts.	0.591
	7	I can easily shift my focus away from negative thoughts or feelings.	0.647
	8	I am good at regaining cognitive focus.	0.753
	9	I control my thoughts and feelings by considering the specific situation.	0.620
Social Media Use	1	When I'm not logged into social media, I feel disconnected from my friends.	0.586
	2	I enjoy browsing content shared by others on social media.	0.703
	3	I use social media to feel more connected with others when I feel alone.	0.567
	4	I would be disappointed if I couldn't use social media at all.	0.760
	5	I like to use social media.	0.640
	6	I get upset when I can't log on to social media.	0.553
	7	Using social media is part of my daily life.	0.799
	8	I think that my life would be less enjoyable and tasteless without social media.	0.728
	9	Social media plays an important role in my social relationships.	0.620
	10	I comment on content shared by others on social media.	0.551

APPENDIX 3

Emotion Regulation And Factors Affecting Emotion Regulation Questionnaire

This questionnaire will be used to study the factors that affect the emotion regulation of Chinese undergraduate students. The data of the participants will be collected and processed anonymously. The content of this questionnaire is for research purposes only and will not cause any adverse effects on your daily study, work, and life. Please feel free to fill it out. Thank you for taking the time to participate in this survey.

The questionnaire is divided into three parts. Please answer according to the prompts in each part of the questionnaire. When answering questions, please pay attention to the number of questions and do not miss any questions. There is no right or wrong answer. You only need to choose the answer that best suits your actual situation. Thank you for your support and cooperation!



SECTION 1 PERSONAL INFORMATION

This section is designed to collect some basic personal information from you.
Please fill in the information as instructed by each question.

No.	Statement	Answer Sheet
Personal Information		
1	Age(years)	
2	Gender(Male/ Female)	

SECTION 2 EMOTION REGULATION

This section aims to understand some of your emotion regulation situations. For the following descriptions, please select according to your actual situation and use “√” in the corresponding box to select the options that match your point of view. “Strongly Disagree” means that you completely disagree with the statement and your attitude is very strong; “Disagree” means that you disagree with the statement, but your attitude is relatively weak; “Neutral” means that you have no clear attitude towards the statement, neither agree nor disagree; “Agree” means that you agree with the statement, but your attitude is relatively weak; “Strongly Agree” means that you agree with the statement very much and your attitude is strong.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Emotion Regulation						
1	When I feel happy, I will change my thoughts, such as “This is great, and I deserve it.”	1	2	3	4	5
2	When I want to feel less sad or angry, I change my thoughts, such as “Forget it, maybe he/she is just having a bad day.”					
3	When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.					
4	When I feel happy, I change the way I think about my situation.					

5	I control my emotions by changing the way I think about my current situation.					
6	When I want to feel less sad or angry, I change the way I think about my situation.					
7	I keep my emotions to myself.					
8	When I am feeling happy, I am careful not to express it.					
9	I control my emotions by not expressing them.					
10	When I feel sadness or anger, I don't express it.					

SECTION 3 FACTORS AFFECTING EMOTION REGULATION

This section aims to understand the factors that affect your emotion regulation. For the following descriptions, please choose according to your actual situation and use “√” to select the options that match your views in the corresponding boxes. “Strongly Disagree” means that you completely disagree with the statement and your attitude is very strong; “Disagree” means that you disagree with the statement, but your attitude is relatively weak; “Neutral” means that you have no clear attitude towards the statement, neither agree nor disagree; “Agree” means that you agree with the statement, but your attitude is relatively weak; “Strongly Agree” means that you agree with the statement very much and your attitude is strong.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Authoritative Parenting Style						
1	My parents always encouraged me to communicate verbally whenever I felt that family rules and restrictions were unreasonable.	1	2	3	4	5
2	As I was growing up, I knew what my parents expected of me in the family, but I also felt free to discuss those expectations with them when I thought they were unreasonable.					
3	As I was growing up, my parents directed the activities and decisions of the children in the family through reasoning and discipline.					

4	My parents pointed out my mistakes in a way that I could understand.					
5	As I was growing up, my parents consistently gave me direction and guidance in rational and objective ways.					
Authoritarian Parenting Style						
6	As I was growing up, my parents didn't allow me to question any of the decisions they made.					
7	Whenever my parents told me to do something as I was growing up, they expected me to do it immediately without asking any questions.					
8	My parents have always felt that more force should be used by parents in order to get their children to behave the way they are supposed to.					
9	My mother (father) felt that wise parents should teach their children early just who is the boss in the family.					
10	Even if their children didn't agree with them, my parents felt that it was for our good if we were forced to conform to what they thought was right.					

Permissive Parenting Style						
11	As I was growing up, my parents seldom gave me expectations and guidelines for my behavior.					
12	While I was growing up, my parents felt that in a well-run home, the children should have their way in the family as often as the parents do.					
13	My parents have always felt that what children need is to be free to make their own decisions, and to do what they want to do, even if this doesn't agree with their parents' wishes.					
14	As I was growing up, my parents didn't feel that I needed to obey rules and regulations of behavior simply because someone in authority had established them.					
15	Most of the time as I was growing up, my parents did what the children in the family wanted when making family decisions.					
Academic Stress						
16	I feel that sometimes the amount of information provided by the teacher is too much, making it difficult for me to learn and absorb the knowledge effectively.					

17	I feel that there is a vast difference between my current results and my high school results.					
18	I feel that the competition with my peers for grades is quite intense.					
19	I feel that my parents' expectations stress me out.					
20	When I have to give a speech or presentation, I get nervous or worry that I will not perform well and be judged by my classmates.					
21	I feel that after I entered university, my performance was not as good as I had expected.					
22	I feel that there is open strife and veiled struggles among classmates due to academic performance.					
23	I'm worried that I'll fail my courses this year.					
24	I find it difficult to effectively balance and schedule my time between academic and social activities.					
25	Even if I pass my exams, I am worried about getting a job.					

Regulatory Emotional Self-Efficacy						
26	I think I feel satisfied when I accomplish the goals I set for myself.					
27	I think I can be very happy about my success.					
28	I think I can express enjoyment freely in social situations.					
29	I think I can express joy when good things happen to me.					
30	I believe I can successfully pick myself up after unpleasant things happen to me.					
31	I believe when I get really scared, I can successfully calm myself down again.					
32	I think when I face difficulties, I can effectively avoid becoming discouraged.					
33	I think I can avoid flying off the handle when I get angry.					
34	I believe I can keep from getting dejected when I experience negative emotions.					
35	I think I can get over irritation quickly for wrongs I have experienced.					

Cognitive Control						
36	I can stay focused even when I have upsetting thoughts or feelings.					
37	My thoughts and emotions do not interfere with my ability to concentrate.					
38	I can easily let go of intrusive thoughts or emotions.					
39	I find it easy to put aside unpleasant thoughts or emotions.					
40	I feel like I can control my thoughts and emotions.					
41	It's easy for me to ignore distracting thoughts.					
42	I can easily shift my focus away from negative thoughts or feelings.					
43	I am good at regaining cognitive focus.					
44	I control my thoughts and feelings by considering the specific situation.					
Social Media Use						
45	When I'm not logged into social media, I feel disconnected from my friends.					

46	I enjoy browsing content shared by others on social media.					
47	I use social media to feel more connected with others when I feel alone.					
48	I would be disappointed if I couldn't use social media at all.					
49	I like to use social media.					
50	I get upset when I can't log on to social media.					
51	Using social media is part of my daily life.					
52	I think that my life would be less enjoyable and tasteless without social media.					
53	Social media plays an important role in my social relationships.					
54	I comment on content shared by others on social media.					

VITA

