# Managing emotion dysregulation through positive emotions: A systematic review.

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#### **Abstract**

Emotion dysregulation is one of the leading factors of many psychological problems and psychopathology in children & adolescents while learning to manage dysregulation acts as a protective. A plethora of studies have targeted negative emotions & their management while positive emotions and their impact on emotion management have not been explored in depth. Thus, the current study addresses this gap by conducting systematic literature to investigate the role of positive emotions in emotion regulation across childhood & adolescence that can be beneficial in managing emotions. It was conducted across PubMed & JSTOR databases. The review included cross-sectional, longitudinal, quasi-experimental and experimental studies studying the influence of positive emotions on enhancing emotion regulation. The outcomes of this review are promising and suggest implications for designing interventions for enhancing emotion regulation in children & adolescents using positive emotions.

**Keywords:** Emotion Dysregulation, Positive Emotions, Positive Psychology, Interventions.

#### Introduction

#### **Emotion regulation**

Emotion Regulation (ER) is a process wherein individuals have control over which emotions to have, timing to have those emotions, & how emotions can be experienced & expressed [1-3].

Various studies have been conducted in the area of emotion regulation across all age groups. It is observed that healthy ER produces significant outcomes like higher social competence, prosocial behaviour, better accomplishments in career [4-6], increased experience & expression of positive emotions [7], and decreased chances of psychopathology [8, 9]. Identification and use of adaptive strategies can help to deal with challenging situations effectively and can help in building resilience in long term.

## Need for emotion regulation Across Children and Adolescents

Emotion regulation is known to decrease from age 14 onwards till 18 years [10]. The reason could be internalization of different forms of emotion regulation which may be unhealthy due to biological and socialization factors. Knowing this, there is a need to understand emotion regulation in adolescence

& identify and apply appropriate strategies which can help adolescents and even children to regulate emotions effectively.

#### Positive emotions and emotion regulation

Most of the previous studies have focused on emotion regulation in context with managing negative emotions since their action tendencies are specific and thus, very less focus has been given to the role of positive emotions in regulating emotions. However, regulation of positive emotions is crucial because unhealthy positive emotion regulation can lead to lead to different forms of psychopathology including depression, anxiety disorders, substance use disorders [8, 11-15].

Positive emotions as stated by Fredrickson [16], tend to expand a person's thought-action tendency or repertoire which in turn can be beneficial in producing remarkable outcomes like enhanced emotional well-being, life satisfaction, positive affect [17,18]. So, targeting positive emotions and enhancing their regulation can be helpful in emotion regulation & in producing other significant outcomes. There is some literature in this area across adults but among children & adolescents is limited, and thus this review aims to assess the role positive emotions may play in emotion regulation across children & adolescents.

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#### Research Questions

The current study plans to answer the following questions:

- 1. Are positive emotions beneficial for long-term healthy emotion regulation across development?
- 2. Are positive emotions associated with a reduction in emotion dysregulation across development?
- 3. Do positive emotions act as protective factors in the prevention of psychopathology across development?
- 4. Is positive psychotherapy beneficial for healthy emotion regulation across development?

#### Research Objectives

The aim of this paper is to provide a systematic review of positive emotions for emotion regulation. It includes the following objectives: (a) to examine the role of positive emotions in emotion regulation, (b) to study the influence of positive emotion regulation in emerging adults, (c) to examine the protective role of positive emotions against psychopathology, & (d) to explore if a gender difference exists in positive emotion regulation across childhood and adolescence.

#### **Methods**

#### Selection of articles

In Figure 1, selection of articles extracted systematically using PRISMA are presented. Examining this figure, the articles were collected from databases namely PubMed and JSTOR.

This review followed guidelines of the PRISMA model (Preferred Reporting Items for Systematic Reviews excluding meta-analysis). The key words for the search strategy included "positive emotions and emotion regulation in adolescents", "role of positive emotions in emotion regulation", positive psychology interventions and emotion regulation in children & adolescents.

The review included studies investigating the healthy and unhealthy population among emerging adults. Some studies also included older age groups. The studies focusing on positive emotion regulation and the role of positive emotions in emotion regulation in emerging adults were of prime focus.

Researches were included if

- 1. They were conducted in English between 2015 & 2022,
- Assessed emotion regulation strategy in children & adolescents

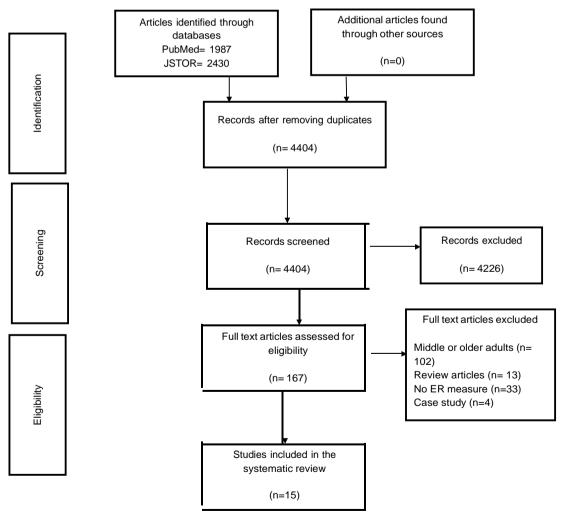


Figure 1. Diagram of articles extracted systematically using PRISMA

- 3. Studied positive psychology interventions in emerging adulthood population
- 4. Are conducted in clinical or non-clinical populations.

After the screening, out of 4417 articles, 15 articles were selected for the main study (Figure 1 & Table 1).

#### **Results**

The studies have been categorized as follows: crosssectional studies focusing on various aspects of emotion regulation across different age groups, experimental studies on targeting emotion regulation as an outcome or a treatment measure to produce different outcomes, a quasi-experimental study targeting both positive & negative emotions among adolescents, & a longitudinal study studying positive emotion regulation across different age groups.

#### Cross-sectional studies

Ten studies examined the relationship of various constructs

in context with ER, studied various adaptive & maladaptive ER strategies which have been extensively used & strategies that are not used widely yet are significant. Few studies also investigated the association of positive emotions & positive psychology constructs with different facets of emotion regulation & different outcome measures.

In a study by Fussner, Luebbe & Bell, the relation between deficits in positive emotions & depressive symptoms in adolescents was assessed [19]. It was found that decreased Positive Affect (PA) was linked with depressive symptoms in contexts where negative emotions were produced but was unrelated to depressive symptoms in situations where positive emotions were produced. However, a short duration of PA after the reward task was linked with increased depressive symptoms, indicating that the persistence of PA is linked with depressive symptoms [17]. This study gives indicates the importance of frequency of positive emotions in the development or maintenance of depressive symptoms. Keeping this mind, future studies can focus on targeting the

Table 1: Description of studies included in the study.

	Author	Country	Mean age/ range	Sample size	Design	Outcome Measures
1	Schunk, Trommsdorff & Konig-Teshnizi	Japan, Germany	19-21 years	1000	Cross-sectional	Emotion Regulation Questionnaire, Satisfaction with Life Scale, Centre of Epidemiologic Studies Depression Scale, Individualism & Collectivism Scale
2	Gasol et al.,	Spain	12 years	93	Quasi- experimental, pre- post design	12-item anonymous survey Satisfaction with Life Scale, Strengths & Difficulties Questionnaire, Difficulties in Emotion Regulation
3	Doorley & Kashdan	USA	19 years	67	Cross-sectional	Positive and Negative Affect Schedule-Extended Form, Ways of Savoring Checklist, Aldridge-Gerry & colleagues' Daily Coping Scale
5	Wilson & MacNamara	USA	18-19 years	49	Experimental	Electrooculogram, Electroencephalogram
6	Ma, Bryant & Hou, (2020)	China	18-77 years	300	Longitudinal	Savoring Beliefs Inventory, Responses to Positive Affect Scale, Chinese Affect Scale
7	Everaert et al.,	USA	18 years & above	Study 1: 250 Study: 294	Cross-sectional	Beck Depression Inventory II, Liebowitz Social Anxiety Scale, Responses to Positive Affect Scale, Perseverative Thinking Questionnaire, Cognitive Emotion Regulation Questionnaire
8	Yamaguchi, Ito & Takebayashi,	Tokyo, Japan	18-29 years	759	Cross-sectional	Emotion Regulation Questionnaire, Rumination and Reflection Questionnaire-Shorter Version, Affective Style Questionnaire, Positive and Negative Affect Scale, Hospital Positive Emotion in Distress ScaleAnxiety & Depression Questionnaire,
9	Littman-Ovadia & Russo-Netzer	Israel	17-87 years	604	Cross-sectional	Positive and Negative Affect Scale, Prioritizing Positivity Scale
10	Beveren et al.,	Belgium	7-16 years	1655	Cross-sectional	Positive and Negative Affectivity Schedule for Children, Early Adolescent Temperament Questionnaire-Revised, FEEL-KJ, Child Depression Inventory
11	Ma, Tamir & Miyamoto	USA, Japan, India, China, Singapore, Vietnam, South Korea, Malaysia	18-19 years	Study 1: 140 Study 2: 81 Study 3: 110 Study 4: 143	Cross-sectional, experimental	Emotion Regulation Scale, Positive and Negative Affect Scale, Rosenberg Self-Esteem Scale
12	Wante et al.	Belgium	10-14 years	260	Experimental, between- subject design, randomized- groups design	Children's Depression Inventory, Visual Analogue Scales
13	Meier, Cho & Dumani	USA	16-70 years	Study 1: 131 Study 2: 86 Study 3: 74	Cross-sectional, Experimental, randomized control	Profile of Mood States, Positive and Negative Affect Schedule-Extended Form
14	Kearns & Creaven	Ireland	18-56 years	116	Cross-sectional	Emotion Regulation Questionnaire-Revised Version, UCLA Lonliness Scale, Short-form Social Support Questionnaire
15	Fussner, Luebbe & Bell	Missouri, USA	12-16 years	134	Cross-sectional	The Children's Depression Inventory, System for Coding Interactions of Family Functioning, Positive Affect Experience

frequency of positive emotions which can further help in prevention of depressive symptoms among adolescents.

Another study by Kearns & Creaven investigated the individual differences between emotion regulation & loneliness [20]. It was seen that the strategies namely positive reappraisal, being present or savoring & negative time travel or dampening were linked with loneliness, out of which positive reappraisal was linked the most among all the strategies. Interestingly, emotion regulation styles predicted loneliness in the study while diversity of strategies did not predict. Moreover, substance use, acting out & attention reorientation were linked with loneliness. This research helps to understand how different strategies associate with loneliness.

Interestingly, the role of culture between emotions, emotion regulation strategies & different mental health components was studied in a few studies in adolescents & adults. Schunk, Trommsdorff & Konig-Teshnizi reported that across German & Japanese cultures, distraction strategy, in dealing with negative emotions, was linked with enhanced subjective wellbeing, lower depressive features, & with lower subjective wellbeing levels & higher depressive symptoms when dealing with positive ones [21]. In addition, rumination predicted lower subjective well-being levels & higher depressive symptoms in both cultures. Interestingly, among Germans, reappraisal, acceptance, empathic suppression & savoring were the most prominently reported strategies while among Japanese, highly described ones were rumination (in negative events), distraction & empathic suppression in positive events. Cultural similarities were observed in attentional deployment & cognitive change strategies while differences were noted among the response modulation strategies.

Ma, Tamir & Miyamoto found that Americans were more inclined towards situations & tasks where positive emotions had positive outcomes (like studying, working, interacting with others), were engaged in those situations which needed higher cognitive effort, & savored positive emotions more than Asians [22]. This study clearly indicates the differences in regulating positive emotions across western & eastern cultures. Causal studies are needed to understand positive emotion regulation in eastern cultures and subsequently planning ways to help individuals regulate these emotions.

Few studies have explored the inflexibility in revising negative emotions in late adolescents & adults & have observed that, this inflexibility was linked with increased dampening of positive emotions, depressive & social anxiety symptoms. And dampening was further linked with positive interpretation bias [23].

Positive emotions and positive psychology constructs may influence emotion regulation directly or indirectly. A few studies have investigated the efficacy of different emotion regulation strategies on different outcomes. Doorley & Kashdan noted that higher social support, cognitive & behavioural avoidance, each was linked with higher frequency of negative emotions [22]. However, problem solving &

cognitive reappraisal predicted higher positive emotions & less negative ones. Moreover, savoring predicted enhanced positive emotions & decreased negative ones (sadness, annoyance & average negative emotions except anger. Among all the strategies, cognitive reappraisal was the only one which predicted higher positive emotions while acceptance predicted lower negative ones. Savoring & acceptance acted as buffers against the negative outcomes of emotions. Thus, from this study, it is clear that cognitive reappraisal, savoring & acceptance were the most influential strategies in changing an emotional outcome. Future studies can plan to use these strategies in devising interventions to help athletes build resilience & a repertoire of strategies to fight against the stressors. These strategies can further be explored in lower age groups to understand the efficacy among them.

Beveren et al., studied the impact of adaptive emotion regulation strategies in mediating the association between positive emotionality & depressive symptoms in children & adolescents [24]. It was seen that higher depressive symptoms were noted among individuals with low positive emotionality & high negative emotionality. Also, adaptive ER strategies mediated the association between low positive emotionality & depressive symptoms partially such that positive emotionality predicted depressive features in the absence of strategies. Precisely, positive refocusing, problem solving & forgetting acted as partial mediators & reappraisal, acceptance & distraction did not show any mediation. Positive refocusing also mediated the association between negative emotionality & depressive symptoms. Moreover, positive emotionality was positively linked with reappraisal & acceptance, & acceptance was linked negatively with negative emotionality. Positive & negative emotionality both were linked with distraction. across genders, negative emotionality leading to depressive symptoms was higher among females than males. Gender also moderated the association between higher negative emotionality & decreased total emotion regulation with stronger relationship among females than males. Observing the results of this study, future studies can work on working on enhancing positive emotionality to help reduce the symptoms in depressive youth or prevent the symptoms altogether.

There is a huge amount of literature where single strategies have been studied & their effectiveness has been examined. Littman-Ovadia & Russo-Netzer studied the usefulness of prioritizing positivity [25]. It was seen that prioritizing positivity was linked with increasing positive emotions among older adults and decreasing negative ones among adolescents & younger adults. Interpersonal relationship was one of the most crucial factors in generation & expression of emotions. Also, younger population engaged in pleasurable activities for enhancing positive emotions while older adults engage in interpersonal contacts. Similar study can be conducted in children & younger adolescents to assess the similarities & differences.

The influence of positive work reflection on affective wellbeing was explored in a research which observed that positive work reflection predicted serenity & reduced depressive mood during bedtime, & depressive mood the next morning (during leisure time) in the first study while in the second study it again predicted serenity, lower depressive & angry mood but was not linked with psychological detachment & joviality while negative work reflection was negatively linked with psychological detachment. In the last study, positive work reflection was positively linked with negative work reflection & negative reflection was linked negatively with psychological detachment. Surprisingly, here, positive work reflection did not predict serenity but predicted joviality, depressive & angry mood at bedtime & next morning. Moreover, intervention had no impact on well-being or work reflection. Positive work reflection was linked with enhanced well-being in context with positive & negative mood in the morning [26].

Some studies have constructed scales in relation to positive emotions and examined their efficacy on adolescents. Like, Yamaguchi, Ito & Takebayashi constructed a scale & reported that positive emotion in distress can predict depression but may not predict anxiety [24]. Moreover, the scale showed internal consistency & test-retest reliability. This scale needs to be delivered widely in order to establish a strong reliability & validity across different age groups and cultures, & then can be employed to screen individuals & plan interventions accordingly.

#### Experimental studies

Many studies have emphasized the role of positive emotions and positive psychology interventions to yield different outcomes like emotion regulation, subjective well-being, mental health & positive affect. Like, Wei, Wang & Kivlighan investigated whether positive emotions & positive relations enhance emotional cultivation & vice-versa in children & adolescents using BEAR strategies. It was seen that positive emotions (gratitude, psychological need satisfaction) & positive relations (teacher-student bond, perceived social support) predicted growth in emotional cultivation, & emotional cultivation also enhanced positive emotions & positive relations. This in turn led to an upward spiral towards higher well-being (personal, social & emotional wellbeing). This research has expanded broaden & build theory by adding positive relations since it is important for collectivistic cultures and can provide a safer base for children & adolescents to build emotional cultivation. This study used only two positive emotions. Future studies can employ different positive emotions to study the effects since each emotion follow a different trajectory altogether.

Savoring as a strategy has been really effective in many studies in adolescents to bring out various outcomes. Wilson & MacNamara reported that savoring enhanced the subjective & neural response to positive & neural images. Interestingly, savoring enhanced parieto-occipital & frontocentral late positive potential, which is indicative of cognitive effort among the individuals. Considering the results, it is clear that savoring can be used to for bringing a long-term change in positive emotions & it can act as buffer against

stress. Also, savoring can be used to examine the impact in different outcome areas as well [23].

Savoring has also been examined across eastern & western cultures. Ma, Tamir & Miyamoto observed that Americans were highly inclined towards situations & tasks wherein positive emotions had given positive results (like studying, interacting with others) and they were involved in situations which required higher cognitive effort. The Americans also savored more positive emotions than Asians. This study clearly reflects a clear demarcation in managing positive emotions across western & eastern cultures.

Another research examined the usefulness of different strategies through emotion regulation training on positive & negative affect among early adolescents & it was reported that distraction enhanced happy affect, decreased sad & anxious affect in the first study. Distraction had a stronger influence than talking to one's mother. In the second study, distraction yielded similar outcomes. When cognitive reappraisal was majorly employed than rumination, happy affect was significantly enhanced, & negative affect was reduced either reappraisal acceptance strategies were used. Keeping the advantages of each strategy, interventions can be planned to increase the intensity of using these strategies. In addition, these strategies can further be explored in middle & late adolescents since they have a different set of challenges [22].

An interesting study by Meier, Cho & Dumani on the impact of positive work reflection on affective well-being found that this work reflection predicted serenity & reduced depressive mood during bedtime, & depressive mood the nextmorning in the first study & in the second study along with serenity & lower depressive mood, it predicted lower angry mood while negative work reflection was negatively linked with psychological detachment. In the last study, positive work reflection was positively linked with negative workreflection while negative reflection was associated negatively with psychological detachment. Surprisingly, here, positive work reflection did not predict serenity but predicted joviality, depressive & angry mood. Positive work reflection was also linked with enhanced well-being in context with positive & negative mood in the morning.

#### Longitudinal Studies

Savoring have been an effective strategy as seen in previously mentioned studies but positive rumination has also been shown to be a useful strategy across different age groups. Ma, Bryant & Hou noted that savoring, trait emotion-focused & self-focused rumination was linked with increased positive emotions during positive situations & savoring was also linked with decreased negative emotions during negative events. Savoring through reminiscence & trait emotion-focused rumination was linked with a stronger positive relationship between positive events & positive emotions while individuals with lower or medium savoring levels (via anticipation) were linked with higher negative emotions during negative circumstances. A similar study can be

conducted in lower age groups to examine the efficacy in these age groups.

#### Quasi-experimental study

Gasol et al., examined the efficacy of Dialectical Behavioural Therapy (DBT)skills training program on early adolescents. It was found that the program led to the reduction of emotion regulation problems though the results were insignificant statistically. A slight reduction in emotional & behavioural problems was also observed & increase in pro- social behaviour & life satisfaction was also noted. But again, the results were not significant. However, the adolescents reported the intervention to be enjoyable & they informed that they were able to execute the skills in their lives to manage their emotions. The possible reasons for insignificant results could be absence of screening of adolescents with difficulties in managing emotions, absence of control group thus limiting the generalizability of the study, conduction of study at the time of COVID-19 & involvement of external factors impacting the study.

#### **Discussion**

The current review focused on studying the role of positive emotions in emotion regulation. Few cross-sectional studies were identified which emphasized the importance of positive emotions & emotion regulation strategies (example-gratitude, savoring) in different areas like subjective well-being, life satisfaction, happiness, positive affect. Various positive psychology strategies & activities including savoring, psychological need satisfaction, positive refocusing, prioritizing positivity have been successful in producing effective results in different age groups across the world [22, 23,26-30].

Moreover, influence of strategies like positive rumination, positive refocusing, psychological need satisfaction, positive work reflection on different outcomes has been explored less. Future studies can incorporate these strategies to examine their utility in different spheres in children & adolescents. Gender differences have also been explored less in most of the studies and that thus objective was not been able to be fulfilled [22, 24, 26, 29, 31].

In addition, contextual factors need to be explored and kept in mind so that the influence of different strategies is adequate. Lastly, it is observed that the inconsistency of positive emotions and their maladaptive regulation may lead to psychopathology, so this can help to take a step towards building interventions that can stimulate their regulation effectively.

#### Limitations

There are a few limitations to the current study. First, a comparative analysis of clinical & non-clinical studies was absent which could be further explored in future studies since the interventions which can be planned may or may not be effective for both clinical & non-clinical population. Second, though thorough research has been made to identify and collect the relevant articles, it is possible that some articles may have been missed due to the study's heterogeneity.

Third, the researcher was not able to report any Indian study, indicating that the results may not be conclusive in Indian culture. Future studies can explore these strategies in Indian context to examine their efficacy.

#### **Conclusion**

From this review, it is seen that positive emotions and positive psychology constructs can have an impact on the emotion regulation of different age groups. The studies however are limited across children and adolescents. The reason could be the challenges they face during this developmental transition which made it difficult for them to cope with the situations in a healthy manner even after learning the strategies. But understanding the challenges during this period, identifying appropriate positive psychology strategies which may be helpful during this transition, can be helpful in planning preventive interventions using positive psychology which will help the children to learn & develop new ER strategies which will aid in their development and may prevent psychopathology.

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