

Original article**Child temperament and emotion socialization by parents and its influence on emotion regulation by children**

Kriti Kaul, Rajani Konantambigi, Shalini Anant

Address for correspondence: School of Human Ecology, Tata Institute of Social Sciences, Mumbai. Email id: kritikaul.11@googlemail.com

Abstract

Background: Socialization processes are among the many influences which affect the development of individual differences in emotion regulation, along with biological predispositions and inclinations. Through this study, an attempt is being made to see how temperament, conceptualized as a biological construct and emotion socialization, an environmental variable, interact together and how they influence the use of specific emotion regulation strategies by the children. The study looked at exploring patterns of emotion socialization by parents, the temperament of children, emotion regulation by children and the interaction between these three variables.

Method: The study was conducted on a sample of 52 children aged between 10-12 years and their parents taken from a private school in Delhi. Data was collected using three questionnaires. The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) was administered to the children to assess their use of two emotion regulation strategies – Cognitive Reappraisal and Expressive Suppression. The Coping with Children's Negative Emotions Scale (CCNES) was used to assess parental responses to children's expression of negative emotions and the School age temperament inventory (SATI) was used to assess the temperament of the

children on four dimensions. Both these questionnaires were filled up by the parents. The data was analysed quantitatively using descriptive data, correlations, t-tests and regression analysis.

Results: Emotion regulation was not significantly related to emotion socialization by parents or with temperament. Multiple regression also did not find a significant predictive value. However, significant correlations were found between specific temperamental characteristics of the child and the use of parental responses to the child's negative emotions.

Conclusion: The study emphasized the need for studying emotion socialization as a comprehensive construct and understanding the relationship between temperament of the child and emotion socialization practices within a goodness-of-fit model. The findings have implications for looking at the unique cultural context within which the processes of emotion socialization and emotion regulation are embedded to foster more efficacious and customized interventions in the field of child development and mental health.

Keywords: Emotion regulation, temperament, parental emotions, socialization, goodness-of-fit

Introduction

Emotions permeate our daily existence, play many important roles in people's lives and have been the topic of scientific inquiry in psychology for well over a century [1]. Inextricably linked with emotion is emotion regulation, which can be seen as "the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features to accomplish one's goals" [2].

In the context of this research, emotion regulation has been conceptualized in terms of its two broad strategies – Cognitive reappraisal and expressive suppression. Cognitive reappraisal is defined as the attempt to reinterpret an emotion-eliciting situation in a way that alters its meaning

and changes its emotional impact [3]. It comes into picture before the complete activation of the emotional response has occurred and hence interrupts the full development of an emotion (resulting in a state in which there is little or no emotion to regulate). Thus, this strategy is considered to be a relatively non-effortful and effective form of regulating (negative) emotions. Research has indicated that reappraisal successfully reduces negative affect and/or increases positive affect [4].

Expressive suppression, on the other hand, is defined as the attempt to hide, inhibit or reduce ongoing emotion-expressive behaviour [3]. Expressive suppression comes relatively late into the picture after the emotion is already under way and the behavioural response has already been generated. Thus, suppression is seen as interrupting only the outward expression of an emotion when it is already present. As a result, regulating emotions via suppression is considered to be more effortful and less effective. In contrast to the use of cognitive reappraisal, the use of expressive suppression may come to produce undesirable effects such as decreased positive affect, increased physiological arousal, or memory impairments. Investigations also reveal better psychological health in the long term for individuals making greater use of cognitive reappraisal as an emotion regulation strategy.

Emotion socialization by parents

Emotion socialization or parents' emotion socialization is typically conceptualized as consisting of three broad behaviours – a) parental responses to the child's emotions, b) discussions with the child on emotions c) parents' own ways of emotion regulation and expressiveness which are then modelled by the child [5]. The current research has focused exclusively on one of these aspects – self-report of parents' responses to their child's emotions, particularly, negative emotions. In this context, it has been seen that parents' use of supportive and encouraging ways to responds to

their child's emotions helps in the development of emotional competence in children. For instance, emotion-focused responses (dealing with the emotional response itself) and problem-focused responses (dealing with the problem causing the emotion) to the children's emotions have been seen to promote children's ability for emotion labelling [6] and emotion regulation [7]. On the other hand, punitive, dismissive or minimizing reactions to the emotions expressed by the children lead to emotion suppression by the children, causing emotional distress, reduced ability to think about emotion-laden situations and lack of emotion understanding [8].

In an Indian study in Gujarat on the effects of emotion socialization by mothers in urban middle class families [9], children were categorized into one out of the four – those with internalizing problems, those with externalizing problems, those with somatic complaints and the asymptomatic control group. Data analysis revealed that mothers of children in the first three categories reported more negative emotions and punitive and minimizing reactions to their children's emotional responses than the mothers in the control group. Furthermore, mothers of children belonging to the somatic complaints group reported less sympathy as well as less emotion-focused and problem-focused responses to their children's emotional responses.

Temperament

Temperament is defined as the behavioural style of a person, distinguishing the aspect from the person's abilities and motivation [10]. It is looked at as a set of inherited personality traits that appear early in life. Another approach to temperament looks at it as individual differences in the primary emotions (those of joy, sadness, interest, anger, fear etc).

Temperament is defined "as early developing in tendencies to experience and express emotions, including their regulatory aspects" [11]. This approach views not only emotion, but also comes to include emotion regulation as a component of temperament. Yet another interesting view is

that emotion and emotion regulation may not be occurring at two distinct times in a situation but rather be interlinked and happening together, as in cases when the emotion is elicited by the influence of pre-existing regulatory processes, such as cortical inhibition or one's interpretation of the event [12]. This provides possibilities to investigate capacities for emotion regulation within the dimensions of temperament and to explore links between the two.

Linking emotion socialization and temperament with emotion regulation

The child's characteristics are in a constant interaction with the characteristics of the parents, as well as the various socialization influences provided by the parents themselves. Temperament is an important influence on the child's emotion regulation. Certain temperamental dimensions have been identified to influence the child's ability of regulating emotions. Major among these is the dimension of negative emotionality/reactivity –children who experience high levels of anger, irritability, fear, frustration, sadness are more likely to experience difficulty in emotion regulation [13, 5]. It has been found that behaviourally active children, characterized as having traits of impulsivity, preference for novelty, pleasure-seeking are more likely to experience frustration or anger when unable to achieve their desired goals. In the absence of optimum emotion regulation, they may end up developing externalizing problems, most typically aggression and problems with proper conduct [14]. On the other hand, children with a behaviourally inhibited temperament are more likely to have trouble regulating their fear and will require the development and training of appropriate emotion regulation strategies in this regard. In the absence of this, they are under risk of developing internalizing problems, most typically anxiety [15]. In such a scenario, they stand to benefit greatly from parental practices promoting supportive emotion socialization, but are also likely to be adversely affected by unsupportive emotion socialization practices such as minimization and punitive reactions [16].

Modifications in the parents' emotion socialization practices that are in sync with the child's temperament have been seen as a moderating influence that will help control the detrimental effects that the different temperament dispositions may come to result in. The characteristics of the child are essential in deciding which patterns of emotion socialization, as well as parenting practices, in a broader realm will be most suited to and beneficial for the child.

Method

Research Design

The study aimed at understanding a three way relationship between emotion regulation, emotion socialization and child temperament; in particular, how child temperament and emotion socialization mediate in the development of emotion regulation strategies among children. In the current study, a quantitative method was adopted to obtain a broad perspective of the interaction between the two independent variables of emotion socialization - which is conceptualized as an aspect of 'nurture'- and of child temperament, which is conceptualized as an aspect of 'nature'. Their influence on the development of emotion regulation strategies (dependent variable) among pre-adolescent children is explored. Pre-adolescents aged 10-11 years were studied as a sample because research has indicated that this is the time children begin to make use of more sophisticated and stable emotion regulation strategies [17].

Tools

a) Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA)

The ERQ-CA is a self-report questionnaire developed by Gross and John (2003) for children and adolescents [3]. It comprises of ten items tapping into the two major emotion regulation strategies of cognitive reappraisal and expressive suppression. Six items address the former while four items address the latter. The questionnaire comprises of a five point likert Scale,

ranging from 1= strongly disagree to 5= strongly agree. Responses measuring Cognitive Reappraisal consist statements such as “When I am worried about something, I make myself think about it in a way that makes me feel better” among others. Responses measuring expressive suppression consist of statements such as “When I am feeling sad, I am careful not to show it” among others.

b) Coping with Children’s Negative Emotions Scale (CCNES)

CCNES is a self-report measure for parents developed by Fabes, Eisenberg and Bernzweig [18]. It consists of twelve statements consisting of hypothetical situations and six responses for each statement are provided. The parent has to indicate the likelihood of his/her engaging in that response along a seven point likert scale ranging from 1=very unlikely to 7=very likely. Each response represents one category out of the six categories of responses to the child’s distressful emotional state. These six responses are the six sub scales of the test and these are distress reactions, punitive reactions, expressive encouragement, emotion focused reactions, problem focused reactions and minimization reactions.

c) School Age Temperament Inventory (SATI)

The SATI is an instrument designed for parents’ responses by McClowry (1995) [19] consisting of a total of 38 items and four subscales of negative reactivity, task persistence, approach/withdrawal and activity. These four sub scales tap into four different dimensions of temperament and are rated along a five point likert scale ranging from 1=never to 5=always. The parent has to indicate along this scale the likelihood of the child for engaging in each of the statements given. Higher scores on the four sub scales suggest that the child is high on experiencing negative affect, persists with activities and tasks despite obstacles, has a tendency to withdraw from new situations and people and is highly physically active respectively.

Procedure

Data was collected from two sections of Class 6th from a private school in North Delhi. The sample consisted of children mostly from middle and upper-middle class sections of the society. Convenience sampling was used. The ERQ-CA was administered to the children in the two sections by the researcher and another helper of the same field acquainted with the objectives of the research. It was emphasized to the children that there is no compulsion to fill up the questionnaire. Each of the questions was read aloud and explained in the presence of the children and any doubts by them were clarified. This yielded a total of 112 completed forms.

In the second phase of data collection, the SATI and CCNES were distributed to the children and they were asked to get the questionnaires filled up from their parents. The Hindi translations of the questionnaire, prepared by the researcher, were also made available in case required. An Informed Consent form stating the objectives of the research and emphasizing the voluntary participation of the parent and their child was attached with the questionnaires. A Demographic Information sheet was also attached. To ensure accountability, the researcher also provided her contact details and personally contacted each of the parents to explain the objectives of the study and the participation required of them and their children in case they choose to participate. Over the next two days, the children returned the forms and a total of 60 forms were collected. Out of these, 8 forms were excluded because of incomplete responses, yielding a total of 52 completed sets of the questionnaires.

Analysis

The study was a quantitative study and SPSS (Statistical Package for Social Sciences) 16.0 software was used for the analysis. Normality tests were conducted to ensure that the data obtained for the sample is normally distributed so that further parametric statistical analysis was

done. Correlations, paired-samples t-test, independent samples t-test and multiple regression analysis were conducted.

Results

The sample consisted of a total of 21 male and 31 female children with 28 of them being 10 years old and 24 of them being 11 years old (table-1).

Table 1: Demographic Information of the sample of children (N=52)

	10 year olds	11 year olds	Total
Male	11	10	21
Female	17	14	31
Total	28	24	52

A total of 23 fathers and 29 mothers responded to the questionnaires with 43 of them responding in English and 9 responding in Hindi. All the Hindi respondents were female (table-2).

Table 2: Demographic information of the sample of parents (N=52)

	Father	Mother	Total
English	23	20	43
Hindi	0	9	9
Total	23	29	52

Table-3 shows the significant negative correlation of task persistence with punitive reactions ($r=-0.392$, $p<0.01$) and its significant positive correlation with expressive encouragement ($r=0.314$, $p<0.05$) It also shows the significant positive correlation between activity and punitive reactions ($r=0.276$, $p<0.05$). Predictive values of different variables on emotional regulation are depicted in table-4.

Table 3: Correlations between the temperamental dimensions of the children as reported by the parents and the emotion socialization responses endorsed by the parents

Domain	Correlate	Correlation Coefficient (Pearson's)	Significance
Negative Reactivity	DR	0.046	0.747
	PR	0.124	0.381
	EE	0.076	0.592
	EFR	0.182	0.196
	PFR	0.071	0.617
	MR	0.076	0.595
Task Persistence	DR	-0.251	0.072
	PR	-0.392	0.004**
	EE	0.314	0.024*
	EFR	0.189	0.179
	PFR	0.226	0.107
	MR	0.034	0.812
Withdrawal	DR	0.248	0.076
	PR	0.222	0.114
	EE	0.039	0.786
	EFR	0.033	0.814
	PFR	-0.024	0.867
	MR	0.118	0.404
Activity	DR	0.127	0.368
	PR	0.276	0.048*
	EE	-0.173	0.219
	EFR	0.170	0.227
	PFR	0.050	0.724
	MR	-0.007	0.959

*Correlation significant at 0.05 level (two tailed), ** at 0.01 level (two tailed)

DR – Distress Reactions; PR – Punitive Reactions; EE – Expressive Encouragement; EFR – Emotion Focused Reactions; PFR – Problem Focused Reactions; MR – Minimization Reactions

Table 4: Prediction values of the different independent variables for the dependent variable of emotion regulation

Model-1	Unstandardized Coefficients		Standardized Coefficients	T	Significance
	B	Std. Error	Beta		
(Constant)	44.270	14.580		3.036	.004
Negative Reactivity	.120	.115	.182 ^a	1.049	.300
Task Persistence	.085	.128	.146 ^a	.667	.509
Withdrawal	.066	.110	.100 ^a	.602	.550
Activity	.048	.083	.115 ^a	.579	.566
Distress Reactions	-.039	.153	-.063 ^a	-.257	.799
Punitive Reactions	.008	.117	.013 ^a	.067	.947
Expressive Encouragement	-.086	.108	-.141 ^a	-.798	.429
Emotion Focused Reactions	.031	.179	.055 ^a	.175	.862
Problem Focused Reactions	-.052	.166	-.080 ^a	-.310	.758
Minimization Reactions	-.021	.105	-.035 ^a	-.202	.841

a. Predictors (Constant): SATI Subscales –Negative Reactivity, Task Persistence, Withdrawal, Activity; CCNES Subscales –Distress Reactions, Punitive Reactions, Expressive Encouragement Emotion Focused Responses Problem Focused Reactions, Minimization Reactions
Dependent Variable – Emotion Regulation (Total Score)

Discussion

Specific temperamental dimensions and parents' emotion socialization responses were seen to be significantly correlated. Herein, task persistence was seen to have a significant negative correlation with punitive reactions and a significant positive correlation with expressive encouragement indicating that parents are more likely to respond in a punishing manner to children who are lesser task persistent. This could be, because task persistence is seen as a desirable trait and as such, more likely to be rewarded by the parent through the use of helpful

emotional responses. Low task persistence may be interpreted as distractibility and lack of motivation, which in turn may be influencing the greater use of punishment by the parents. Research has established that disinhibited, inconsistent and negative expressivity on the part of the children is more likely to invite punitive reactions by the parents [20]. The domain of activity was also significantly positively correlated with Punitive Reactions. High levels of physical activity is again something seen as disruptive and undesirable and hence may be leading to the use of unsupportive and less validating responses by the parents.

Taking into consideration the temperament profiles of the SATI provided by McClowry, it can be seen how low task persistence and high activity, both of which will be categorized under the profile of 'high maintenance', a relatively difficult set of temperament constructs to work with for the parents, have resulted in greater negative parenting practices for the current sample, a finding supported in literature [21]. A combination of these two constructs of low task persistence and high physical activity, along with high negative reactivity as well, makes the child more likely to develop behavioural problems, a likelihood which will be further exacerbated by the parents' negative responses to these displays by children, leading to a cycle of negative responses and interactions.

These findings lend credence to the dynamic circular interaction that takes place between the child's natural tendencies and the parents' consequent response to that. Both child characteristics and parent characteristics are initially at play and the parents may come to modify their socialization practices based on the child's reaction to their initial practices. This in turn creates expectancy in the parents as temperament being a biological construct is difficult to mould. Because of these perceptions, the parents may change their socialization strategies in a way they feel are more suited to the child which may create either a goodness-of-fit wherein the

temperament of the child and the parenting practices are in conducive match. Or, it can also come to create a situation of turmoil wherein there is incompatibility between the two.

A goodness of fit occurs when the characteristics and demands of the environment are conducive to the characteristics of the person and research in this domain has talked about how caregivers will need to ascertain that their socialization and overall parenting practices are in tune with the child's temperament. Herein two major factors have been talked about. The first are the personal, financial and community resources available to the parents to engage successfully in such an endeavour. Parents who do not have insight into these processes of caregiving or do not have the time to invest in such a process will be at a disadvantage. The second factor is that of the responsiveness and sensitivity of the caregivers themselves, which will, in part be determined by the caregiver's own temperament. It has been seen that responsive and sensitive caregivers modify their responses to the child's natural inclinations more readily [22].

Another important finding that illuminates the process of interaction between temperament and the environmental influence of emotion socialization is the biological sensitivity to context model [23] which hypothesizes that certain temperamental dispositions are more sensitive to environmental influences, while certain other dispositions tend to be less susceptible to influences outside of the individual. It was found that temperamental dispositions of low frustration tolerance and low effortful control among children tend to cause greater vulnerability among them to the adverse effects of negative parenting. The reactivity level of children has been stressed in this regard, with highly reactive children seen as being benefited by positive parenting but harmed equally by negative parenting. Temperament, in this way, acts as both a protective and a predisposing factor in the effect of the quality and nature of parenting received by the child [24].

The independent variables of emotion socialization and child temperament were not found to be significant predictors of emotion regulation capacities of the children. This could be because of the gap between what is measured by the self-report measures and the parents' spontaneously occurring reactions, of which they themselves may not have the optimum level of awareness. Parental self-report, for this sample, may be indicative of the parents' emotion socialization abilities or preferences, but not of what happens at the ground level. A discrepancy between the mothers' reported reactions to the child's negative emotions – as measured by the CCNES – and their actual behaviour in emotionally arousing situations as measured by observation on a behavioural task involving the parents and the children has been seen in research [25]. This, along with the impact of several other socialization influences which could possibly be playing a greater role in determining emotion regulation capacities of children, but are not a part of the scope of this study, could be contributing to the findings. Recent research in the field of emotion socialization has shown that parental expressiveness is a major factor in predicting the use of emotion regulation strategies among children. In a research by Sudha Shashwati [26] among a sample of 130 parents and children in Bhubaneswar, parental expressiveness was found to be predictive of almost 20% variance in emotion regulation of the children. Furthermore, we have focused upon parents' handling of the child's negative emotions. These responses by the parents are bunched together with the general emotional climate of the family – whether it is open or inexpressive- and the actual behaviour of the parents themselves which the children model and learn. It is possible that there is a discrepancy between their saying and doing. For instance, they may be talking about healthy regulation of anger to their children but may themselves have difficulty controlling anger in their lives. In such a case, the child is likely to pick up contradicting messages and what the child chooses to imbibe will depend on his/her own

tendencies, other socialization influences and the extent to which the child is exposed to this behaviour of the parents.

Interestingly, Expressive Encouragement, conceptualized as a supportive response, seems to be negatively predicting emotion regulation among children. It has been seen in certain contexts that extremely high levels of encouragement by the parents towards their children to express their emotions hampered their ability to regulate emotions and created a greater likelihood for the child to engage in externalizing behaviours [27]. In yet another research [28] it was found that children of mothers who are permissive in encouraging children to be open to a wide variety of emotional experiences and expressions, are more likely to express anger or aggression in hypothetical situations of conflict or distress.

In terms of a comparison between the domains of temperament and emotion socialization, although none of the findings are significant, it can be seen that temperament seems to be a stronger predictor of emotion regulation capacities with higher beta values. Hence, it seems that biological tendencies do seem to be more pertinent in the course of emotional development which will require that interventions in the domain of emotional development of children be considered with thoughtful insight as biology remains something that is difficult to mould and may also be questioned on ethical grounds as training the child to move away from something that he/she is most natural and comfortable with. From a counselling and interventionist perspective, it may then be a good idea to focus on improving and modifying the emotion socialization practices of the parents in case a positive change is desired in the child's ability to manage his/her emotions. In this regard, Gottman, Kats & Hooven [29] have developed an intervention that emphasizes emotion-coaching attitudes and behaviours of the parents by distinguishing between the categories of emotion-coaching behaviours and emotion dismissing

behaviours and encouraging parents to make use of the former. Research in the future can perhaps focus on the effectiveness of these interventions in helping children with impaired emotional development.

Important clinical implications are to be considered from the arguments made in the discussion regarding interventions focusing on the socialization practices adopted by parents. In this regard, an important aspect of interventions is to address the issue of goodness-of-fit, to ensure that the temperament of the child finds a match with the parenting style adopted by the parents as only then will the child's natural inclinations find the space and environment to grow and develop [22]. This may include psycho educating the parents about the ways in which they are influencing what their child is learning and helping them in understanding the temperament of their child, which is where mental health professionals, such as trained school counsellors can step in.

Specific interventions can be carried out and tested for their efficacy. For instance, there are preventive interventions that focus on fostering healthy emotion communication between the parent and the child and help the parents' in improving their own emotion regulation and awareness, such that they are more mindful of their emotional responses and behaviours, and how these responses and behaviours could potentially affect their child [31]. Interventions focusing on emotion socialization can also be employed in the case of behavioural problems being manifested by the child. Certain interventions also incorporate children in the treatment module, which they believe is a more holistic approach. Creative and Proactive Solutions is one such cognitive-behavioural approach that looks at addressing parent-child incompatibility by involving the entire family in discovering the reasons behind the incompatibility, thinking of constructive solutions to address this incompatibility and developing problem solving skills

together as a family to address their needs and concerns [32]. The focus in this approach is again on improving overall emotion regulation and awareness of the family.

The present study also has implications for researchers venturing into the investigation of the variables covered under this study in the future. It is suggested that for future research self-report measures should be used together with observational measures or interview guides for the parents. This will help in obtaining data with greater depth and accuracy.

Temperament has been seen as creating dispositions for the child to acquire certain emotion regulation capacities over others [30]. But it also interacts with the nurture aspect of emotion socialization. In light of this interaction that takes place between the temperament of the child and emotion socialization by parents, as seen by the correlations between the two variables in the study, future research can help shed light on which specific domains of temperament make it more likely for the influence of emotion socialization to be negated or aggravated and which kind of emotion socialization responses can be used for each of the different temperamental dispositions to cultivate the development of effective emotion regulation strategies.

Another major consideration is the cultural context within which emotion socialization process is embedded which needs to be investigated more deeply. Most of the literature on emotion socialization is from Western countries, which tend to emphasize individualism, and as such they are not accurate reflections of how the process occurs in collectivistic societies where ethos such as the social appropriateness of the emotion being expressed and to whom the emotion is being expressed (such as an elder) are of prime importance.

Index study has several limitations. First of all, the sample was limited to only 52 sets of parents in a relatively affluent, urban section of a metropolitan city. As such, the results obtained may be more of a reflection of urban ethos than a balanced view of emotion socialization as it occurs at a

larger context in the country. Second, the relatively small sample size, consisting of a one year age range of 10-11 year old children, may possibly have impeded the robustness of statistical analysis, thereby leading to a less adequate exploration of the association between the three variables covered in the study. A sample size of a larger age range of children could have helped in realizing the scope of the study more fully. Third, statements provided in the questionnaires are not as culturally valid as they could have been, particularly with regard to the statements in CCNES. The statements need to be critically examined from the lens of a collectivistic culture wherein group orientation is valued over personal independence and expression [33]. Fourth, the tools used were self-report measures and as such, all the limitations that come with self-report measures such as acquiescence, social desirability also become limitations in data collection.

To conclude, regression analysis found a non-significant predictive value for the influence of emotion socialization and temperament on emotion regulation. The reciprocal relationship between the child's temperament and the parents' emotion socialization practices was seen and the need for studying emotion socialization as a comprehensive construct and within a socio-cultural context was emphasized.

Conflict of interest: None declared.

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Kriti Kaul, Research Fellow, Defence Institute of Psychological Research, Defence Research & Development Organization, Delhi, Rajani Konantambigi, Professor, Shalini Anant, Assistant Professor, School of Human Ecology, Tata Institute of Social Science, Mumbai