

## Effectiveness of emotional competence skills programme for adolescents: Results of a pilot study from India

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### Abstract

**Introduction:** Emotional difficulties pose a greater threat to the overall well-being and quality of life of adolescents. Despite the need, a gap exists between research and implementation of school based promotive interventions for the same. The present pilot study, a part of another main study, was an endeavour to examine the effectiveness of a universal intervention programme developed based on the felt needs of adolescents in the Indian context.

**Materials and Method:** The pilot study followed a prospective design. The themes generated during the exploratory study and focus group discussions, were incorporated into formulation of, an eight session universal intervention programme. A group of school (n=15) and college students (n=6) who underwent the programme, were assessed at baseline and post intervention.

**Results:** At post-intervention, both groups showed significant improvement in impulsivity and academic self efficacy. Also, college students showed significant improvement in emotion regulation and other blame. Academic self efficacy among males and perspective taking and emotional competence among females indicated a significant difference at post-intervention.

**Conclusions:** The pilot findings support the need, feasibility and effectiveness of emotional competence skills programs in the Indian context where help seeking for mental health related issues is low.

**Keywords:** Adolescence, Emotional competence, Intervention, India

### Introduction

Emotions, despite being very private also have important social consequences.<sup>(1)</sup> Considering emotions as an integral part of daily life, it becomes necessary to understand emotions among adolescents, especially, since they experience more frequent and intense emotions compared to younger or older individuals.<sup>(2)</sup> Adolescence has been considered.<sup>(3)</sup> As described by Erikson, one of the main goals of this phase of life is formation of one's identity, which includes relating them to others and learn to cope with stress and manage their emotions as well,<sup>(4)</sup> which might be a challenge for adolescents, considering the numerous simultaneous changes that take place in this phase. Middle adolescence especially has been linked to the presence of more problems in regulating emotions.<sup>(5)</sup> Every sixth Indian has been considered in need of mental health help.<sup>(6)</sup> Around 20% of children and adolescents show signs and symptoms of mental health difficulty each year, with 5% showing a functional level of impairment and 1 out of 5 having a diagnosable mental, emotional or a behavioural disorder.<sup>(5)</sup> With regard to data among low and middle income countries (LAMIC), mental health issues has been 3-6% of all the published mental health research in the world and research on child and adolescent mental disorders is only a small fraction.<sup>(7)</sup> Considering adolescence as a critical developmental period, it renders itself more important to implement healthy emotional behaviour leading to well-being and psychosocial adjustment. It has also been con-

sidered as a period when preventive mental health interventions could influence the developmental trajectories.<sup>(8)</sup>

Most often, a rational corollary would be a link between mental health and the level of emotional competence. Carolyn Saarni, who popularised the concept of emotional competence (EC), described it as "the demonstration of self-efficacy in emotion-eliciting social transactions".<sup>(9)</sup> Major components of EC being a) skills for identifying personal feelings and those of others b) skills for communicating emotion with others and c) skills for coping with negative emotions. According to Saarni,<sup>(9)</sup> emotional competence has a developmental connotation to it, thereby suggesting a feature of modifiability as well as intentionality of emotional abilities, thus, rendering itself as crucial ingredient for enhancement and modification. Considering low help seeking behaviours for emotional and mental health issues among adolescents, universal preventive interventions which are positive and proactive methods, seem appropriate to address the whole population regardless of risk status.<sup>(8)</sup> Further, as school setting is familiar, non-threatening, naturalistic and feasible, it allows systematic implementation of the program.<sup>(10)</sup>

The social and emotional needs of adolescents have become as important as their educational needs.<sup>(5)</sup> Despite the need, a gap has been found between research and implementation of the same in school based preventive and promotive interventions, just as much as a gap between research and need for clinical interventions for children and adolescents.<sup>(11)</sup>

Despite life skills education programmes in India making an attempt towards psychosocial competence of children and youth, which includes a component of emotions, emotional competence per se has not been addressed adequately.<sup>(12)</sup> The module is based on the findings from the exploratory phase of the same study, “Strong Teens” Programme, and Principles of Dialectical Behaviour Therapy for adolescents. The Present pilot study conducted in Bangalore, India, is based on the Social and Emotional Learning Paradigm, which seeks to examine the effectiveness of a universal emotional competence programme based on the emotional needs of adolescents.

### Materials and Method

**Study design and Sample:** The objectives of the study were (1) to formulate and emotional competence skills programme and (2) to pilot test the effectiveness of emotional competence skills programme on self-awareness, self-management, Empathy and Perspective taking, self-efficacy and distress tolerance among adolescents and across genders. The study followed a prospective design. For objective 1, a total of 272 students across two schools and a college participated and were assessed using Difficulties in Emotion Regulation Scale, BAR-on Emotion Quotient Inventory-Youth Version, Distress Tolerance Scale, Interpersonal Reactivity Index, Self Efficacy Questionnaire and Cognitive Emotion Regulation Questionnaire. For objective 2, the participants (n=21) pursuing high school (n=15) and pre-university college/grades 11 and 12 (n=6) were selected and assessed at baseline and post-intervention. A list of schools and colleges in Bangalore was prepared. From the list, schools and colleges which gave permission were randomly selected for the study.

### Measures:

**Socio-demographic data sheet:** Collected information about participants' demographic details and any history of mental health problems.

### Difficulties in Emotion Regulation Questionnaire<sup>(13)</sup>

DERS is a brief 36 item questionnaire with 6 sub-scales, out of which, the sub-scales of impulsivity and level of emotional awareness were chosen for this study. Each sub scale has 6 items and are scored on a 5-point Likert-type scale. This scale has been considered as a good measure of emotion dysregulation among the adult and adolescent population.

### Cognitive Emotional Regulation Questionnaire

(CERQ)<sup>(14)</sup> is a 36-item questionnaire consisting of the following nine conceptually distinct sub-scales, each consisting of four items: self-blame, other blame, rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance, and planning. The items are measured on a 5-point Likert scale.

Individual sub-scale scores are obtained by summing the scores belonging to the particular sub-scale (ranging from 4 to 20). Higher score on each subscale indicated greater usage of the particular emotional regulation strategy. All sub-scales have good internal consistencies ranging from 0.68 to 0.86. CERQ has good factorial validity and high reliabilities, with Cronbach's alpha ranging between 0.75 and 0.87. This tool can be used for both adolescents and young adults (anyone above the age of 12 years).

### BarOn Emotional Quotient Inventory Youth Version (BarOn-EQ-I:YV)<sup>(15)</sup>

The scale has been considered as one of the best measures of emotional competence among youth, since it provided a combined social-emotional and personality attribute assessment of self-reported emotion related functioning. Response options range from very seldom true of me to very often true of me. The five sub scales are interpersonal, intrapersonal, stress management, adaptability and general mood.

### Distress Tolerance Scale (DTS)<sup>(16)</sup>

The scale consists of 4 sub-domains namely, appraisal, tolerance, absorption and regulation. Higher scores on DTS indicate greater positive affect, less affective distress and lability. It is a 15 item likert type questionnaire with response categories ranging from strongly agree to strongly disagree. This scale was originally developed for adult population, however there are Serbian and Chinese adaptations of this scale on the adolescent population with good psychometric properties.

### Interpersonal Reactivity Index (IRI)<sup>(17)</sup>

This is a 28 item, five point likert scale consisting of response categories ranging from “not at all like me” to “very much like me”. This scale comprises of 4 sub-scales, however for the present study only two subscales viz: a) Empathic concern scale and b) Perspective taking scales have been used. This scale was originally used for adults, however, has been used and proven psychometrically sound on the adolescent population.

### Self Efficacy questionnaire-Children (SEQ)<sup>(18)</sup>

This scale contains, 24 items, representative of 3 domains, namely: academic self-efficacy, emotional Self efficacy and social self efficacy. This is a 5 point likert scale with scoring categories ranging from “not at all” to “very well.” This scale has been proven to be a psychometrically sound measure of self efficacy among adolescents.<sup>(20)</sup>

### Scale for Assessing Academic Stress (SAAS)<sup>(19)</sup>

It is a 30 item self-report measure developed for grade 8-12 std students of English medium schools with students belonging to middle and higher socio-economic status in India. It assesses five major indicators of academic stress (cognitive, affective, physical, social/interpersonal and

motivation). The student has to respond to either a “yes” or a “no” for each item of the scale which would finally yield a total stress score. The SAAS has been found to have high test-retest (0.81) and split-half (-0.75) reliability by its authors.

**Procedure:** The students (N=272) who met the inclusion/exclusion criteria took part in the survey and were assessed on DERS, BarOn-EQI-YV, DTS, IRI, SEQ and CERQ. Forty participants: teachers (N=10), parents (N=10), girls (N=10) and boys (N=10) took part in the focus group discussions (FGD). Survey and FGD aimed to understand the emotional needs and difficulties of adolescents. Based on the responses obtained and familiarity with other programmes such as “Strong Teens”<sup>(21)</sup> programme, Emotion Regulation among children and adolescents and principles of dialectical behaviour therapy, the structure and content of the “Emotional Competence Skills Programme” was formulated. This was validated by experts in the field of child and adolescent mental health (one psychiatrist with 30 years of experience working with adolescents and two clinical psychologists with around 7 to 10 years of experience).

For the intervention phase, students (N=21) who met the inclusion/exclusion criteria constituted the sample. They were assessed on the same measures as mentioned above, at both baseline and post intervention. The intervention group were administered an 8 week programme, lasting for an hour each at the school premises by the first author. The programme included the following major components: awareness of emotions (2 sessions), empathy and perspective taking (1 session), emotion regulation (3 sessions), distress tolerance (1 session) and values (1 session). Sessions were scheduled at different times each week, in order to reduce/ avoid disruption of classes. The sessions also accommodated for exams, tests, cultural programme, holidays, unexpected holidays/shutdowns, vacation, sports etc. The sessions mostly were activity based; both group and individual activities, audio aids, and well as home tasks.

The protocol was reviewed and approved by the Institute Ethics Committee of the National Institute of Mental Health and Neuro Sciences, Bangalore, India. Permission from school/college authorities as well informed consent from parents and assent from students were obtained prior to recruitment.

## Results

**Analysis of data:** The data was analyzed using SPSS 16.0. Descriptive Statistics were used to analyse the Socio-demographic data. Mann Whitney-U test was used to compare the scores within and between groups and across genders, on the level of emotional awareness and impulsivity, empathy and perspective taking, emotional

competence, distress tolerance, self-efficacy, cognitive emotion regulation strategies, and academic stress.

**Assessing emotional difficulties and felt needs (exploratory study):** The sample consisted of high school (N=110) and pre-university students (N=162). Of the 272 students, females constituted 47% of the sample and males 52%. The sample was spread across grade 8 (29.1%), grade 9 (42.8%), grade 10 (27.3%) and grade 12/2nd Pre-university (100%). Majority of students belonged to nuclear families (79.4%) in an urban habitat (69.8%). Majority of the students were first born (52.2%) having one sibling (65.8%). Very few of them (4.7%) reported having a family history of psychiatric illness (4.76%). Results from the survey and focus group discussion indicated that the current sample had higher levels of impulsivity on the whole, reported rise in negative emotions during adolescence, difficulty in recognising and accepting negative emotions, avoidance of negative emotions, difficulty in judging consequences of emotional expression, lack of clarity between feeling, thinking and behaving and recognising internal triggers for emotions. Catastrophizing, other blame were found to be higher among high school students and rumination among pre-university students. However the current sample was also high on factors indicating emotional competence such as general mood, interpersonal abilities, adaptability, empathy and perspective taking and social self-efficacy. Boys preferred to handle their emotions, than sharing it or to seek help for the same. On the whole a need towards a curriculum based method to impart emotional education was expressed.

## Effectiveness of the Emotional Competence Skills Programme:

For the intervention group, 45 students were approached, out of which 33 gave assent and obtained consent from parents. Three students opted out after the pre assessment, stating reasons of wanting to spend more time studying. Three students dropped out after two sessions since they felt they were not currently facing any emotional difficulties. Four students completed only five sessions, hence could not be included for analysis. Twenty three students completed the programme, with a minimum of 6 and maximum of 8 sessions. However, two students were absent during post assessments. Hence the total number of completers consisted of 21 students, 15 and 6 from high school and pre-university respectively. Majority of the students were females (N=14) compared to males (N=7) and majority of students belonged to nuclear families in an urban habitat.

Comparison of study variables at pre and post intervention have indicated significant differences during post assessments only in the domains of academic self efficacy and total stress score.

**Table 1: Comparison of study variables pre and post intervention among students**

Scales	Measures	Pre (N=21)		Post (N=21)		t-value	Sig
		Mean	SD	Mean	SD		
<b>DERS</b>	Impusivity	17.86	1.80	19.05	2.11	-1.92	0.06
	Emotional Awareness	19.33	3.17	19.19	3.43	0.14	0.89
<b>BAR-ON EQ-I-YV</b>	General Mood	46.71	5.66	47.62	3.79	-0.74	0.46
	Interpersonal	38.00	4.80	38.19	5.08	-0.13	0.89
	Stress Management	31.48	5.89	32.57	6.07	-0.74	0.46
	Intrapersonal	13.86	4.41	14.86	3.45	-0.95	0.35
	Positive Impression	15.00	3.15	15.62	2.99	-0.80	0.43
	Adaptability	29.48	3.75	30.19	4.24	-0.66	0.51
	E.I.Total	112.8	12.29	115.8	11.8	-1.14	0.26
<b>DTS</b>	Tolerance	8.67	2.80	8.52	3.01	0.18	0.85
	Absorbtion	7.76	2.62	8.14	2.52	-0.57	0.57
	Appraisal	17.67	3.47	17.67	3.02	0.00	1.00
	Regulation	7.62	2.20	8.57	2.66	-1.39	0.18
<b>IRI</b>	Perspective Taking	22.38	3.61	23.76	2.47	-1.56	0.13
	Empathy	23.81	4.08	23.48	3.76	0.31	0.75
<b>SEQ</b>	Academic Self Efficacy	29.67	4.32	<b>31.48</b>	3.92	-2.29	<b>0.03*</b>
	Social Self Efficacy	28.90	4.56	29.19	3.96	-0.31	0.75
	Emotional Self Efficacy	28.90	5.33	30.67	4.42	-1.51	0.14
	Self Efficacy Total	87.48	8.69	91.33	8.39	-1.82	0.08
<b>CERQ</b>	Positive Refocusing	14.71	3.27	14.67	3.23	0.04	0.96
	Refocus On Planning	16.05	2.48	16.19	2.06	-0.24	0.81
	Positive Reappraisal	16.10	3.43	16.29	2.74	-0.23	0.81
	Putting Into Perspective	13.38	2.60	13.57	2.68	-0.29	0.77
	Self- Blame	12.29	3.62	12.43	3.47	-0.22	0.82
	Acceptance	14.48	3.12	14.76	2.14	-0.44	0.66
	Rumination	13.90	2.10	14.38	2.58	-0.75	0.45
	catastrophising	10.90	4.11	11.76	3.43	-0.90	0.37
	Other Blame	10.48	3.30	11.00	3.59	-0.53	0.60
<b>SAAS</b>	Total Stress score	8.14	1.09	<b>8.76</b>	0.81	-3.23	<b>0.004*</b>

\*p&lt;0.05, \*\* p&lt; 0.01

**Table 2: Comparison of study variables pre and post intervention among PUC students**

Scales	Measures	Pre (N=21)		Post (N=21)		t-value	Sig
		Mean	SD	Mean	SD		
<b>DERS</b>	Impusivity	17.67	2.42	19.00	3.03	-0.98	0.37
	Emotional Awareness	16.50	3.08	18.17	2.71	-1.45	0.20
<b>BAR-ON EQ-I-YV</b>	General Mood	44.83	4.40	48.00	2.83	-1.78	0.13
	Interpersonal	36.17	3.06	38.33	5.39	-0.96	0.37
	Stress Management	28.83	3.97	29.83	6.77	-0.76	0.48
	Intrapersoanal	13.33	5.50	14.33	2.58	-0.42	0.69
	Positive Impression	14.83	4.17	17.33	2.94	-1.28	0.25
	Adaptability	29.00	3.41	28.83	5.00	0.09	0.93
	E.I.Total	107.3	5.35	111.3	7.42	-1.34	0.23
<b>DTS</b>	Tolerance	7.00	2.19	7.50	4.50	-0.35	0.73
	Absorbtion	7.50	2.88	8.33	4.17	-0.55	0.60
	Appraisal	17.17	4.91	19.83	3.31	-1.10	0.32
	Regulation <sup>a</sup>	6.83	2.63	10.33	3.66	-2.40	<b>0.06</b>
<b>IRI</b>	Perspective Taking	22.33	3.88	23.17	2.23	-0.51	0.62
	Empathy	24.00	5.51	23.00	4.10	0.42	0.68
<b>SEQ</b>	Academic Self Efficacy <sup>a</sup>	26.33	3.78	29.67	3.72	-2.45	<b>0.058</b>
	Social Self Efficacy	27.50	3.39	29.33	4.32	-0.76	0.47
	Emotional Self Efficacy	27.33	5.05	28.33	4.72	-0.44	0.67
	Self Efficacy Total	81.17	6.31	87.33	11.2	-1.36	0.23
<b>CERQ</b>	Positive Refocusing	13.83	4.22	16.17	2.04	-1.22	0.27
	Refocus On Planning	16.17	3.25	16.00	2.53	0.13	0.89
	Positive Reappraisal	15.83	4.58	16.17	2.40	-0.18	0.86
	Putting Into Perspective	14.50	3.08	14.83	1.47	-0.29	0.78
	Self- Blame	13.67	5.16	13.33	4.13	0.30	0.77
	Acceptance	14.50	4.51	15.33	2.58	-0.64	0.55
	Rumination	13.50	2.07	15.50	3.51	-1.93	0.11
	catastrophising	12.17	5.60	13.83	2.93	-0.90	0.40
	Other Blame	8.83	4.31	13.33	4.03	-2.66	<b>0.045*</b>
<b>SAAS</b>	Total Stress score	7.08	0.97	8.14	0.97	-1.83	0.12

\*p<0.05, \*\* p< 0.01, <sup>a</sup>- trend of difference

Comparison of study variables at pre and post intervention among pre-university students have indicated significant differences during post assessments only in the domain of other-blame and trends were observed in regulation of distress and academic self efficacy. Comparison of study variables at pre and post intervention among high school students did not indicate any significant differences.

Comparison of study variables pre and post intervention among males have indicated significant improvement during post assessments in the domain of academic self efficacy (Pre- 27.8 and post 30.7;  $p=0.010$ ) and an increase in the level of stress (Pre-7.9 and post 8.9;  $p=0.045$ ).

Comparison of study variables pre and post intervention among females have indicated significant improvement during post assessments in the domains of emotional intelligence total (Pre-111.7 and post-117.4;  $p=0.047$ ), perspective taking (Pre-21.2 and post 24.0;  $p=0.025$ ) and an increase in the level of stress (Pre- 8.2 and post-8.8;  $p=0.042$ ).

**Feedback:** The feedback received from the intervention programme was positive and encouraging. Some of the excerpts from their feedback is as follows “Recognition of emotions and anger management have been useful and I have tried to apply these in my daily life”, “Liked the session on anger management, handling crisis and appropriate and inappropriate ways of emotional expression and have tried to use it”, “Caring for others, putting ourselves in their shoes and values, I feel are very important and I have started applying a lot of these things”, “home tasks, handouts and audios were very useful and programme has helped me understand others better”. About the programme satisfaction majority of the adolescents reported that the content and discussions were useful and that they would want such programmes to continue on a regular basis at school. However, they also felt that a combination of group and individual intervention would be most effective since it might be a good balance of learning skills as well as dealing with individual issues.

## Discussion

The exploratory study was conducted across schools and colleges in Bangalore, threw light upon various emotional needs and emotional difficulties faced by adolescents, which can very well be explained by convergence between internal neurodevelopment changes and external environmental changes often make it difficult, overwhelming and confusing to manage their emotions.<sup>(22)</sup> The results from the survey and focus group discussions are also comparable to literature in this area indicating similar difficulties with emotions in the current sample. Despite presence of emotional difficulties, the results also throw light upon the fact that emotional competence was higher among the study sample, which offers a ray

of hope to enhance their already existing ability to handle emotions.

The results of the emotional competence skills programme for adolescents have indicated significant changes in certain domains at pre and post intervention (Table 1 and 2). Significant changes in adolescent’s level of academic self efficacy has been observed across the whole sample and among males, indicating curricula based on social and emotional learning paradigms to be good predictors of academic success. Emotional and social competencies have been observed as strong predictors of academic success.<sup>(23)</sup> Literature suggests the importance of fostering adolescents level of emotional competence as a method to enhance success in academics.<sup>(24)</sup> The results of the pilot study have also indicated significant changes in the domain of emotional intelligence and perspective taking among females. This indicates an enhancement of ability to understand emotions of self and others, manage emotions, communicate one’s emotions and to take perspectives among females which is of prime importance in interpersonal relationships. Social and emotional learning programmes have been observed to be effective in enhancing social and emotional skills.<sup>(25)</sup> Despite the results indicating a gender difference in enhancement of emotional competence, research in this area has been inconclusive. The main reasons stated have been with respect to the instruments used or developmental trajectories related to socialization.<sup>(26)</sup> It has been observed by a number of studies about the difference in the emotional worlds girls and boys are exposed to, and the difference in socialisation and emotional teaching. To add to this, biologically females have been observed to be predisposed to understand express emotions better than males which is also supported by studies indicating faster development of linguistic skills among females.<sup>(27,26)</sup> Significant changes in females’ ability to take perspectives have also been observed in the current study. Perspective taking has been observed to develop during adolescence as a result of cognitive development and plays an essential role in emotional and moral development.<sup>(28)</sup> Results from the current study on perspective taking is comparable to literature in this area, wherein gender differences in perspective taking has been observed to develop during adolescence with a steep increase in perspective taking and empathic concern among females than boys.<sup>(28)</sup> Various studies have indicated that females’ response to perspective taking and empathy has been greater compared to males.<sup>(29,30)</sup>

Pre-university students in the current study have also displayed a rise in their ability to regulate distress (Table 2). Regulation of distress has been implicated as one of the factors pertinent to adolescent social functioning<sup>(31)</sup> and psychopathology.<sup>(32)</sup> Research on transformations from middle to late adolescence have also indicated late adolescence as a period when different parameters of emotional and cognitive development start stabilizing,<sup>(33)</sup> which is in sync with the current results,

wherein regulation of distress post intervention has been observed. This could be attributed to the intervention or the age group of pre-university students or both.

The results have also indicated an increase in the total stress score of the overall sample, which could be understood by the Yerkes-Dodson Law, according to which an optimal level of arousal is necessary for optimal performance.<sup>(34)</sup> Considering that post assessment was conducted a week to ten days prior to their final exams, a rise in their total stress score was anticipated and probably required to perform better. Other Blame corresponds to holding other's as responsible for one's own adversities. Other blame as a strategy has been implicated in rise in levels of stress among participants.<sup>(35)</sup> These results are also suggestive of an important procedural implication that, conducting post assessments prior to significant events, could be avoided to minimise the impact of extraneous factors rendering the results inconclusive.

### Strengths and Limitations

Some of the strengths of the study include: lack of perceived stigmatisation, since it was a universal intervention programme, its focus on emotions per se, Its parsimony and the fact that a workshop format facilitated better involvement. Some of the limitations include: small sample size, lack of a control group and reliance on self-report measures. The programme could have been strengthened by having a larger sample size with semi-structured interviews to assess learning.

### Conclusions

This preliminary study has indicated the importance of a school based universal intervention programme for adolescents, with a focus on emotions, since emotions among adolescents plays an equally important role in the daily functioning and development. The result have indicated that enhancing emotions can have an impact on academic success, regulation of emotions and the ability to understand other's emotions. The findings supports the utility of such programmes in enhancing emotional competence among adolescents.

### Source of Funding

This study was part of the doctoral research carried out at the National Institute of Mental Health and Neuro sciences (NIMHANS), Bangalore, India and was funded by the institute fellowship. No financial interests direct or indirect, exist for the individual contributors in connection with the content of this paper.

### Authors Contribution

Author 1 and 2 were involved in planning the design. Author 1 wrote the protocol under the guidance of author 2. Author 1 carried out the data collection, data entry and writing up of the dissertation. Author 1 wrote the drafts of the paper which were revised by author 2, 3

and 4. Author 3 was involved with aiding the conceptualization and review of the findings and author 4 was involved in conducting statistical analysis and interpretation of the findings.

### Conflict of Interest

All authors declare no actual or potential conflict of interests.

### Acknowledgements

The authors wish to thank the students, parents, principals and teachers of the schools and colleges who gave permission and who were involved in the study. Would like to thank Dr Shoba Srinath, Senior Professor of Child and Adolescent Psychiatry, NIMHANS, Bangalore, Dr Thomas Kishore, Associate Professor of Clinical Psychology, NIMHANS, Bangalore and Dr Nithya Poornima, Assistant Professor of Clinical Psychology, NIMHANS, Bangalore for reviewing and providing their inputs and feedback regarding the content of the intervention programme. We acknowledge the support of Dr Satish Chandra Girimaji, Professor of Child and Adolescent Psychiatry, NIMHANS, Bangalore and Dr Swaminath. G, Consultant Psychiatrist, Bangalore, for their timely suggestions as subject experts during the course of this study.

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