

Enhancing Emotional Intelligence and Compassion in Middle School Students Through Verbal and Non-Verbal Interventions

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Abstract

This study examined the effect of verbal and non-verbal intervention strategies on emotional intelligence and compassion among 100 middle-school students aged 11–13 years. A single-group pretest–posttest follow-up design was used, with assessments conducted before the intervention, immediately after a one-week intervention, and two weeks later. Emotional intelligence and compassion were assessed using the Wong and Law Emotional Intelligence Scale and New Compassion Scale, respectively. Repeated measures ANOVA showed significant changes across time in several dimensions of emotional intelligence and compassion. Total emotional intelligence increased from $M = 80.26$ at pre-intervention to $M = 88.56$ post-intervention, while total compassion increased from $M = 70.17$ to $M = 75.84$. However, scores declined at follow-up. The findings suggest that brief verbal and non-verbal interventions may produce short-term improvements in emotional intelligence and compassion, while continued reinforcement may be required to maintain these gains.

Keywords: *Emotional intelligence, compassion, middle-school students, intervention, emotional regulation, socio-emotional development*

Introduction

Emotional development during the school years plays an important role in how children understand themselves, respond to others, and manage interpersonal experiences. Middle school represents a particularly important developmental period in which students encounter increasing academic, social, and emotional demands. The ability to recognize and regulate emotions, understand the emotional states of others, and respond appropriately to challenging situations may facilitate adaptive social functioning and healthier relationships with peers, teachers, and family members. Emotional intelligence (EI) and compassion are two related psychological capacities that may contribute to these aspects of children's social and emotional development. While EI primarily concerns the perception, understanding, use, and regulation of emotional information, compassion involves concern for oneself and others and is particularly relevant to supportive and prosocial responses to suffering or need.

Emotional intelligence has been conceptualized from several theoretical perspectives. Mayer and Salovey's ability model describe EI as a set of abilities involving the accurate perception of emotions, the use of emotions to facilitate thinking, the understanding of emotions, and the management of emotions to achieve desired goals (Mayer & Salovey, 1997). These abilities provide a framework for understanding how individuals process emotional information and regulate their responses across situations. The model is particularly relevant during childhood and adolescence because emotional abilities develop progressively with age and experience. Within school settings, these competencies may assist students in identifying their own emotional states, regulating emotional responses, interpreting the emotions of

others, and responding more effectively to interpersonal challenges. The present study focuses on four dimensions represented in the Wong and Law Emotional Intelligence Scale: self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion.

Research has increasingly examined whether emotional competencies can be strengthened through structured educational interventions. Previous intervention research has suggested that emotional intelligence education can improve children's ability to recognize, understand, and manage emotions. For example, Ulutaş and Ömeroğlu (2007) reported beneficial effects of an emotional intelligence education program among children, while Castillo et al. (2013) examined the effects of an emotional intelligence intervention among adolescents. Cantero et al. (2020) similarly investigated an emotional intelligence intervention among pre-adolescent students and reported its potential educational benefits. Evidence from Indian school populations has also highlighted the importance of emotional competencies during childhood and adolescence. Malekar and Mohanty (2009), for instance, examined emotional intelligence among Indian schoolchildren and reported associations between EI and interpersonal and intrapersonal competencies.

Alongside emotional intelligence, compassion represents an important component of positive social and emotional development. Compassion has been described as an effective and action-oriented response involving awareness of another person's suffering, feelings of concern or kindness, a desire to alleviate suffering, and behavior directed toward helping (Goetz et al., 2010). It therefore extends beyond simply recognizing another person's emotional state by incorporating an orientation toward care and supportive action. Compassion may also be directed toward the self. Self-compassion involves responding to one's own difficulties with kindness and understanding rather than harsh self-judgment and includes the dimensions of self-kindness, common humanity, and mindfulness (Neff, 2003).

The development of compassion may be particularly relevant within educational environments, where students continuously negotiate peer relationships, cooperation, conflict, and social responsibility. Existing research has examined compassion in educational and interpersonal contexts, although much of the intervention literature has focused on older students or professional groups. Kirby (2016), for example, reviewed compassion-based interventions and highlighted the potential of structured programmes for developing compassion. Research on self-compassion has also linked it with interpersonal and family-related experiences, suggesting that compassionate orientations may be relevant to broader psychosocial functioning (Lathren et al., 2021). However, the development of compassion among middle-school students and its responsiveness to brief school-based interventions require further empirical examination.

Although emotional intelligence and compassion are conceptually distinct, they share an important focus on the recognition and appropriate management of emotional experiences within interpersonal contexts. Emotional appraisal may facilitate an understanding of one's own and others' emotional states, whereas compassion may translate awareness of emotional experiences into caring and supportive responses. Consequently, an intervention that incorporates both verbal and non-verbal activities may provide opportunities for students to practice emotional awareness, regulation, interpersonal understanding, and compassionate responding. The present study therefore considers these constructs together rather than examining emotional intelligence and compassion as completely independent domains.

Despite evidence supporting the value of emotional and compassion-focused educational programmes, an important question concerns whether changes produced by a brief intervention are maintained after the intervention ends. Immediate post-intervention improvement does not necessarily indicate sustained developmental change. Repeated assessments can therefore provide additional information about whether observed changes remain evident over time. In the present study, students were assessed before the intervention, immediately following the intervention, and again after a fortnight, allowing examination of both immediate change and short-term maintenance. The study used verbal and non-verbal activities, including discussions, audio-visual materials, and individual and group activities, targeting dimensions of emotional intelligence and compassion.

Accordingly, the present study aimed to examine changes in emotional intelligence and compassion among middle-school students following a structured verbal and non-verbal intervention. Specifically, the study examined changes across three assessment periods—before the intervention, immediately after the intervention, and at a two-week follow-up—with respect to overall emotional intelligence, its four dimensions, overall compassion, and its three dimensions. By examining both immediate and short-term changes, the study seeks to contribute to the understanding of school-based approaches for developing emotional and compassionate competencies during early adolescence.

Method

Research Design

The study employed a **single-group pretest–posttest follow-up quasi-experimental design** to examine changes in emotional intelligence and compassion following a structured verbal and non-verbal intervention. The same participants were assessed at three time points: **Time 1 (pre-intervention)**, **Time 2 (immediately following the intervention)**, and **Time 3 (two-week follow-up)**. The inclusion of the follow-up assessment enabled examination of whether changes observed immediately after the intervention were maintained over a short period following completion of the programme.

The dependent variables were emotional intelligence and compassion. Changes in emotional intelligence were examined both as an overall construct and across its four dimensions: **self-emotion appraisal (SEA)**, **others' emotion appraisal (OEA)**, **use of emotion (UOE)**, and **regulation of emotion (ROE)**. Compassion was examined as an overall construct and across three dimensions: **compassion toward others**, **compassion toward oneself**, and **compassion toward other living things**.

Participants

The sample consisted of **100 middle-school students** enrolled in a senior secondary school in Delhi. Participants were drawn from Classes 6, 7, and 8. Of the total sample, **27% were students from Class 6**, **34% from Class 7**, and **39% from Class 8**. The sample comprised **47% female and 53% male students**. Participants had a mean age of **12.19 years (SD = 0.75)**, with 20% aged 11 years, 41% aged 12 years, and 39% aged 13 years. The students were naturally grouped according to their existing class groups.

Measures

Wong and Law Emotional Intelligence Scale

Emotional intelligence was assessed using the **Wong and Law Emotional Intelligence Scale (WLEIS)** developed by Wong and Law (2002). The scale consists of **16 items** distributed across four dimensions, with four items assessing each dimension: **self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion**. Items are rated on a **seven-point Likert-type scale**, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores indicating higher levels of emotional intelligence.

Compassion Scale for Students

Compassion was assessed using the **Compassion Scale for Students**. The measure is described in the manuscript as suitable for students aged approximately 12–18 years and consists of **20 items** covering three dimensions: **compassion toward other people, compassion toward oneself, and compassion toward other living things**. Responses are recorded on a **five-point Likert scale**, ranging from 1 (*never*) to 5 (*always*), with higher scores representing greater compassion.

Important: Before submission, we should verify the exact published name, original authors, year, psychometric properties, and citation of this compassion measure. Your manuscript currently uses more than one name for it ("Compassion Scale for Students," "New Compassion Scale," and "NCS"), so this needs to be standardized.

Intervention Programme

The intervention programme was designed to enhance emotional intelligence and compassion through **verbal and non-verbal strategies and activities**. The emotional intelligence component addressed four areas: **self-emotion appraisal, regulation of emotions, use of emotions, and others' emotion appraisal**. The compassion component focused on **compassion toward others, compassion toward oneself, and compassion toward other living things**.

Different strategies and activities were introduced during the intervention to engage students and facilitate understanding of the targeted emotional and compassionate competencies. The programme incorporated both verbal and non-verbal approaches, including an introductory session, **audio-visual materials, group discussions, and individual and group activities**.

The intervention was conducted over a **one-week period**. Following completion of the intervention, participants completed the same measures again at Time 2. A further assessment was conducted two weeks later at Time 3 to examine whether the changes observed following the intervention were maintained or diminished over time.

Intervention Content

The intervention was organized around the dimensions of emotional intelligence and compassion assessed in the study. Activities were intended to provide students with opportunities to recognize and communicate emotional experiences, understand the emotions of others, regulate emotional responses, and develop compassionate orientations toward themselves, other people, and other living beings. Verbal activities involved discussion and interaction, whereas non-verbal components incorporated audio-visual material and activity-based individual and group participation.

However, this subsection needs one important addition before journal submission: your current manuscript does not provide enough information to reproduce the intervention. We should add the **number of sessions, duration of each session, duration of the overall programme, activities conducted on each day, facilitator details, and intervention materials** if these records are available.

Procedure

Initially, rapport was established with the participants through introductory interaction concerning their interests and hobbies. The students were subsequently informed about the research and its objectives. The questionnaires were explained to the participants, and their questions concerning the measures were addressed before administration. The instructions for completing the measures were provided prior to data collection.

At **Time 1**, all 100 participants completed the WLEIS and Compassion Scale for Students before the intervention. The intervention programme was subsequently implemented over one week using the verbal and non-verbal strategies described above. Immediately following completion of the intervention, the same measures were administered again to obtain the **Time 2** assessment.

After an additional **two-week interval**, the same participants completed the measures for a third time (**Time 3**). This follow-up assessment was intended to examine whether changes observed immediately following the intervention were sustained or diminished over time.

Data Analysis

Data were analyzed using the **Statistical Package for the Social Sciences (SPSS), version 26.0**. Changes in emotional intelligence and compassion across the three assessment periods were examined using **one-way repeated-measures analysis of variance (ANOVA)**. Separate analyses were conducted for the overall scores and relevant dimensions of emotional intelligence and compassion. Where significant overall differences were observed across the three time points, **Bonferroni-adjusted pairwise comparisons** were used to determine which assessment periods differed from one another.

Results

The study examined changes in emotional intelligence and compassion among 100 middle-school students across three assessment periods: Time 1 (pre-intervention), Time 2 (immediately post-intervention), and Time 3 (two-week follow-up). Descriptive statistics and repeated-measures analysis of variance were used to examine changes across the three time points.

Descriptive statistics. As shown in Table 1, total emotional intelligence increased from Time 1 ($M = 80.26$, $SD = 10.74$) to Time 2 ($M = 88.56$, $SD = 9.05$), followed by a decline at Time 3 ($M = 79.05$, $SD = 10.00$). A similar pattern was observed for total compassion, which increased from Time 1 ($M = 70.17$, $SD = 11.88$) to Time 2 ($M = 75.84$, $SD = 7.84$) and declined at Time 3 ($M = 67.48$, $SD = 10.64$).

Table 1: Means and standard deviations of emotional intelligence and compassion across three points.

Variable	T1 M	T1 SD	T2 M	T2 SD	T3 M	T3 SD
Self-emotion appraisal	21.44	2.65	23.51	3.01	20.36	4.48

Regulation of emotions	18.97	4.45	21.70	2.72	19.30	3.78
Use of emotions	22.19	3.93	22.05	3.50	21.39	4.34
Others' emotion appraisal	17.66	5.66	21.30	3.88	18.00	4.03
Total emotional intelligence	80.26	10.74	88.56	9.05	79.05	10.00
Compassion toward others	31.34	7.01	34.94	4.55	31.80	6.80
Compassion toward oneself	15.35	3.22	16.94	3.57	14.49	3.31
Compassion toward other living things	23.48	5.33	23.96	2.95	21.19	4.50
Total compassion	70.17	11.88	75.84	7.84	67.48	10.64

Note. T1 = pre-intervention; T2 = immediately post-intervention; T3 = two-week follow-up.

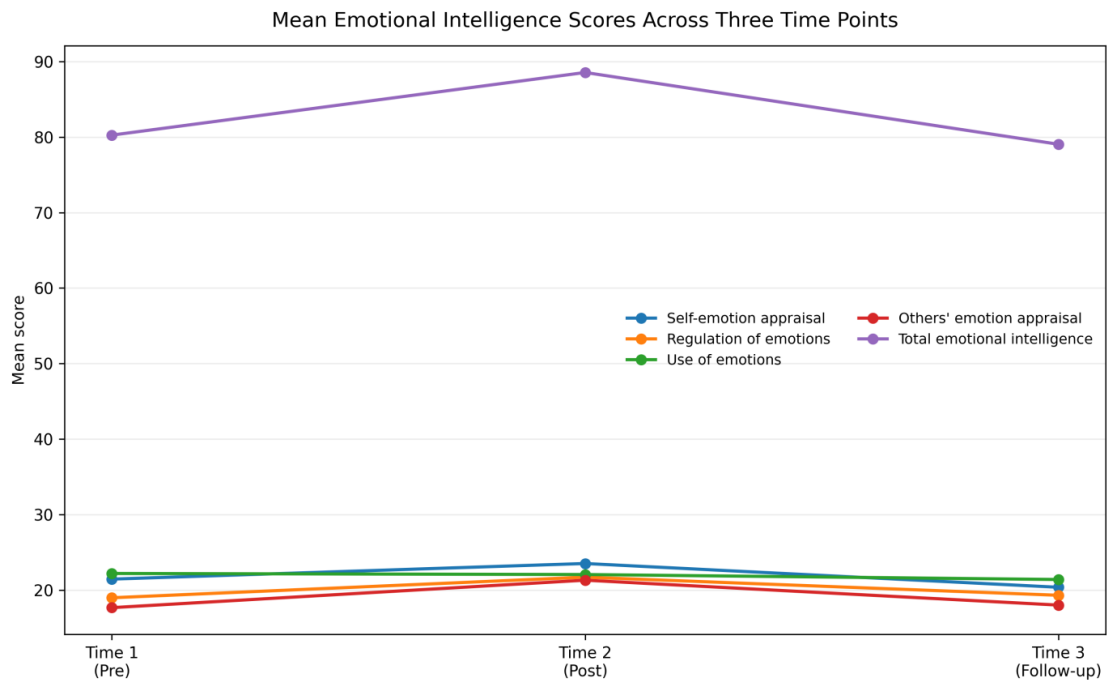


Figure 1: Mean emotional intelligence scores across the three assessment periods.

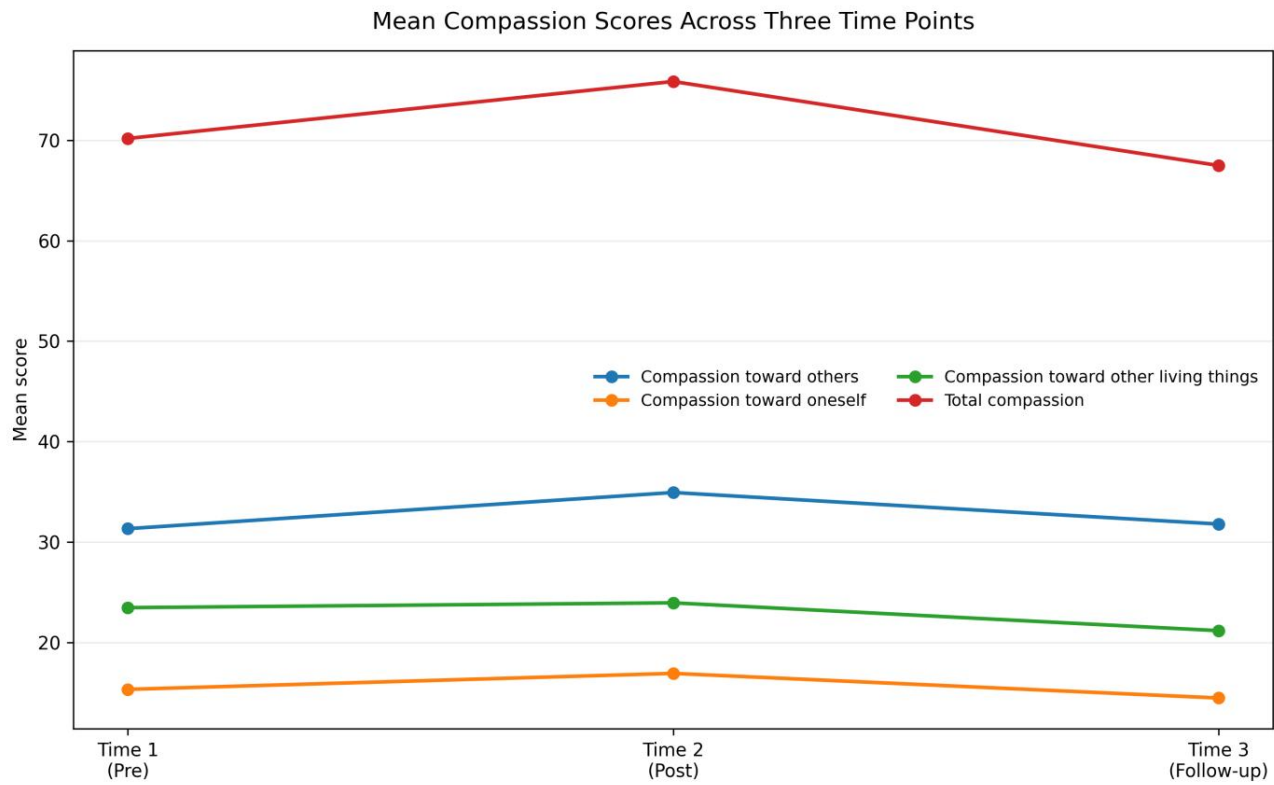


Figure 2: Mean compassion scores across the three assessment periods.

Repeated measures analysis of emotional intelligence.

Repeated-measures ANOVAs indicated significant differences across the three assessment periods for self-emotion appraisal, $F(2, 198) = 19.36, p < .001$; regulation of emotions, $F(2, 198) = 15.33, p < .001$; others' emotion appraisal, $F(2, 198) = 19.14, p < .001$; and total emotional intelligence, $F(2, 198) = 25.76, p < .001$. Bonferroni-adjusted pairwise comparisons indicated that self-emotion appraisal, regulation of emotions, others' emotion appraisal, and total emotional intelligence were significantly higher at Time 2 than at Time 1 and Time 3, whereas Time 1 and Time 3 did not differ significantly.

For use of emotions, the descriptive means were similar across time (Time 1: $M = 22.19, SD = 3.93$; Time 2: $M = 22.05, SD = 3.50$; Time 3: $M = 21.39, SD = 4.34$), and the manuscript reports no significant pairwise differences. However, the reported omnibus statistic $F(2, 198) = 1.14, p < .001$ is internally inconsistent with that interpretation and should be verified against the original SPSS output before submission.

Table 2: Repeated measures ANOVA results for emotional intelligence.

Variable	T1 M	T1 SD	T2 M	T2 SD	T3 M	T3 SD	F (2,198)
If-emotion appraisal	21.44	2.65	23.51	3.01	20.36	4.48	19.36**
Regulation of emotions	18.97	4.45	21.70	2.72	19.30	3.78	15.33**
Use of emotions	22.19	3.93	22.05	3.50	21.39	4.34	1.14*
Others' emotion appraisal	17.66	5.66	21.30	3.88	18.00	4.03	19.14**
Total emotional intelligence	80.26	10.74	88.56	9.05	79.05	10.00	25.76**

Note. ** $p < .001$. The source manuscript labels use emotions as $p < .001$ despite $F = 1.14$ and simultaneously reports non-significant pairwise comparisons; this statistic requires verification.

Repeated-measures analysis of compassion.

Repeated-measures ANOVAs showed significant differences across time for compassion toward others, $F(2, 198) = 10.22$, $p < .001$; compassion toward oneself, $F(2, 198) = 13.95$, $p < .001$; compassion toward other living things, $F(2, 198) = 11.37$, $p < .001$; and total compassion, $F(2, 198) = 16.98$, $p < .001$. Bonferroni-adjusted comparisons showed that compassion toward others and compassion toward oneself were higher at Time 2 than at Time 1 and Time 3, with no significant difference between Time 1 and Time 3. For compassion toward other living things, Time 3 was significantly lower than both Time 1 and Time 2, whereas Time 1 and Time 2 did not differ.

For total compassion, Time 2 was higher than Time 1 and Time 3, whereas Time 1 and Time 3 did not differ significantly. The source table reports $F(2, 198) = 16.98$, whereas the accompanying narrative reports $F(2, 198) = 25.76$. The table value should be checked against the original SPSS output before the manuscript is submitted.

Table 3: Repeated measures ANOVA results for compassion.

Variable	T1 M	T1 SD	T2 M	T2 SD	T3 M	T3 SD	F(2,198)
Compassion toward others	31.34	7.01	34.94	4.55	31.80	6.80	10.22**
Compassion toward oneself	15.35	3.22	16.94	3.57	14.49	3.31	13.95**
Compassion toward other living things	23.48	5.33	23.96	2.95	21.19	4.50	11.37**
Total compassion	70.17	11.88	75.84	7.84	67.48	10.64	16.98**

Note. ** $p < .001$. Different superscripts in the source table indicate significant Bonferroni-adjusted pairwise differences at $p = .05$. The total-compassion F value is reported as 16.98 in the source table but 25.76 in the accompanying text and requires verification.

Discussion

The present study examined the effects of verbal and non-verbal intervention strategies on emotional intelligence (EI) and compassion among middle-school students aged 11–13 years. The intervention

addressed four dimensions of emotional intelligence—self-emotion appraisal, regulation of emotions, use of emotions, and others' emotion appraisal—and three dimensions of compassion—compassion toward others, compassion toward oneself, and compassion toward other living things. Assessments were conducted before the intervention, immediately after the one-week intervention, and at a two-week follow-up. Overall, the findings indicated significant changes across time in several dimensions of emotional intelligence and compassion, with the most consistent pattern being an increase in scores immediately after the intervention followed by a decline at follow-up. This pattern suggests that the intervention was associated with short-term improvements, although the observed gains were not consistently maintained over the subsequent two weeks.

Emotional Intelligence

The findings demonstrated significant changes in self-emotion appraisal, regulation of emotions, others' emotion appraisal, and total emotional intelligence across the three assessment periods. These findings are consistent with broader evidence indicating that social and emotional competencies can be developed through structured school-based interventions. Durlak et al. (2011), in a meta-analysis of 213 school-based social and emotional learning programmes involving more than 270,000 students, found improvements in students' social-emotional skills, attitudes, behaviour, and academic performance. More recent evidence has similarly supported the value of universal school-based social and emotional learning interventions while emphasizing variation in outcomes according to programme characteristics and implementation.

Self-emotion appraisal showed a significant difference across the three assessment periods, $F(2, 198) = 19.36, p < .001$. The mean score increased from 21.44 at Time 1 to 23.51 at Time 2 and subsequently declined to 20.36 at Time 3. This finding suggests that the intervention activities may have provided students with opportunities to identify, understand, and communicate their own emotional experiences. Self-emotion appraisal represents an important component of emotional functioning because recognition of one's own emotional states provides a basis for subsequent regulation and adaptive responses. The improvement observed immediately following the intervention is also compatible with evidence from emotion-understanding interventions. Sprung et al. (2015), in a meta-analysis of 19 studies involving 749 children, reported positive effects of training on external, mental, and reflective aspects of children's emotion understanding.

Regulation of emotions also demonstrated a significant change across time, $F(2, 198) = 15.33, p < .001$. Scores increased from $M = 18.97$ at Time 1 to $M = 21.70$ at Time 2 before declining to $M = 19.30$ at Time 3. The immediate increase may indicate that the intervention provided students with opportunities to practise identifying emotional states and responding to them in more adaptive ways. Emotion regulation is particularly relevant during middle-school years because students increasingly encounter complex peer relationships, academic demands, and situations requiring the management of emotional reactions. Evidence from school-based social-emotional learning research supports the inclusion of emotion-management competencies within educational programmes (Durlak et al., 2011).

The present finding is also consistent with intervention research showing that emotional competencies can be modified through systematic training. Castillo et al. (2013), for example, examined a two-year EI intervention among 590 adolescents and reported reductions in aggressive behaviour and improvements in selected aspects of empathy among intervention participants compared with controls. Although the

duration and design of that study differed substantially from the present investigation, the findings provide support for the broader proposition that emotional competencies can be developed through structured educational interventions.

Others' emotion appraisal showed a significant difference across the three time periods, $F(2, 198) = 19.14$, $p < .001$. The mean increased from 17.66 at Time 1 to 21.30 at Time 2 and declined to 18.00 at Time 3. This pattern may reflect the contribution of verbal discussion and non-verbal activities to students' attention to facial expressions, emotional cues, interpersonal situations, and the perspectives of others. The development of emotion understanding is particularly relevant to interpersonal functioning because the ability to recognize others' emotional states may facilitate appropriate social responses. The meta-analytic evidence reported by Sprung et al. (2015) supports the potential of structured training to enhance different components of children's emotion understanding.

In contrast, use of emotions showed relatively little change across the three time periods, with means of 22.19, 22.05, and 21.39 at Time 1, Time 2, and Time 3, respectively. The absence of significant pairwise differences suggests that this component may have been less responsive to the brief intervention. One possible explanation is that the effective use of emotions for facilitating thought, motivation, and goal-directed behaviour may require repeated opportunities for application rather than short-term exposure to intervention activities. Evidence from intervention research also suggests that outcomes can vary according to the specific emotional competency targeted, the intervention setting, and the characteristics and duration of training (Sprung et al., 2015).

Importantly, the reported statistical result for use of emotions in the present manuscript should be verified before publication. The manuscript reports $F(2, 198) = 1.14$, $p < .001$ while simultaneously reporting non-significant pairwise comparisons. These values are internally inconsistent. Consequently, no strong interpretation of the omnibus test should be made until the original SPSS output has been checked.

The total emotional intelligence score showed a significant difference across the three assessment periods, $F(2, 198) = 25.76$, $p < .001$. The mean increased from 80.26 at Time 1 to 88.56 at Time 2 and subsequently declined to 79.05 at Time 3. The immediate increase represents an 8.30-point improvement relative to baseline, whereas the follow-up score was slightly below the baseline level. This pattern is important because it suggests that the intervention may have generated an immediate change in students' reported emotional competencies but that the change was not sustained after the intervention ended.

This finding should be interpreted cautiously. The present study used a one-group repeated-measures design without a control group. Therefore, the observed increase cannot be attributed exclusively to the intervention because alternative explanations, including repeated testing, maturation, social desirability, or other contextual influences, cannot be ruled out. The finding is better interpreted as evidence of **change following the intervention period** rather than definitive evidence of a causal intervention effect.

Compassion

The results for compassion demonstrated a broadly similar pattern. Significant changes were observed for compassion toward others, compassion toward oneself, compassion toward other living things, and total compassion. However, the magnitude and temporal pattern of change differed across the dimensions. Compassion toward others increased from $M = 31.34$ at Time 1 to $M = 34.94$ at Time 2 and subsequently declined to $M = 31.80$ at Time 3. The significant difference across time, $F(2, 198) = 10.22$, $p < .001$,

suggests that the intervention may have encouraged students to attend more closely to the emotional experiences and needs of others. This is theoretically consistent with the overlap between emotional awareness, perspective taking, empathy, and compassionate responding. School-based social-emotional learning programmes similarly emphasize interpersonal awareness and relationship skills as components of positive social development (Durlak et al., 2011).

Compassion toward oneself also demonstrated a significant change, $F(2, 198) = 13.95, p < .001$. Scores increased from $M = 15.35$ at Time 1 to $M = 16.94$ at Time 2 and declined to $M = 14.49$ at Time 3. The immediate increase may indicate that the intervention created opportunities for students to adopt more accepting and supportive attitudes toward themselves. This dimension is particularly relevant during adolescence, a developmental period characterized by increasing self-evaluation and sensitivity to social comparison. Meta-analytic evidence has identified a substantial inverse association between self-compassion and psychological distress among adolescents, suggesting that self-compassion is relevant to youth psychological well-being (Marsh et al., 2018).

The decline in self-compassion at follow-up, however, indicates that the immediate change may not have been consolidated. Recent evidence on compassion-focused interventions for children and adolescents similarly suggests potential benefits but highlights methodological limitations, heterogeneity of interventions, and uncertainty regarding the durability of outcomes (Roberts et al., 2026). Thus, continued practice, reinforcement, or booster sessions may be important if compassion-related changes are to be maintained.

Compassion toward other living things showed a different pattern. The mean increased only slightly from 23.48 at Time 1 to 23.96 at Time 2 and subsequently decreased to 21.19 at Time 3. The significant omnibus effect, $F(2, 198) = 11.37, p < .001$, was primarily reflected in the lower Time 3 score, as the pairwise comparisons indicated significant differences between Time 1 and Time 3 and between Time 2 and Time 3, but not between Time 1 and Time 2. Thus, the intervention did not appear to produce a substantial immediate improvement in this dimension. Instead, the decline at follow-up may suggest that compassion toward other living things requires more specific and sustained experiential activities.

Total compassion increased from $M = 70.17$ at Time 1 to $M = 75.84$ at Time 2 and decreased to $M = 67.48$ at Time 3. The immediate improvement was therefore approximately 5.67 points above baseline, whereas the follow-up score was lower than the initial assessment. This finding again suggests that the intervention may have generated short-term changes but that these changes were not maintained during the two-week follow-up period.

The parallel movement of emotional intelligence and compassion is noteworthy. Both constructs showed their highest overall scores immediately following the intervention and lower scores at follow-up. One possible interpretation is that activities designed to increase emotional awareness, emotional regulation, perspective taking, and interpersonal understanding may simultaneously support compassionate responses. However, the present study did not directly test the relationship between changes in emotional intelligence and compassion. Therefore, the observed parallel pattern should not be interpreted as evidence that improvement in EI caused improvement in compassion.

Maintenance of Intervention Effects

One of the most important findings of the present study is the decline in several scores between the post-intervention and follow-up assessments. The immediate improvement followed by subsequent reduction

suggests that a one-week intervention may be sufficient to produce measurable short-term changes but may not provide sufficient exposure for the consolidation of emotional and compassionate competencies. This interpretation is consistent with the broader intervention literature, which indicates that programme characteristics and implementation can influence outcomes. Durlak et al. (2011) found that implementation quality and adherence to recommended programme practices moderated the outcomes of school-based social-emotional learning interventions. More recent reviews have likewise emphasized substantial heterogeneity in intervention content, duration, delivery, outcome measures, and follow-up periods, making it difficult to identify a universally optimal intervention dosage (Balan et al., 2026).

The follow-up pattern therefore provides an important practical implication. Rather than assuming that a brief programme will produce enduring changes, schools may benefit from integrating emotional intelligence and compassion activities into regular classroom practices. Repeated practice, teacher reinforcement, classroom discussions, role-play, reflection activities, and periodic booster sessions may provide students with opportunities to apply these competencies across different situations.

At the same time, the decline below baseline observed for some measures should not automatically be interpreted as a negative effect of the intervention. Because there was no control group, it is impossible to determine whether the decline represents loss of intervention gains, regression toward the mean, measurement variability, contextual changes, or other developmental and situational influences. A controlled longitudinal design would be required to distinguish among these possibilities.

Theoretical Implications

The findings contribute to the understanding of emotional and compassionate development during the middle-school years by demonstrating that several dimensions of these constructs showed measurable variation over a relatively short period. The results are broadly compatible with the view that emotional competencies are not entirely fixed characteristics and can be supported through structured learning experiences.

The findings also highlight the importance of examining emotional intelligence at the dimensional level rather than relying exclusively on a total score. Self-emotion appraisal, regulation of emotions, and others' emotion appraisal showed clearer changes than use of emotions. Similarly, the three compassion dimensions did not respond identically. Such differences indicate that emotional and compassionate competencies may have different developmental trajectories and may require different intervention strategies.

Practical Implications

The findings have practical implications for school-based psychological and educational programmes. Emotional intelligence and compassion may be incorporated into school activities through structured discussions, role-playing exercises, storytelling, audiovisual materials, reflective activities, perspective-taking tasks, and cooperative classroom activities. Such approaches can potentially be integrated into existing school routines without requiring a completely separate academic programme.

However, the findings also indicate that **continuity may be more important than intensity alone**. The reduction in scores at follow-up suggests that schools should consider sustained implementation rather than isolated short-term programmes. Evidence from school-based SEL research supports the integration of social-emotional learning into regular educational practice rather than treating it solely as a one-time intervention (Durlak et al., 2011).

Limitations

The findings should be interpreted in light of several limitations. First, the study employed a single-group pretest–posttest follow-up design, and the absence of a control group limits causal inference. Second, the sample consisted of 100 students from a single school, which restricts the generalizability of the findings to students from other schools, regions, and sociocultural contexts. Third, the intervention lasted only one week, limiting conclusions about the long-term development of emotional intelligence and compassion. Fourth, the follow-up period was relatively short, with the third assessment conducted two weeks after the intervention. Longer follow-up periods would be necessary to determine whether changes persist over several months or academic years.

In addition, the study relied on self-report measures. Such measures may be influenced by response biases, social desirability, and students' interpretation of questionnaire items. Future studies could strengthen the design by incorporating teacher ratings, parent reports, peer assessments, behavioural observations, or performance-based measures of emotional functioning.

Finally, the statistical inconsistencies identified in the current Results section must be resolved before publication. In particular, the reported F and p values for use of emotions and the conflicting F values for total compassion should be checked against the original statistical output.

Future Research

Future studies should employ randomized controlled or controlled quasi-experimental designs with larger and more diverse samples. A comparison group would allow researchers to distinguish intervention-related changes from developmental, testing, and contextual effects. Future research should also examine longer intervention periods and include booster sessions to determine whether repeated exposure improves maintenance.

Multiple follow-up assessments—for example, immediately after the intervention, one month later, three months later, and six months later—would provide a clearer picture of the stability of intervention effects. Researchers could also examine whether particular intervention components are more effective for specific dimensions of emotional intelligence or compassion.

Another important direction would be to examine the relationship between emotional intelligence and compassion directly. Longitudinal or mediation models could investigate whether improvements in self-emotion appraisal or emotion regulation contribute to subsequent changes in compassion toward others or oneself. Such analyses could provide greater insight into the psychological mechanisms through which school-based interventions may influence interpersonal and intrapersonal functioning.

Conclusion

Overall, the present findings suggest that verbal and non-verbal intervention strategies were associated with short-term improvements in several dimensions of emotional intelligence and compassion among middle-school students. The strongest changes were observed immediately following the intervention, while scores generally declined at the two-week follow-up. The findings therefore provide preliminary support for the feasibility and potential utility of brief school-based emotional and compassion-focused activities, while simultaneously emphasizing the importance of sustained practice and reinforcement.

The study should consequently be interpreted as evidence of **promising short-term changes rather than definitive evidence of a lasting causal intervention effect**. Stronger conclusions will require controlled designs, larger samples, longer intervention periods, and extended follow-up assessments.

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