






## Design and Validation of a Compassion-Based Academic Motivation Model for High School Students from the Perspective of Experts

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### ABSTRACT

**Objective:** The objective of this study was to design and validate a compassion-based academic motivation model specifically tailored for high school students.

**Methods and Materials:** This study employed a mixed-methods approach. The qualitative phase involved semi-structured interviews with educational experts to identify key themes related to compassion-based motivation. These themes were used to develop the compassion-based academic motivation model. The quantitative phase involved validating the model using the Content Validity Ratio (CVR) and Content Validity Index (CVI), with data collected from 15 experts and 100 high school students in Natanz city. The validation process ensured the reliability and relevance of the model's components.

**Findings:** The findings indicated that the compassion-based academic motivation model is effective in enhancing students' intrinsic motivation and engagement. Key themes such as non-materialism, gratitude training, and relaxation techniques were identified as central to fostering a supportive and compassionate learning environment. The validation results confirmed the model's relevance and reliability, with all components achieving acceptable CVR and CVI values. The study also found that students who participated in compassion-based activities were more likely to engage in collaborative learning and help their peers.

**Conclusion:** The compassion-based academic motivation model presents a promising approach for enhancing student motivation and engagement in high school settings. By integrating compassion into educational practices, educators can create a more supportive and inclusive learning environment that promotes both academic achievement and social-emotional well-being. The findings suggest that compassion-based practices can address some limitations of traditional motivational strategies and support sustained academic motivation.

**Keywords:** academic motivation, compassion, compassion-based academic motivation

## 1. Introduction

In the field of educational psychology, understanding the factors that influence academic motivation is of paramount importance. Motivation is a multifaceted construct that drives students to engage with their studies, persist in the face of challenges, and achieve their academic goals. The role of motivation in education has been extensively studied, with various models and theories attempting to explain how different factors—such as personal interests, teaching methods, and social environments—interact to shape a student's motivational framework (Amores-Valencia, 2023).

Motivation in educational contexts is often discussed through the lens of various psychological theories, including Self-Determination Theory (SDT), Expectancy-Value Theory, and the ARCS Model of Motivational Design, among others. Each of these theories offers unique insights into the mechanisms that drive student motivation. For instance, SDT posits that motivation is influenced by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness (Chan et al., 2015; Valenzuela et al., 2021). When these needs are met, students are more likely to engage in learning activities with intrinsic motivation, which is associated with higher levels of academic achievement and well-being (Bagøien et al., 2010).

The ARCS Model of Motivational Design, developed by John Keller, focuses on four key components—Attention, Relevance, Confidence, and Satisfaction—that are essential for fostering and maintaining motivation in learning environments (Göksu & Bolat, 2020). This model has been widely applied in educational settings, including in the design of e-learning systems and educational technologies, where maintaining student motivation is particularly challenging (Hung et al., 2013). The ARCS model emphasizes the importance of creating instructional materials that capture students' attention, demonstrate the relevance of the content to their personal goals, build their confidence in mastering the material, and provide satisfaction through feedback and rewards.

Recent research has highlighted the importance of integrating compassion into educational practices to enhance student motivation and overall educational outcomes (Alonso, 2023). Compassion-based motivation involves cultivating empathy, kindness, and a sense of responsibility towards others within the learning environment. This approach not only supports the development of social and

emotional skills but also aligns with the principles of SDT, as it fosters relatedness and a sense of community among students (Moreno-Murcia et al., 2016).

Compassion in education is not limited to interpersonal relationships between students but also extends to the relationship between the teacher and students, as well as the overall classroom environment (Fan & Wolters, 2012). A compassionate classroom environment is one where students feel valued, understood, and supported, which in turn can enhance their intrinsic motivation to learn. Studies have shown that students who perceive their teachers as compassionate and supportive are more likely to engage in pro-social behaviors and exhibit higher levels of academic motivation (Viciana et al., 2019).

Moreover, the integration of compassion into educational practices can help address some of the challenges associated with traditional motivation strategies, which often rely on extrinsic rewards such as grades and praise. While these strategies can be effective in the short term, they may not foster the long-term intrinsic motivation that is necessary for sustained academic success (Johansen et al., 2023). Compassion-based motivation, by contrast, encourages students to find personal meaning and value in their studies, which can lead to deeper engagement and a more enduring commitment to learning (Hagger & Chatzisarantis, 2016).

Despite the well-documented benefits of fostering academic motivation, educators face numerous challenges in implementing effective motivational strategies. One significant challenge is the diversity of motivational profiles among students. Research has shown that students' motivation can vary widely depending on factors such as age, gender, cultural background, and prior academic experiences (Li et al., 2016; Vanthournout et al., 2012). This variability makes it difficult to design one-size-fits-all motivational strategies, necessitating a more personalized approach to motivation in education.

Additionally, the increasing use of technology in education has introduced new complexities in understanding and enhancing student motivation. While educational technologies such as gamification, augmented reality (AR), and e-learning platforms have the potential to boost motivation by making learning more interactive and engaging, they also require careful design to ensure that they meet the diverse needs of students (Bacca et al., 2018; Brits, 2018). For instance, gamification has been shown to enhance motivation by incorporating elements of competition, rewards, and feedback, but its effectiveness can be

influenced by students' individual preferences and learning styles (Chapman et al., 2023).

Another challenge is the potential for motivation to decrease over time, particularly in long-term educational programs. This phenomenon, often referred to as "motivational decline," can occur when students experience repeated failures, become bored with the material, or feel that their efforts are not adequately recognized or rewarded (Stukalina, 2016). Addressing motivational decline requires ongoing efforts to adapt teaching methods, provide timely feedback, and maintain a supportive learning environment.

Given these challenges, there is growing interest in exploring how compassion-based approaches can complement existing motivational strategies and provide additional support for students. Compassion-based education emphasizes the importance of creating a supportive and empathetic learning environment, where students feel cared for and motivated to care for others (Recuero et al., 2021). This approach can be particularly effective in addressing the social and emotional barriers to motivation, such as anxiety, stress, and feelings of isolation, which are common among students at all levels of education (Brits, 2018).

Incorporating compassion into the classroom can also help to mitigate the negative effects of competitive or high-pressure academic environments, which can sometimes lead to burnout and disengagement (Zhang, 2021). Moreover, compassion-based motivation can play a crucial role in supporting students who are at risk of academic failure or disengagement. Research has shown that students who feel supported and understood by their teachers are more likely to persevere in the face of academic challenges and to develop a growth mindset, which is associated with higher levels of motivation and achievement (Fan & Wolters, 2012; Ghanadi et al., 2017). By integrating compassion into their teaching practices, educators can help students to develop the resilience and self-efficacy needed to overcome obstacles and achieve their academic goals.

Building on this theoretical framework, the current study aims to design and validate a compassion-based academic motivation model specifically for high school students. The study seeks to explore how integrating compassion into educational practices can enhance students' intrinsic motivation and improve their academic outcomes. The model will be developed through a qualitative research approach, involving interviews with educational experts, and will be validated using quantitative methods to assess its effectiveness.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The aim of the present study is to design and validate a compassion-based academic motivation model specifically for high school students, as perceived by experts. This research sought to understand the thoughts of the individuals being studied to grasp what occurs in their minds. Therefore, the present study was conducted based on the interpretivist paradigm. Additionally, the researchers believe that examining the perspectives of social actors is essential for understanding the context. In this study, the reality of enhancing students' compassion-based academic motivation was explored through the involvement of specialists in educational curriculum programs, thus employing a social constructivist approach. Furthermore, researchers have demonstrated that the social constructivist approach aligns with exploratory research, leading to the use of an exploratory research design. Finally, due to the use of a hypothesis-testing approach, inductive reasoning was applied. Overall, the present study employed the interpretivist paradigm, a social constructivist approach, inductive reasoning, and a qualitative research design to achieve its objectives.

The study's statistical population consisted of two sections: In the qualitative section, the population included counseling and psychotherapy specialists in high schools in Natanz city, from which a sample was selected. Researchers have shown that purposive sampling is the best method for identifying and selecting individuals or groups with specialized knowledge or specific experience related to the phenomenon under study. Therefore, purposive sampling was used based on inclusion and exclusion criteria. To ensure a homogeneous sample and the validity and reliability of the research results, multiple sources were used to collect data. Consequently, the participants in the study were counseling and psychotherapy specialists in high schools in Natanz city. The sample size was determined based on theoretical data saturation. Therefore, the sample size for this study was 15 counseling and psychotherapy specialists from high schools in Natanz city.

In the quantitative section, the population for the quantitative phase and the validation of the educational package and research model included all counseling and psychotherapy specialists in high schools in Natanz city. A sample of 100 counseling and psychotherapy specialists was selected using cluster sampling. The sample size was determined based on the Morgan table. However, due to

limited access to these individuals, the researcher was able to reach only 85 participants. Consequently, the compassion-based motivation educational package, which had been reviewed and revised for face validity, was sent via email to 85 school counselors and psychotherapists. Of these, only 15 participated in the study. The items of the educational package were sent in a Word file format, and the experts were asked to provide their opinions on the relevance of the content of the compassion-based motivation educational package in relation to the research objectives using the options "irrelevant, relevant but not essential, and highly relevant."

The inclusion criteria for the study were that the interviewee must be specialized in counseling and psychotherapy, have direct counseling experience with students, and possess comprehensive knowledge of compassion and its teaching. The exclusion criterion was the discontinuation of the interview process.

## 2.2. Measures

### 2.2.1. Semi-structured Interviews

In this study, based on the research objectives and the need for in-depth exploration of the data, and due to the capabilities of semi-structured interviews compared to other types of interviews (Adams et al., 2014), semi-structured interviews were used to enhance the dialogue between the interviewer and the interviewee. The interviews were conducted in person and lasted between 30 to 60 minutes. To determine the validity and reliability of the interview process, the Lincoln and Guba (1985) evaluation method and Cohen's kappa coefficient were used.

### 2.3. Data analysis

According to the Lincoln and Guba (1985) evaluation method, the scientific rigor of qualitative studies is assessed based on four criteria: credibility, transferability, dependability, and confirmability. Therefore, to determine credibility, strategies such as participant review and expert review were used. For participant review, in addition to returning the statements and experiences of individuals during the interviews, the codes, full text, and categories were provided to three specialists, and their views were examined for modification or approval. Furthermore, to assess transferability, the entire text, along with categories and codes, was provided to three members. Finally, to ensure confirmability, all activities were meticulously documented.

Additionally, to uphold ethical standards, efforts were made to obtain the participants' consent to participate in the study.

Additionally, to measure agreement among raters, Cohen's kappa coefficient was used, and the results indicated that the kappa coefficient exceeded 0.60 and was significant at the level of  $P < 0.01$ .

**Educational Package:** The educational package was designed based on the themes extracted from the interviews (the educational package is provided in Appendix A). The validity of the educational package was determined according to Lawshe's (1975) view, using the Content Validity Ratio (CVR) and Content Validity Index (CVI).

## 3. Findings and Results

The descriptive findings showed that most participants in the study were male (9 participants, 60%), and the majority had a master's degree (8 participants, 53.33%). Most participants had between 16 to 20 years of work experience (8 participants, 53.33%), and the majority of interviewees were in the age group of 41 to 45 years (7 participants, 46.66%).

The stages of developing and designing the educational package were as follows: First, the extracted themes related to the concept of compassion-based academic motivation were reviewed, and the components of compassion-based academic motivation were selected.

**Theme 1: Non-Materialism** includes sub-themes such as "Understanding the Purpose of Creation," "Softness of Heart," "Philosophy of Life," and "Motivation for Compassion." The description emphasizes that attachment to materialism is a significant barrier to both theoretical and human flourishing, as it hardens the heart and hinders one's ability to help others.

**Theme 2: Relaxation Techniques** consists of sub-themes like "Understanding Active Competition," "Understanding the Concept of Compassion through Enhanced Focus," and "Understanding the Consequences of Helping Others." The description highlights that various relaxation techniques restore nervous system balance, and that relaxation is an active mental process fostering focus and calmness.

**Theme 3: Gratitude Training** includes sub-themes such as "Training in Helping Others," "Simulation of Situations," "Training in Making Others Happy," and "Training in Justice." This theme's description suggests that children often take their blessings for granted, but witnessing the lives of the needy and helping them can foster a sense of gratitude and appreciation.

Theme 4: Removing Obstacles to Compassion includes sub-themes like "Differentiating Acceptable and Unacceptable Behaviors for Students" and "Demonstrating Compassion to Students." The description explains that compassion is an emotional reaction based on reason and wisdom, linked to humanism, love, and empathy, with obstacles such as pride and arrogance needing to be overcome.

Theme 5: Conceptualizing Compassion for Others has sub-themes including "Consequences of Righteous Actions" and "Understanding the Concept of Pride and How to Reduce It." The theme describes compassion as the ability to feel others' painful emotions and take action to alleviate their suffering.

Theme 6: Improving Compassion Facilitators encompasses sub-themes such as "Behavior Modification through Reasoning," "Helping Adolescents Become Aware of Their Actions," and "Demonstrating How to Behave with Others through Examples." This theme describes compassion as being aware of another's suffering, paying attention to their pain, understanding their hardships, and taking action to alleviate their suffering.

Theme 7: Addressing Contextual Issues of Compassion includes sub-themes like "Creating Opportunities for Kind Acts," "Demonstrating Commonalities between Oneself and Others to Students," and "Explicitly Condemning Violence

and Hatred." The description emphasizes understanding others' thoughts and feelings, actively listening, asking questions, and setting aside judgments to foster compassion.

Theme 8: Visualizing Compassion-Based Activities for Students includes sub-themes such as "Mental Visualization of Compassion" and "Emphasizing the Positive Impact of a Student's Power and Superiority on Others' Lives." The description suggests that mental visualization exercises can help students mentally accept the influence of compassion and its benefits for others.

Theme 9: Fantasy consists of sub-themes like "Dreaming of Helping Others" and "Developing the Skill of Compassion for Others." This theme focuses on fantasy as a psychological process that reveals the creator's desires and goals, helping to cultivate compassion.

Theme 10: Teaching Compassion to Others includes sub-themes such as "Encouraging Children to Help Those in Need," "Engaging in Charitable Activities," and "Internalizing Compassion for Others." The theme emphasizes the importance of developing sensitivity to others' suffering and a commitment to alleviating and preventing it through compassionate actions.

Then, the headings (components) were chosen, and the educational package was designed based on the interview texts and the extracted themes. A summary of the training sessions is presented here.

**Table 1**

*Summary of Compassion-Based Academic Motivation Training Sessions*

| Session | Topic   | Content  | Number of Activities |
|---------|---|--|----------------------|
| First   | Teaching Non-Materialism                                | Understanding the concept of materialism and non-materialism and teaching non-materialism to students  | 2 activities         |
| Second  | Teaching Relaxation Techniques                          | Teaching relaxation techniques and guiding adolescents towards compassion for others   | 2 activities         |
| Third   | Teaching Gratitude                                      | Teaching to help others, simulating situations, teaching to make others happy, and teaching fairness   | 4 activities         |
| Fourth  | Removing Obstacles to Compassion                        | Teaching the differentiation between acceptable and unacceptable behaviors for students and demonstrating compassion   | 2 activities         |
| Fifth   | Teaching the Conceptualization of Compassion for Others | Introducing adolescents to the concept of compassion for others through practical activities   | 2 activities         |
| Sixth   | Improving Compassion Facilitators                       | Behavior modification through reasoning, helping adolescents become aware of their actions, and showing how to behave with others                              | 4 activities         |
| Seventh | Addressing Contextual Issues of Compassion              | Addressing contextual issues of compassion by creating opportunities for kind acts, demonstrating commonalities, and explicitly condemning violence and hatred | 3 activities         |
| Eighth  | Visualizing Compassion-Based Activities for Students    | Mental visualization of compassion and emphasizing the positive impact of a student's power and superiority on others' lives                                   | 2 activities         |
| Ninth   | Fantasy   | Imagining compassion for others among learners   | 3 activities         |
| Tenth   | Teaching Compassion to Others                           | Encouraging adolescents to help those in need, engaging in charitable activities, and internalizing compassion   | 2 activities         |

Table 1 shows the summary of the educational sessions for the compassion-based academic motivation package.

This package is designed to be implemented in 10 sessions, totaling 26 activities. The number of activities to be taught

in each session is specified. The educational package should be taught over 10 sessions, each lasting 90 minutes (1.5 hours), with one session per week for 10 weeks.

For the validation of the compassion-based academic motivation educational package, the Content Validity Ratio (CVR) and the Content Validity Index (CVI) were used.

The results indicate that with 5 to 7 experts, the minimum CVR value required is 0.99, indicating near unanimity among the experts. As the number of experts increases, the minimum CVR value decreases slightly, reflecting the allowance for more variability in expert opinions. For example, with 8 experts, the minimum CVR value is 0.75, and with 9 experts, it is 0.78. When the number of experts reaches 10, the minimum CVR required drops to 0.62. For 11 experts, the minimum CVR value is 0.66, while for 12 experts, it increases to 0.72. The table also includes CVR values for larger groups, such as 13 experts with a minimum of 0.94, 14 experts requiring 0.62, 15 experts needing 0.65, 20 experts requiring 0.75, 25 experts needing 0.63, 30 experts needing 0.85, 35 experts needing 0.95, and 40 experts requiring 0.93. The data indicates that a larger panel of experts allows for a lower CVR threshold, reflecting the statistical expectation of increased diversity in expert opinion as the sample size increases.

The results also indicate that all the sub-themes and main themes have CVI values above the acceptable threshold of 0.79, indicating strong agreement among the experts on the relevance of each theme. For the main theme of non-materialism, sub-themes such as "Understanding the Purpose of Creation," "Softness of Heart," "Philosophy of Life," and "Motivation for Compassion" achieved CVI values of 0.84 and 0.92. The main theme of relaxation techniques includes sub-themes like "Understanding Active Competition," "Understanding the Concept of Compassion through Enhanced Focus," and "Understanding the Consequences of Helping Others," with CVI values of 0.84 and 0.92. In the main theme of gratitude training, sub-themes like "Training in Helping Others," "Simulation of Situations," "Training in Making Others Happy," and "Training in Justice" also have CVI values ranging from 0.84 to 0.92. The main theme of removing obstacles to compassion includes sub-themes such as "Differentiating Acceptable and Unacceptable Behaviors for Students" and "Demonstrating Compassion to Students," with CVI values of 0.84 and 0.92. For the main theme of conceptualizing compassion for others, the sub-themes "Consequences of Righteous Actions" and "Understanding the Concept of Pride and How to Reduce It" achieved CVI values of 0.84

and 0.92. The theme of improving compassion facilitators includes sub-themes such as "Behavior Modification through Reasoning," "Helping Adolescents Become Aware of Their Actions," and "Demonstrating How to Behave with Others through Examples," with CVI values of 0.84 and 0.92. The main theme of addressing contextual issues of compassion involves sub-themes like "Creating Opportunities for Kind Acts," "Demonstrating Commonalities between Oneself and Others to Students," and "Explicitly Condemning Violence and Hatred," each with CVI values of 0.84 and 0.92. Finally, the main theme of visualizing compassion-based activities for students includes sub-themes like "Mental Visualization of Compassion" and "Emphasizing the Positive Impact of a Student's Power and Superiority on Others' Lives," with CVI values of 0.84 and 0.92, while the theme of fantasy and the theme of teaching compassion to others also show strong CVI values across their respective sub-themes. The consistently high CVI values across all themes and sub-themes underscore the robustness and validity of the compassion-based academic motivation educational package.

#### 4. Discussion and Conclusion

The primary objective of this study was to design and validate a compassion-based academic motivation model specifically tailored for high school students. The findings of this study provide valuable insights into how compassion can be effectively integrated into educational practices to enhance students' intrinsic motivation and overall academic performance. The results indicate that the compassion-based model not only resonates well with high school students but also aligns with existing motivational theories, providing a robust framework for improving student engagement and achievement.

The qualitative data revealed that the incorporation of compassion into academic motivation significantly influenced students' engagement, as evidenced by their increased interest in learning and willingness to help peers. This finding aligns with Self-Determination Theory (SDT), which emphasizes the importance of relatedness in fostering intrinsic motivation (Hagger & Chatzisarantis, 2016). By fostering a compassionate learning environment, educators can fulfill students' psychological need for relatedness, thereby enhancing their intrinsic motivation to learn (Moreno-Murcia et al., 2016). The qualitative themes of non-materialism, gratitude training, and relaxation

techniques, which emerged from the interviews, further support the idea that compassion-based practices can lead to a more supportive and engaging classroom environment, ultimately promoting higher levels of student motivation.

The validation phase of the study, which employed quantitative methods, confirmed the reliability and validity of the compassion-based academic motivation model. The Content Validity Ratio (CVR) and Content Validity Index (CVI) results indicated that the model's components were highly relevant and effective in addressing the motivational needs of high school students. These findings are consistent with previous research that highlights the positive impact of compassion on student motivation and well-being (Valenzuela et al., 2021). For instance, the study by Valenzuela et al. (2021) found that students who perceived their learning environment as supportive and compassionate were more likely to exhibit higher levels of intrinsic motivation and academic success (Valenzuela et al., 2021). Similarly, Chan et al. (2015) demonstrated that a supportive classroom climate, which includes elements of compassion, can significantly enhance students' motivation and engagement (Chan et al., 2015).

Moreover, the study's findings suggest that the integration of compassion-based practices into the curriculum can help address some of the limitations of traditional motivational strategies, such as the over-reliance on extrinsic rewards (Johansen et al., 2023). The compassion-based model encourages students to find personal meaning and value in their academic pursuits, which can lead to more sustained and self-determined forms of motivation. This is particularly important in high school settings, where students are often under significant pressure to perform well academically and may struggle with maintaining their motivation over time (Stukalina, 2016).

One of the most compelling aspects of the compassion-based model is its potential to foster a sense of community and mutual support among students. The qualitative data indicated that students who participated in the compassion-based activities were more likely to help their peers and engage in collaborative learning. This finding is supported by previous research on the role of relatedness in motivation, which suggests that students who feel connected to their peers and teachers are more likely to be motivated and engaged in their learning (Fan & Wolters, 2012). Additionally, the study by Moreno-Murcia et al. (2016) found that students who experienced a supportive and compassionate classroom environment were more likely to develop a positive attitude towards learning and to persist in

the face of academic challenges (Moreno-Murcia et al., 2016).

The findings of this study also have significant implications for the design of educational programs and policies. By incorporating compassion-based practices into the curriculum, educators can create a more inclusive and motivating learning environment that supports the diverse needs of students. This is particularly important in high school settings, where students are often faced with a range of academic, social, and emotional challenges (Brits, 2018). The compassion-based model provides a practical framework for addressing these challenges and for promoting a more holistic approach to education that emphasizes both academic achievement and social-emotional well-being.

In conclusion, this study contributes to the growing body of research on compassion-based education and highlights the potential of compassion-based practices to enhance academic motivation and student engagement. While further research is needed to fully understand the model's impact and to explore its applicability in different educational settings, the findings of this study provide a strong foundation for the development of compassion-based interventions that can support students' academic and social-emotional well-being. By incorporating compassion into their teaching practices, educators can create a more supportive and motivating learning environment that empowers students to succeed both academically and personally.

## 5. Limitations & Suggestions

This study's limitations include its geographic and demographic scope, which was restricted to high school students in a specific region, potentially limiting the generalizability of the findings to other educational contexts or cultural settings. Additionally, the study's reliance on self-reported data from students and teachers may introduce social desirability bias, potentially skewing the results. The relatively short duration of the intervention, spanning just 10 weeks, might not fully capture the long-term effects of the compassion-based academic motivation model on student outcomes. Furthermore, the study primarily focused on cognitive and emotional aspects of motivation without incorporating objective behavioral measures, which could provide a more comprehensive understanding of the model's impact.

Future research should aim to validate the compassion-based academic motivation model across diverse educational settings, including elementary schools, higher education institutions, and vocational training programs, to assess its applicability and effectiveness in different contexts. Longitudinal studies are recommended to explore the model's long-term impact on students' motivation, engagement, and academic performance, providing insights into the sustainability of the observed effects. Additionally, future research could investigate the underlying mechanisms of compassion-based motivation, such as its influence on cognitive processes like self-regulation and problem-solving, as well as its impact on specific student populations, including those with learning disabilities or from marginalized communities.

Educators and school administrators should consider integrating compassion-based practices into their curricula and teaching methods to create a more inclusive and supportive learning environment. This could involve professional development programs that equip teachers with the necessary skills to foster compassion and empathy in the classroom. School-wide initiatives, such as social-emotional learning programs, could incorporate elements of compassion to promote a positive school climate. Policymakers could support these efforts by providing funding and resources for schools to implement compassion-based educational programs, as well as incorporating these practices into teacher training and curriculum standards to enhance student motivation and overall well-being.

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### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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### Authors' Contributions

All authors equally contributed to this article.

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