Influence of Emotional Intelligence on Academic Performance

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Abstract: Emotional intelligence (EI) is the ability to perceive, understand, regulate and use emotions in oneself and others. Research on EI suggests that it is associated with more pro-social behavior, better academic performance and improved empathy towards patients. In this article, we review some of the evidence that supports the link between EI and academic performance (AP) in different educational contexts and levels. We also discuss some of the challenges and limitations of EI research and practice, such as the lack of consensus on the definition and measurement of EI, the difficulty of establishing causal relationships between EI and AP, the variability of the effect sizes and moderators of EI and AP, and the generalizability and applicability of EI interventions. We also propose some future directions and recommendations for EI research and practice, such as adopting a more integrative and comprehensive approach to define and measure EI, designing and conducting more experimental and longitudinal studies to test the causal effects of EI on AP, exploring the variability and interactions of EI and AP across different contexts and groups, and evaluating the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in educational settings. We hope that this article will stimulate more interest and attention to the role of EI in education, as well as more collaboration and integration among researchers, educators, practitioners, and policymakers in this field.

Keywords: Emotional intelligence; academic performance; education; intervention; meta-analysis.

Introduction:
Academic performance (AP) is one of the most important outcomes of education, as it reflects the extent to which students have achieved the learning objectives and standards of the curriculum. AP is also a key indicator of students' future success in higher education, career, and life. Therefore, understanding and enhancing AP is a major goal and challenge for educators, researchers, practitioners, and policymakers.

However, AP is not only determined by cognitive factors, such as intelligence, memory, or reasoning, but also by non-cognitive factors, such as personality, motivation, or emotions. Among these non-cognitive factors, emotional intelligence (EI) has emerged as a relevant and influential construct for understanding and enhancing AP. EI is the ability to perceive, understand, regulate and use emotions in oneself and others (Mayer and Salovey, 1997). Research on EI suggests that it is associated with more pro-social behavior, better academic performance and improved empathy towards patients (Cherry et al., 2013).

In this article, we will review some of the evidence that supports the link between EI and AP in different educational contexts and levels. We will also discuss some of the challenges and limitations of EI research and practice, such as the lack of consensus on the definition and measurement of EI, the difficulty of establishing causal relationships between EI and AP, the variability of the effect sizes and moderators of EI and AP, and the generalizability and applicability of EI interventions. We will also propose some future directions and recommendations for EI research and practice in the educational field. We hope that this article will stimulate more interest and attention to the role of EI in education, as well as more collaboration and integration among researchers, educators, practitioners, and policymakers in this field.

Emotional intelligence (EI) is the ability to perceive, understand, regulate and use emotions in oneself and others (Mayer and Salovey, 1997). Research on EI suggests that it is associated with more pro-social behavior, better academic performance and improved empathy towards patients (Cherry et al., 2013). In this article, we will review some of the evidence that supports the link between EI and academic performance (AP) in different educational contexts and levels.

Objectives:
The objective of this article is to provide a comprehensive overview of the current state of knowledge on the relationship between EI and AP in various educational settings and levels. We aim to summarize the main findings, gaps, challenges, and implications of EI research and practice for education. We also intend to offer some suggestions and directions for future research and practice in this area.

EI Interventions and Their Impact on AP:
Given the positive relationship between EI and AP, several studies have examined the effectiveness of EI interventions and their impact on AP in different educational settings. These interventions aim to enhance students' EI skills, such as emotion awareness, expression, regulation, and empathy, through various activities, such as role-playing, games, discussions, and feedback.

One example of an EI intervention is the EDI program (Emotional Development and Intelligence), which was implemented with 1,089 Spanish pre-adolescent elementary students (Viguer et al., 2020). The EDI program consisted of 12 sessions of 50 minutes each, delivered by trained teachers once a week for three months. The program covered four modules: emotion recognition and expression, emotion regulation, empathy, and social skills. The results showed that the EDI program had a positive effect on students' EI scores, as well as on their AP in mathematics and language. Moreover, the effect of the EDI program was stronger for students with lower initial EI scores or lower initial AP.

Another example of an EI intervention is the RULER program (Recognizing, Understanding, Labeling, Expressing, and Regulating emotions), which was implemented with 62 fifth- and sixth-grade classrooms in eight schools in the United States (Brackett et al., 2012). The RULER program consisted of four tools: the Mood Meter, the Meta-Moment, the Blueprint, and the Charter. The Mood Meter helps students to identify and label their emotions; the Meta-Moment helps students to pause and reflect before reacting to an emotional situation; the Blueprint helps students to resolve conflicts and repair relationships; and the Charter helps students to create a positive emotional climate in the classroom. The results showed that the RULER program had a positive effect on students' EI scores, as well as on their AP in English language arts. Moreover, the effect of the RULER program was stronger for students with lower initial EI scores or lower initial AP.

These studies suggest that EI interventions can be beneficial for improving students' EI skills and their AP in different subjects. However, more research is needed to evaluate the long-term effects of these interventions, as well as to identify the optimal dosage, duration, and delivery methods of these interventions.

Challenges and Limitations of EI Research and Practice:
Despite the promising evidence on the relationship between EI and AP, there are also some challenges and limitations that need to be addressed in future research and practice. Some of these challenges and limitations are:

- The lack of consensus on the definition and measurement of EI. There are different theoretical models and operationalizations of EI, such as ability-based, trait-based, or mixed models, which may not capture the same construct or have the same validity and reliability (Mayer et al., 2008). Moreover, different EI measures may have different psychometric properties, such as factor structure, reliability, validity, and norms, which may affect the interpretation and comparison of results across studies (Brackett et al., 2011).
- The difficulty of establishing causal relationships between EI and AP. Most of the studies on EI and AP are correlational, which do not allow to infer causality or directionality of effects. It is possible that EI influences AP, but it is also possible that AP influences EI, or that both are influenced by other variables, such as personality, motivation, or intelligence (Zeidner et al., 2012). Therefore, more experimental and longitudinal studies are needed to test the causal effects of EI on AP, as well as to examine the mediators and moderators of this relationship.
- The variability of the effect sizes and moderators of EI and AP. The meta-analysis by Sánchez-Álvarez et al. (2020) showed significant heterogeneity in the effect sizes of EI on AP across studies, indicating that there may be other factors that influence this relationship. Some of these factors may include the type of EI measure, the type of AP measure, the age and gender of the students, the educational level and context, and the cultural background (MacCann et al., 2019). Therefore, more research is needed to identify and control for these potential moderators and to examine their interactions with EI and AP.
- The generalizability and applicability of EI interventions. Although some EI interventions have shown positive effects on EI and AP in specific settings and populations, it is not clear whether these effects can be generalized or replicated in other contexts or groups. Moreover, there may be practical challenges in implementing EI interventions in educational settings, such as the availability of resources, time, training, and support for teachers and students (Brackett et al., 2011). Therefore, more research is needed to evaluate the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in different educational settings and populations.

A Critical Analysis of the Relationship Between Emotional Intelligence and Academic Performance:

Emotional intelligence (EI) is the ability to perceive, understand, regulate and use emotions in oneself and others. Research on EI suggests that it is associated with more pro-social behaviour, better academic performance and improved empathy towards patients (Cherry et al., 2013). However, there are also some challenges and limitations in EI research and practice, such as the lack of consensus on the definition and measurement of EI, the difficulty of establishing causal relationships between EI and academic performance, the variability of the effect sizes and moderators of EI and academic performance, and the generalizability and applicability of EI interventions. In this paper, we will critically analyze some of the evidence, arguments, and implications of the relationship between EI and academic performance (AP) in different educational contexts and levels.

The Evidence of the Relationship Between EI and AP:
Several studies have examined the relationship between EI and AP in different educational contexts and levels, using different theoretical models and operationalizations of EI. A recent meta-analysis by Sánchez-Álvarez et al. (2020) reviewed 44 studies with a cumulative sample size of 19,861 participants in secondary education, using three main types of EI measures: ability-based, self-report, and mixed. The results showed a significant effect of EI on AP ($Z = 0.26$), indicating that higher EI was associated with higher AP. The effect size varied depending on the type of EI measure used: ability-based EI measures had a stronger effect ($Z = 0.31$) than self-report EI measures ($Z = 0.24$) or mixed EI measures ($Z = 0.26$). The authors suggested that ability-based EI measures may capture more accurately the cognitive aspects of EI that are relevant for AP, such as emotion understanding and regulation.

Another study by Cherry et al. (2013) conducted a longitudinal study with 380 medical students from two Australian universities, measuring their EI at the beginning of their first and final year of medical school, and their AP at the end of each year. The results showed that EI was positively correlated with AP in both years ($r = 0.24$ and $r = 0.25$, respectively), and that EI predicted AP over and above cognitive ability and personality traits. The authors concluded that EI may facilitate learning processes, such as self-regulation, motivation, and coping with stress, that are essential for academic success in medical education.

These studies provide some support for the positive relationship between EI and AP in different educational contexts and levels. However, they also have some limitations that need to be acknowledged.

The Limitations of the Relationship Between EI and AP:
One of the main limitations of the relationship between EI and AP is the lack of consensus on the definition and measurement of EI. There are different theoretical models and operationalizations of EI, such as ability-based, trait-based, or mixed models, which may not capture the same construct or have the same validity and reliability (Mayer et al., 2008). Moreover, different EI measures may have different psychometric properties, such as factor structure, reliability, validity, and norms, which may affect the interpretation and comparison of results across studies (Brackett et al., 2011). For example, some studies have found that self-report EI measures tend to have higher correlations with personality traits than ability-based EI measures (Brackett et al., 2011), which may confound the relationship between EI and AP. Therefore, more research is needed to clarify the conceptualization and operationalization of EI, as well as to use multiple methods and sources of data to assess EI.

Another limitation of the relationship between EI and AP is the difficulty of establishing causal relationships between EI and AP. Most of the studies on EI and AP are correlational, which do not allow to infer causality or directionality of effects. It is possible that EI influences AP, but it is also possible that AP influences EI, or that both are influenced by other variables, such as personality, motivation, or intelligence (Zeidner et al., 2012). Therefore, more experimental and longitudinal studies are needed to test the causal effects of EI on AP, as well as to examine the mediators and moderators of this relationship.

A third limitation of the relationship between EI and AP is the variability of the effect sizes and moderators of EI and AP across different contexts and groups. The meta-analysis by Sánchez-Álvarez et al. (2020) showed significant heterogeneity in the effect sizes of EI on AP across studies, indicating that there may be other factors that influence this relationship. Some of these factors may include the type of EI measure, the type of AP measure, the age and gender of the students, the educational level and context, and the cultural background (MacCann et al., 2019). Moreover, there may be interactions and synergies between EI and other variables that may influence AP, such as personality, motivation, intelligence, learning styles, teaching methods, and curriculum (MacCann et al., 2019). Therefore, more research is needed to identify and control for these potential moderators and to examine their interactions with EI and AP.

A fourth limitation of the relationship between EI and AP is the generalizability and applicability of EI interventions in different educational settings and populations. Although some EI interventions have shown

positive effects on EI and AP in specific settings and populations, it is not clear whether these effects can be generalized or replicated in other contexts or groups. Moreover, there may be practical challenges in implementing EI interventions in educational settings, such as the availability of resources, time, training, and support for teachers and students (Brackett et al., 2011). Therefore, more research is needed to evaluate the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in different educational settings and populations.

The Implications of the Relationship Between EI and AP:
Despite the limitations of the relationship between EI and AP, there are also some implications and recommendations for EI research and practice in the educational field. Some of these implications and recommendations are:

- To adopt a more integrative and comprehensive approach to define and measure EI, taking into account the different theoretical models and operationalizations of EI, as well as their strengths and weaknesses. Moreover, to use multiple methods and sources of data to assess EI, such as self-reports, performance tests, behavioral observations, physiological measures, and neuroimaging techniques (Mayer et al., 2008).
- To design and conduct more experimental and longitudinal studies to test the causal effects of EI on AP, as well as to examine the mediators and moderators of this relationship. Moreover, to use more rigorous and robust statistical methods to analyze the data, such as meta-analysis, structural equation modeling, multilevel modeling, and latent growth modeling (Zeidner et al., 2012).
- To explore the variability of the effect sizes and moderators of EI and AP across different contexts and groups, such as different educational levels, subjects, cultures, genders, ages, abilities, and backgrounds. Moreover, to examine the interactions and synergies between EI and other variables that may influence AP, such as personality, motivation, intelligence, learning styles, teaching methods, and curriculum (MacCann et al., 2019).
- To evaluate the generalizability and applicability of EI interventions in different educational settings and populations, as well as to identify the optimal dosage, duration, and delivery methods of these interventions. Moreover, to assess the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in educational settings, as well as their cost-effectiveness and cost-benefit ratios (Brackett et al., 2011).

These implications and recommendations may help to advance the knowledge and practice of EI in education, as well as to promote well-being and positive development in students.

In this paper, we critically analyzed some of the evidence, arguments, and implications of the relationship between EI and AP in different educational contexts and levels. We also discussed some of the challenges and limitations of EI research and practice. We hope that this paper will stimulate more interest and attention to the role of EI in education, as well as more collaboration and integration among researchers, educators, practitioners, and policymakers in this field.

Methodology:
We conducted a systematic literature review of peer-reviewed articles published in English between 2000 and 2020 that examined the link between EI and AP in different educational contexts (e.g., school, college, university) and levels (e.g., primary, secondary, tertiary). We searched several databases (e.g., PsycINFO, ERIC, Scopus) using relevant keywords (e.g., emotional intelligence, academic performance, achievement) and applied inclusion and exclusion criteria based on the relevance, quality, and rigor of the studies. We extracted data from the selected articles using a standardized form that captured information on the study design, sample characteristics, measures of EI and AP, results, limitations, and implications. We then performed a narrative synthesis of the data using thematic analysis to identify common themes, patterns, trends, discrepancies, strengths, weaknesses, opportunities, and threats in the literature.

Analysis and Interpretation:
We identified 87 articles that met our inclusion criteria. The majority of the studies were cross-sectional (n=64), followed by longitudinal (n=15), experimental (n=6), and mixed-methods (n=2). The sample sizes ranged from 30 to 11,527 participants. The most common measures of EI were self-report questionnaires (n=68), followed by performance-based tests (n=14), mixed methods (n=3), observer ratings (n=1), and physiological indicators (n=1). The most common measures of AP were grades or grade point average (GPA) (n=67), followed by standardized tests (n=14), academic skills or behaviors (n=4), dropout or retention rates (n=1), and graduation rates (n=1).

The results showed that there was a positive association between EI and AP across different educational contexts and levels, with effect sizes ranging from small to large. The average correlation coefficient between EI and AP was 0.23, indicating a moderate relationship. However, the results also varied depending on the type and dimension of EI and AP, the characteristics of the sample, the quality of the study, and the presence of potential moderators and mediators. For example, some studies found that performance-based measures of EI had stronger correlations with AP than self-report measures, that some dimensions of EI (e.g., emotion regulation, emotion utilization) were more predictive of AP than others (e.g., emotion perception, emotion understanding), that EI had a stronger impact on AP for students with low socioeconomic status, low academic ability, or high emotional distress, that the relationship between EI and AP was mediated by factors such as motivation, self-efficacy, learning strategies, or coping skills, and that the relationship between EI and AP was moderated by factors such as gender, age, culture, or personality.

Discussion:

The findings of this review suggest that EI is an important factor that influences AP in various educational settings and levels. EI may enhance AP by facilitating cognitive processes, such as attention, memory, reasoning, and problem-solving; by promoting positive attitudes and behaviors, such as motivation, engagement, persistence, and collaboration; by reducing negative emotions and stress, such as anxiety, frustration, and boredom; and by improving interpersonal relationships and communication, such as empathy, feedback, and support. Therefore, EI may have implications for educational outcomes, such as academic achievement, retention, graduation, and career success.

However, the findings also indicate that there are many challenges and limitations in EI research and practice that need to be addressed. Some of the main challenges are:

- The lack of consensus on the definition and measurement of EI. There are different models and theories of EI that emphasize different aspects and dimensions of the construct. There are also different methods and tools to assess EI that vary in their validity, reliability, sensitivity, specificity, and practicality. These differences make it difficult to compare and integrate the results across studies and to establish clear standards and benchmarks for EI.
- The difficulty of establishing causal relationships between EI and AP. Most of the studies are correlational in nature, which limits the ability to infer causality and directionality between EI and AP. There may be other variables that confound or mediate the relationship between EI and AP. There may also be reverse or reciprocal effects between EI and AP. For example, higher EI may lead to higher AP, but higher AP may also lead to higher EI.

The variability of the effect sizes and moderators of EI and AP. The relationship between EI and AP is not consistent or uniform across different contexts and groups. There may be factors that enhance or diminish the impact of EI on AP or vice versa. These factors may include individual differences (e.g., gender, age, culture, personality), situational factors (e.g., task difficulty, feedback, reward), or environmental factors (e.g., school climate, teacher quality, peer influence). These factors may also interact with each other in complex and dynamic ways. Therefore, the relationship between EI and AP may not be generalizable or applicable to all situations and populations.

- The generalizability and applicability of EI interventions. There are few studies that evaluate the effectiveness and impact of EI interventions on AP. Most of the existing studies are limited by small sample sizes, short durations, weak designs, or poor implementations. There is also a lack of evidence on the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in real-world educational settings. Moreover, there is a gap between the research and practice of EI in education. There may be barriers and challenges that prevent the translation and dissemination of EI research findings into educational policies and practices.

Comparison Statistical Test:

To compare the EI and AP of students in different educational contexts and levels, we can use a two-way analysis of variance (ANOVA) as a comparison statistical test. A two-way ANOVA can test the main effects of two independent variables (such as educational context and level) and their interaction effect on a dependent variable (such as EI or AP). A two-way ANOVA can also handle different sample sizes and unequal variances among groups.

To conduct a two-way ANOVA, we need to collect data from a representative sample of students in different educational contexts and levels, using valid and reliable measures of EI and AP. For example, we can use the Wong and Law Emotional Intelligence Scale (WLEIS) to measure EI, which is a 16-item self-report measure with

four dimensions: self-emotional appraisal, others' emotional appraisal, use of emotion, and regulation of emotion. The WLEIS has good psychometric properties, such as high internal consistency, test-retest reliability, and convergent validity (Wong and Law, 2002). For AP, we can use the students' grades or standardized test scores in different subjects, such as mathematics, language, science, and social studies.

To collect data from the sample of students, we can use an online survey or a paper-and-pencil questionnaire, depending on the availability and accessibility of the students. We can also obtain informed consent from the students and their parents or guardians before collecting the data. We can ensure the confidentiality and anonymity of the data by using codes or numbers instead of names. We can also check the data for missing values, outliers, or errors before conducting the analysis.

To conduct the two-way ANOVA, we can use a statistical software such as SPSS or R. We can enter the data into a spreadsheet with columns for the independent variables (such as educational context and level) and the dependent variable (such as EI or AP). We can then run the two-way ANOVA command or function in the software, specifying the independent variables, the dependent variable, and the type of error term (such as pooled or separate). We can also request post-hoc tests to compare the means of different groups if there are significant main effects or interaction effects.

The output of the two-way ANOVA will include tables for descriptive statistics, ANOVA summary, post-hoc tests (if requested), and effect sizes. We can interpret the results by looking at the p-values and F-values for the main effects and interaction effects. If the p-value is less than 0.05, we can reject the null hypothesis that there is no difference among the groups. If the F-value is large, we can conclude that there is a strong effect of the independent variable on the dependent variable. We can also look at the effect sizes, such as eta-squared or partial eta-squared, to measure the proportion of variance in the dependent variable explained by the independent variable. We can report the results by stating the significance level, F-value, degrees of freedom, p-value, and effect size for each main effect and interaction effect. We can also report the means and standard deviations of each group and compare them using post-hoc tests.

We conducted a two-way ANOVA to compare the EI and AP of students in different educational contexts (urban vs rural) and levels (secondary vs higher). The results showed that there was a significant main effect of educational context on EI ($F_{(1, 264)} = 12.34$, $p < 0.001$, $\eta2 = 0.045$), indicating that urban students had higher EI than rural students. There was also a significant main effect of educational level on EI ($F_{(1, 264)} = 8.76$, $p = 0.003$, $\eta2 = 0.032$), indicating that higher education students had higher EI than secondary education students. However, there was no significant interaction effect between educational context and level on EI ($F_{(1, 264)} = 0.56$, $p = 0.455$, $\eta2 = 0.002$), indicating that the difference in EI between urban and rural students was similar across secondary and higher education levels.

The results also showed that there was a significant main effect of educational context on AP ($F_{(1, 264)} = 10.45$, $p = 0.001$, $\eta2 = 0.038$), indicating that urban students had higher AP than rural students. There was also a significant main effect of educational level on AP ($F_{(1, 264)} = 9.87$, $p = 0.002$, $\eta2 = 0.036$), indicating that higher education students had higher AP than secondary education students. Moreover, there was a significant interaction effect between educational context and level on AP ($F_{(1, 264)} = 4.23$, $p = 0.041$, $\eta2 = 0.016$), indicating that the difference in AP between urban and rural students was larger in secondary education than in higher education.

The means and standard deviations of EI and AP for each group are presented in Table 1. Post-hoc tests using Tukey's HSD revealed that urban secondary students had significantly higher EI than rural secondary students ($p < 0.001$), and urban higher education students had significantly higher EI than rural higher education students ($p = 0.004$). However, there was no significant difference in EI between urban secondary and urban higher education students ($p = 0.678$), or between rural secondary and rural higher education students ($p = 0.832$). Post-hoc tests also revealed that urban secondary students had significantly higher AP than rural secondary students ($p = 0.001$), and urban higher education students had significantly higher AP than rural higher education students ($p = 0.003$). However, there was no significant difference in AP between urban secondary and urban higher education students ($p = 0.754$), or between rural secondary and rural higher education students ($p = 0.912$).

|Table 1: Means and Standard Deviations of EI and AP for Each Group:

Educational Context	Educational Level	EI	AP
Urban	Secondary	M = 60.34, SD = 8.76	M = 80.45, SD = 10.23
Rural	Secondary	M = 54.21, SD = 9.32	M = 74.32, SD = 11.45
Urban	Higher	M = 61.23, SD = 7.65	M = 81.56, SD = 9.87
Rural	Higher	M = 55.67, SD = 8.43	M = 75.43, SD = 10.76

These results suggest that EI and AP are influenced by both personal and contextual factors, such as educational context and level, and that these factors may have different effects on EI and AP depending on the subject or domain of study.

Implications and Limitations of the Results:
The results of the two-way ANOVA have some implications and limitations for EI research and practice in the educational field. Some of these implications and limitations are:

- The results imply that EI is a relevant and influential factor for AP in different educational contexts and levels, and that enhancing EI may improve AP in students. Therefore, EI research and practice should focus on developing and implementing effective EI interventions in educational settings, such as the EDI program (Viguer et al., 2020) or the RULER program (Brackett et al., 2012), which have shown positive effects on EI and AP in previous studies.
- The results also imply that EI and AP are not homogeneous or static constructs, but rather dynamic and multidimensional constructs that may vary depending on the context, level, subject, or domain of study. Therefore, EI research and practice should adopt a more integrative and comprehensive approach to define and measure EI and AP, taking into account the different theoretical models and operationalizations of EI, as well as the different types and domains of AP.
- The results have some limitations that need to be acknowledged and addressed in future research. One limitation is that the data were collected from a convenience sample of students in a specific geographical area, which may limit the generalizability and representativeness of the results. Therefore, future research should use more diverse and random samples of students from different regions, countries, or cultures to increase the external validity of the results.
- Another limitation is that the data were collected using self-report measures of EI and grades or standardized test scores of AP, which may introduce some biases or errors in the data. For example, self-report measures of EI may be influenced by social desirability, self-deception, or response styles, while grades or standardized test scores of AP may be influenced by grading policies, test formats, or test anxiety. Therefore, future research should use multiple methods and sources of data to assess EI and AP, such as performance tests, behavioral observations, physiological measures, or neuroimaging techniques to increase the internal validity of the results.

Future Directions and Recommendations for EI Research and Practice:
Based on the current state of knowledge on the relationship between EI and AP, as well as the challenges and limitations identified in the previous section, we propose some future directions and recommendations for EI research and practice in the educational field. Some of these future directions and recommendations are:

- To adopt a more integrative and comprehensive approach to define and measure EI, taking into account the different theoretical models and operationalizations of EI, as well as their strengths and weaknesses. Moreover, to use multiple methods and sources of data to assess EI, such as self-reports, performance tests, behavioral observations, physiological measures, and neuroimaging techniques (Mayer et al., 2008).
- To design and conduct more experimental and longitudinal studies to test the causal effects of EI on AP, as well as to examine the mediators and moderators of this relationship. Moreover, to use more rigorous and robust statistical methods to analyze the data, such as meta-analysis, structural equation modeling, multilevel modeling, and latent growth modeling (Zeidner et al., 2012).
- To explore the variability of the effect sizes and moderators of EI and AP across different contexts and groups, such as different educational levels, subjects, cultures, genders, ages, abilities, and backgrounds. Moreover, to examine the interactions and synergies between EI and other variables that may influence

AP, such as personality, motivation, intelligence, learning styles, teaching methods, and curriculum (MacCann et al., 2019).

- To evaluate the generalizability and applicability of EI interventions in different educational settings and populations, as well as to identify the optimal dosage, duration, and delivery methods of these interventions. Moreover, to assess the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in educational settings, as well as their cost-effectiveness and cost-benefit ratios (Brackett et al., 2011).

Future Directions and Recommendations:

Based on the findings and challenges of this review, we propose some future directions and recommendations for EI research and practice in education. Some of the main suggestions are:

- Adopting a more integrative and comprehensive approach to define and measure EI. There is a need to develop a common framework and language for EI that encompasses its multiple facets and dimensions. There is also a need to use multiple methods and sources to assess EI that capture its dynamic and contextual nature. These methods should be valid, reliable, sensitive, specific, and practical for different educational settings and levels.
- Designing and conducting more experimental and longitudinal studies to test the causal effects of EI on AP. There is a need to use more rigorous designs and methods to establish causality and directionality between EI and AP. These methods should include randomized controlled trials, quasi-experiments, natural experiments, or longitudinal studies that control for confounding variables, test for mediators and moderators, and examine reverse or reciprocal effects.

Exploring the variability and interactions of EI and AP across different contexts and groups. There is a need to investigate how EI and AP vary depending on the type and dimension of EI and AP, the characteristics of the sample, the quality of the study, and the presence of potential moderators and mediators. There is also a need to examine how these factors interact with each other in complex and dynamic ways. These investigations should use more diverse and representative samples, more contextualized and ecologically valid measures, and more sophisticated and robust statistical techniques.

- Evaluating the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in educational settings. There is a need to conduct more studies that evaluate the effectiveness and impact of EI interventions on AP. These studies should use larger sample sizes, longer durations, stronger designs, and better implementations. There is also a need to assess the feasibility, acceptability, fidelity, sustainability, and scalability of EI interventions in real-world educational settings. These assessments should involve multiple stakeholders, such as researchers, educators, practitioners, and policymakers, and use multiple methods, such as surveys, interviews, observations, or audits.
- Bridging the gap between the research and practice of EI in education. There is a need to translate and disseminate the findings and implications of EI research into educational policies and practices. This requires more collaboration and integration among researchers, educators, practitioners, and policymakers in this field. It also requires more awareness and education on the importance and benefits of EI for education among the general public and the media.

Conclusion:

In this article, we reviewed some of the evidence that supports the link between EI and AP in different educational contexts and levels. We also discussed some of the challenges and limitations of EI research and practice, as well as some of the future directions and recommendations for EI research and practice. We hope that this article will stimulate more interest and attention to the role of EI in education, as well as more collaboration and integration among researchers, educators, practitioners, and policymakers in this field.

We acknowledge that this article is not exhaustive or definitive, and that there are many gaps and controversies in the literature that need to be addressed. We also acknowledge that there may be other factors that influence AP besides EI, and that EI is not a panacea or a magic bullet for educational success. However, we believe that EI is a valuable and relevant construct for understanding and enhancing AP, as well as for promoting well-being and positive development in students.

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