

Article

Not peer-reviewed version

---

# Teachers' and Administrators' Perspectives on School Principals' Self-Regulation Skills and Decision-Making Styles: A Mixed-Methods Study

---

[Özgün Çekic](#)\* and Şakir Çinkir

Posted Date: 11 July 2024

doi: 10.20944/preprints2024070893.v1

Keywords: Self-regulation; decision-making styles; educational leadership; school administrators; public primary schools



Preprints.org is a free multidiscipline platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Article

# Teachers' and Administrators' Perspectives on School Principals' Self-Regulation Skills and Decision-Making Styles: A Mixed-Methods Study

Özgün Çekiç<sup>1,\*</sup> and Şakir Çınkır<sup>2</sup>

<sup>1</sup> Ankara University Graduate School of Educational Sciences, Ankara University, Faculty of Educational Sciences, Turkey

<sup>2</sup> Ankara University, Faculty of Educational Sciences, Turkey; scinkir@ankara.edu.tr; This study was produced from the doctoral thesis prepared by the first author under the supervision of the second author

\* Correspondence: ozgunn@hotmail.com

**Abstract:** This study explores the impact of self-regulation skills on the decision-making styles of school administrators in public primary schools. There is a noticeable gap in the literature regarding how self-regulation components—foresight, will control, and self-reflection—affect the decision-making processes of school leaders. A mixed-methods approach was used, integrating quantitative data from the "Self-Regulation Skills Scale for School Administrators" and the "Decision-Making Styles Scale" with qualitative data from semi-structured interviews with administrators and teachers. The findings reveal that administrators with strong self-regulation skills predominantly use rational and intuitive decision-making styles. This correlation leads to more effective management and improved educational outcomes. The study underscores the importance of professional development programs aimed at enhancing self-regulation abilities among school administrators. Such improvements in self-regulation can lead to better decision-making processes, ultimately benefiting student performance and overall school success.

**Keywords:** Self-regulation; decision-making styles; educational leadership; school administrators; public primary schools

---

## 1. Introduction

The skills and knowledge of school administrators, including their ability to regulate themselves and make decisions, are critical in achieving educational success in public primary schools. While there is a considerable amount of literature on self-regulation skills in educational settings, there is a noticeable lack of study specifically focused on school administrators. Most studies focus on the overall influence of self-regulation on teachers and pupils, particularly emphasizing the essential role of teachers' beliefs and confidence in developing these skills. Nevertheless, there is a noticeable absence of a thorough analysis regarding the impact of self-regulation abilities on the decision-making processes of school administrators. This study attempts to thoroughly evaluate the under-explored connection between administrative procedures and their impact on educational settings and outcomes, recognizing the significant effect they have. This study aims to clarify the impact of self-regulation components, including foresight, will control, and self-reflection, on the decision-making styles of school leaders [1,2]. According to Maslow (1943) [3], individuals are motivated to develop objectives and adjust their behaviour to meet their requirements. In the field of educational leadership, school administrators establish objectives and adapt their behaviours to accomplish these goals, illustrating the inherent connection between self-regulation and decision-making. This study aims to contribute significantly to the existing body of literature by showing how improving the self-regulation skills of school administrators can enhance their decision-making styles, leading to a positive impact on student academic performance. This research highlights the significance of professional development programs in fostering conditions that promote learning, acknowledging that effective self-regulation goes beyond managing personal goals. These programs aim to provide

school administrators with advanced self-regulation abilities, which enhance their ability to make informed and successful decisions in public elementary education [4,5]. This study emphasizes the importance of self-regulation abilities and decision-making styles for school administrators. By increasing their awareness of these competencies, it shows the necessity for personal effectiveness and the overall benefit to the school community. This supports the implementation of focused professional development programs to foster these key abilities.

## 2. Self-Regulation in Educational Leadership

Self-regulation is well connected as a crucial academic performance component directly relating to school administrators and teachers' decision-maker and productivity in the teaching role as educational leaders. This skill is concerned with the ability to design thoughts and feelings that prompt people, and enable them to set, and systematically work out goals and plans to obtain intended results; it operates effectively through motivational processes. Looking at the social cognitive theory comes a realization that self-regulation depends on the relation between personal factors and environmental factors. Taking it further from Bandura's theory, De la Fuente et al. (2022) [6] discussed self-regulation based on psychological processes inherent in a person and social processes and aspects influencing an individual. In this context of viewpoint, change agents promote respect of the relationship between individuals and their environments in establishing self-regulatory patterns of behaviour. In addition, Masaki (2023) [7] gives a rather exhaustive conceptual review from the sociocultural perspective in which he underlines that self-regulation depends on social and cultural factors, claiming that self-regulation is in fact engaged in social contexts and reflects culture values predominantly. Also, Blair and Ku (2022) [8] introduced a hierarchal construct of Self-regulation comprised of cognitive, affective, behavioural, physiological and genetic aspects proving how each constituent is linked to self-regulation. Such influences are important for the reasons, which lie in the understanding of the multifaceted picture of the processes underlying self-regulation and their importance to the successful learning outcomes in educational setting.

Self-regulation is therefore critical in enhancing organisational performance of schools since it directly influences the management of interactions in educational organisations. Eisenberg et al. (2010) [9] showed that high levels of self-regulation are beneficial for peers-teachers and school relationships and increase school attendance and achievement. Liew (2012) [10] asserts that administration skills are important for administrators and students especially in managing success in academics. Schunk (2005), Webb et al. (2018) [11,12] and others opine that instructional self-regulation can dramatically enhance educational contexts, using advantages that are beneficial from the administrator's point of view. In Zimmerman's (2000) [13] study, self-regulation is identified as a necessary factor in enhancing the quality of decisions made by an individual; to facilitate conclusions in reference to a decision and the goals a person has for the future. Much like business managers, educational leaders need to set goals, administer necessary assets, and change methods to exercise results and they should employ particularly sound self-regulation competencies. According to Bandura (2001) [14], self-regulation enables people to achieve the set goals, these are vital in education leadership. These outcomes support the fact that self-regulation skills are crucial to improving learning process and accentuate their primary importance in modern schools' management.

The concept of self-regulation can be described as a comprehensive protracted cycle of foresight that takes place in conjunction with a will control process and final self-reflection that is a cornerstone of personal and professional practice. Foresight is the preparatory stage in which the individuals audit their motivational processes to predict difficulties that may be encountered and to match personal resources with objectives. It involves identifying the tasks, developing actionable goals, developing operations that are instrumental in achieving a particular course, and assessing one's capabilities to make sound decisions, promoting volitional behaviours and magnifying their congruence with long-term plans [15]. Will control as the actions management during the task performance includes the attentional processes and the motor skills self-control is the processes that regulate a person's own behaviours executed throughout the performance of the task to advertise and keep the proper focus; self-observation is the processes to monitor personal behaviours and the

environmental effects. Self-monitoring and adaptive control are the key factors that would help for the purpose of will control because these are required for the purpose of focusing and adjusting in the tasks [16]. Introspection takes place after decisions have already been made thus enabling people to reconsider their choices or events that took place and their consequences. This phase entails evaluation of feedback, which is vital for growth and planning, where reflective practices have positive impacts on the E&C health along with students' cognitive and emotional regulation leading to better decisions and learning [17]. Collectively, these dimensions provide a strong base for the process of self-regulation wherein planning, execution of actions, and then reflection are seen as the means through which self-regulation occurs; this outlines why it is crucial that people perfect the various aspects of self-regulation rather than focusing on single elements.

### **3. Implications for Educational Leadership**

It is crucial to explain the context of self-regulation for practical purposes, especially in school administration for children with learning disabilities, to design proper treatments and educational strategies. This entails providing self-regulation practices that enhance effective management and policies for the administrators, teachers and learners. Thus, self-regulation strategies can be included into the educational system to develop better management decisions, as well as increase students' performance and increase educational institutions' performance indicators. Self-regulation is fundamental for educators and administrators to improve decision-making and leadership, facilitating the synchronization of behaviours with educational objectives and enhancing outcomes. Research by Schunk and Zimmerman (2007) [18] shows a positive correlation between self-regulation, increased academic performance, and successful leadership. The dimensions of self-regulation, such as foresight, will control, and self-reflection, are integral to effective personal and professional functioning. By mastering these components, educational leaders can better navigate the complexities of their roles, ultimately fostering an environment that promotes academic success and personal well-being for all members of the school community.

### **4. Decision-Making in Educational Leadership**

Decision-making is a fundamental component of personal and organizational existence, requiring the selection of various alternatives amidst ambiguity, with complexity increasing alongside the number of options and uncertainties [19,20]. Decisions vary in importance, impacting individuals, organizations, and even global entities, highlighting the crucial role of decision-making in shaping futures and achievements. Understanding different decision-making types—rational, intuitive, dependent, avoidant, and spontaneous—is essential, as each style impacts outcomes differently based on an individual's ability to handle stress, establish priorities, adapt to changes, and manage risks [21,22]. Leadership styles significantly affect the effectiveness of organizational decision-making processes [23]. Integrating self-regulation into decision-making improves management effectiveness and leads to more strategic organizational actions, underscoring the importance of an integrated approach to personal development and organizational management for overall effectiveness and flexibility [24]. Strategic decision-making, a multi-step process involving determining actions necessary to achieve goals, is closely connected to problem-solving and involves choosing the best alternative to address specific issues [25–27].

As one of the crucial managerial activities that mostly reflect a response to dynamic environments, notably crises, decision-making has been described as at the heart of organizations in line with what Simon (1967) [28] has asserted about this crucial process and how its outcomes define organizational performance and actualization of organizational goals.

Some of the focus areas in this area of literature include decision making in the organization systems, where Bonnyventure (2022) [29] focuses on the overall effects of strategic decisions made in organizations and gives insight into the adequate communication processes needed to ensure the implementation processes are effective. Sansone and Balconi (2023) [30] explain that sound decisions at the workplace are vital for long-term business sustainability, proving that decision-making is not just about choice making, but a process that helps to shape an organization's destiny and

performance. The decision making takes into consideration the environment in which it is made, the personality and character of the decision maker and the nature of the decision situation; a combination of the environmental factors and the person's factors have significant implications on the decisions made. Some of the earliest works focused only on rational decision making to enhance the organisation's efficacy [31]. However, the acknowledgment of the different types of decision making has enriched literature by stressing the importance of subjective factors. Current study by Marques da Rocha et al. (2023) [32] presents how the COVID-19 pandemic, as an environmental stressor, increases the tendency of people to use rhetorical reasoning approaches in high stress. Freedom of choices in the contemporary society makes decisions stressing fraught with discontent with the decision made [33]. This is a very effective way of questioning the availability of right and wrong decisions and thus restricting the use of rationality.

The possible categories of decisions influence individual and organizational effectiveness towards various extents. Styles of approaches to decision making as defined by Scott and Bruce (1995) [34] include rational, intuition, dependent, avoidance and spur of the moment decisions. Approaches to decision-making are of two types: rational and intuitive rational model involves a logical approach in assessing decision whereas intuitive model is based on instinct or previous experiences. This entails that, dependent decision-makers look for outside help due to various reasons hence they have uncertainties regarding the capabilities they possess which in turn may influence their decisions [35]. Analysing the characteristics of the avoidant personality, we can establish that such people either postpone the decision-making process or reject the possibility of deciding at all due to the fear of making a mistake or trying to overcome the number of options available [32]. On the other hand, automatic decision makers make decisions in response to a given situation and are characterized by being hasty decisions. Studying the impacts of psychological and situational factors on the decision-making process, it is proved that external pressures and personal fears in the actual stressful situations result in heuristically decisions [23,36]. It is important to comprehend these differentiated patterns and their causes to enhance decision-making results and maximize performance to numerous conditions.

Thus, decision making could be described as a very complicated process that is affected by environmental factors, specific decision situations and individual characteristics. For proper management of these frameworks, it is necessary to define different styles and their cognitive and emotional correlates. To that end, for educational leaders, there is the need to plan and establish efficient decision-making models and mechanism that reflect the institution's objectives and are capable of being adjusted to a given environment. It is recognized that competence in these components benefits the organisation, objectives, and the individual, suggesting strategic and knowledgeable decision-making as a priority in today's education administration.

## 5. Self-Regulation and Decision-Making in Schools

Organizational decision making is crucial in the management of any school since it determines outcomes that are associated with it such as achievement of goals, employee satisfaction, increased performance and productivity. Robbins et al. (2002) [37] Specifically the educational organizations, particularly those that focus on the specificity of people's interaction and sensitivity to environmental impact require the administrator to make a wide variety of different decisions. In their view, decision-making is one of the main processes in the educational management that was described by Hoy and Miskel (2013) [38]. The pertinent judgments are highlighted with importance in recent study. According to Mulesa et al. (2022) [39], decision-making is the foundation of the educational process; moreover, it is critical for shaping the educational process under conditions of uncertainty, pandemic in particular. This puts emphasis on effectiveness of strategic development for the management of resources to acquire educational objectives. Qendraj et al. (2023) [40] focus on the effect of technology advancement, for instance the cloud-based learning management system, on decisions within learning settings. They show how these technologies alter the strategies and actions within the management systems. These outcomes accentuate that the successful decision-making in school administration is not limited by the routine office-related tasks and on the appreciation of the people

skills for the change of the complicated and dynamic environment affected by the technological, social, and psychological factors. The general skills of learning as well as insights into and improvements of these cognitive processes are crucial for enhancing the effectiveness and adaptability of educational organisations.

Hence, purposeful decision-making by school administrators is central to achieving school objectives in educational management; this stems from self-regulation, other-related concerns, and school administrators' actions and their effects on work motivation, organisational performance, and overall school effectiveness. The need for self-regulation skills is critical in the decision-making process, and in goal formulation, strategy development, feedback evaluation, and objective or action modification based on such feedback [41,42]. These findings emphasise the relevance of self-regulation in educational decision-making in the recent literature. In their study, Mulesa et al. (2022) [39] stress the focus on strategic decisions when it comes to learning contexts, especially in situations when the conditions remain undefined, such as the pandemic; the authors reveal the role of self-regulation to help the administrators better allocate resources and, thus, make strategic choices. Mulesa et al.'s (2022) [39] self-regulation has an enormous impact on students' cognition and working memory, which play the most crucial role of managing learning outcomes. These observations prove that leadership in any educational institution is not just administrative, but it involves decision-making that entails self-governance, strategic thinking, and flexibility in response to the dynamic environment. Budgeting, integrated with self-control, a part of efficient decision-making affects, in turn, the enhancement of education administration as well as academic success.

Decision-making is daily and multifaceted in the life of a school administrator with the level of decision making varying. Some may be considered nuanced on the formation of the school while others can pose risks which threaten the existence or achievement of the institution's objectives. In this specific context, effective application of the self-regulation skills occurs as an actual emphasis. To this view, Goleman (1998) [43] described self-regulation in the management and administrative profession as a way of checking on the emotions in a bid to ensure that administrators make rational decisions. These self-regulation skills enable administrators to effectively manage decisions and the feedback on these decisions hence enhancing the processes of decision making [41,42]. Current scholarly work has brought into focus the concept of self-regulation in the arena of educational management. Mulesa et al. (2022) [39] look at how managers can use strategic decision making when there is ambiguity. They stress the concept of resource management in achieving goals and objectives of education especially self-regulation. Furthermore, Gouanet (2022) [44] established the contribution of self-regulation in learner's cognitive flexibility, thus supporting other elements of good school management. These outcomes emphasize the relevance and importance of self-regulation in complex decision-making process and in modifying the techniques depending on the signal received in terms of optimizing the goals and behaviours. It is important for the purpose of maintaining the required level of correspondence between the made decisions and the new conditions of the educational environment.

Through international research, the focus is put on self-regulation as one of the major factors in decision-making. This unsuccessful integration reveals how self-regulation affects the processes that define decision-making. This has been supported by research done by Byrnes (1998), Byrnes et al. (1999), Lord et al. (2017), Miller and Byrnes (2001), and Rew (1988) [45–49]. Likewise, prior research conducted in the local context supports these findings, where Güler (2015) [50] proves that those who are good in solving decisions, self-regulation skills are also good. An inquiry into literature has revealed that self-regulation and decision-making can be independently influenced for improved outcomes with the latter enhancing the former [51]. Also important to establish is a relationship between self-regulation, goal, and the decision-making priority [52]. Moreover, self-regulation has a significant function in the aspect of the freedom to choose and decide [53]. While this research presents a body of literature on the link between self-regulation and decision-making, they also pointed to the need for further research to establish whether self-regulation influences decision making of school administrators and the styles favoured. Quite often the decisions made by administrators are evaluated by their consequences and these consequences, be they positive, or

negative, have clear ethical repercussions. This is especially the case [54]. Therefore, the awareness of features of organisational decision making by administrators, orientation on goals, carrying out decisions and assessment of their outcomes is essential. Consequently, we must perform an extensive analysis that focuses on identifying the link between the administrators' self-regulation competencies and the decision-making patterns, given many influencing factors. Accordingly, the function of this research is to enhance the understanding of decision-making processes in schools with the help of self-regulation as an internal motivating factor.

Another research avenue that remains relatively underdeveloped in the field of educational administration is the effects of school administrators' self-regulation behavioural patterns on the kind of decisions they make. Whereas prior investigations addressed regulation processes' impact on teachers and learners, the details of how these skills are related to leadership patterns in learning contexts remain unveiled [1,2]. This gap is more important when it comes to establishing the nature of the relationship between the self-regulation components including foresight, will control, and self-reflection to the decision-making styles among school leaders and as highlighted in the literature above, there is a lack of sufficient analysis in this area. This research study seeks to address this gap in the existing literature by describing how self-regulation skills are used in the managerial decision-making process among school leaders. In this respect, it aims at adding knowledge to the field by showing that increased levels of self-regulation abilities in school administrators are likely to affect their decision-making patterns in a constructive manner thus contributing to the potential enhancement of performance of learners. The research will also focus on the analysis of the professional development programs targeting the strengthening of these crucial skills that will acknowledge the part of self-regulation in achieving educational achievements [4,5]. Broader self-control within the school organization can impact the decision-making processes and thus increase beneficial educational results.

## 6. Aim

The primary objective of this research is to explore the self-regulation skills of primary school administrators and their decision-making styles, based on the perspectives of both teachers and administrators. The research specifically aims to address the following questions:

1. How do school administrators and teachers perceive the levels of self-regulation skills in terms of foresight, will control, and self-reflection among school administrators?
2. What decision-making styles (rational, intuitive, dependent, avoidant, spontaneous) do school administrators predominantly utilize, according to the views of school administrators and teachers?
3. Is there a statistically significant relationship between self-regulation skills and decision-making styles among school administrators, as perceived by school administrators and teachers?
4. How do school administrators and teachers evaluate the self-regulation skills of school administrators?
5. How do school administrators and teachers assess the attitudes and behaviours of school administrators in decision-making processes?

## 7. Materials and Methods

The study aims to examine multiple research inquiries pertaining to the extent of self-regulation skills, the particular decision-making strategies utilized, and the correlation between these skills and strategies as perceived by teachers and school administrators. The complex and multifaceted nature of research questions requires the use of a mixed-methods approach, which involves the integration of qualitative and quantitative research methodologies. According to Creswell (1999) and Plano Clark (2017) [55,56], and further explained by Ivankova et al. (2006) [57], mixed methods improve the accuracy and applicability of the results, facilitate the combination of data from various sources, and enable a more thorough comprehension of intricate phenomena. Therefore, in the current study, an explanatory sequential design was used whereby, first, the quantitative data were collected and analysed while qualitative data were collected and analysed after the quantitative results to provide

a richer explanation and to build on the outcomes of the quantitative analysis. The primary rationale for this strategy is to confirm and enrich the quantitative data using detailed qualitative data. The use of quantitative data can provide an understanding of the general perceptions of the teachers and the administrators regarding self-regulation skills, but qualitative data is necessary if one wants to delve into the why, what and how of it, leading to a rich appreciation of the two. Wisdom and Creswell (2013) [58] points to the strengths of mixed methods designs in educational research, and the completeness with which they can consider leadership and decision making. Based on our analysis, we determine that the mixed methods approach, and the explanatory sequential design are the most suitable for this study. These approaches provide a holistic and in-depth investigation of the connections between self-regulation and decision-making processes among school administrators.

### 7.1. Participants

The population for quantitative research comprises of principals and teachers that are presently employed in public primary schools in Izmir. The population consists of 237 primary school administrators and 6,854 teachers. A stratified sampling technique was employed to select the sample group, ensuring that each subgroup within the population was adequately represented [59]. For both administrators and instructors, we considered gender, educational background, and seniority as factors. The calculations were conducted independently for the 237 school administrators and 6,854 teachers at a significance level of 0.05, with a margin of error of 5%, to estimate the required sample size for administrators and instructors. Based on the calculations, it was determined that a total of 208 administrators and 410 teachers would adequately reflect the population. Table 1 presents the distributions of instructors in the quantitative research sample according to their gender, educational status, and seniority characteristics.

**Table 1.** Distribution of Administrators and Teachers in the Sample by Various Variables.

Group	Variable	Subgroup	Frequency (f)	Percentage (%)
School Administrator	Gender	Female	59	28.4
		Male	149	71.6
	Education Level	Associate and bachelor's Degree	120	57.7
		Master's and Doctorate	88	42.3
	Experience	1-9 Years	104	50.0
		10 Years and Over	104	50.0
Teacher	Gender	Female	279	68.0
		Male	131	32.0
	Education Level	Associate and bachelor's Degree	370	90.2
		Master's and Doctorate	40	9.8
	Experience	1-9 Years	122	29.8
		10 Years and Over	288	70.2

Table 2 illustrates the demographic distribution of school administrators and teachers according to gender, education level, and seniority. Notably, a higher proportion of male administrators (71.6%) compared to female (28.4%) and many teachers holding an associate or bachelor's degree (90.2%) indicate significant gender and educational background diversity within the sampled population. Accordingly, the distributions of the administrators and teachers participating in the qualitative part of the research according to various variables are presented in Table 2.

**Table 2.** Characteristics of Participants in the Qualitative Part of the Study.

Participant Code	Age	Professional Tenure (Years)	Time at Current School (Years)	Education Level
1-F-T	58	32	4	Bachelor's Degree
2-F-T	31	7	7	Master's Degree
3-F-T	42	20	12	Bachelor's Degree
1-M-T	34	10	2	Bachelor's Degree
2-M-T	55	29	17	Master's Degree
3-M-T	46	24	9	Bachelor's Degree
1-F-A	39	7	2	Doctorate
2-F-A	49	12	12	Bachelor's Degree
3-F-A	59	19	8	Bachelor's Degree
1-M-A	41	5	5	Master's Degree
2-M-A	52	13	7	Bachelor's Degree
3-M-A	38	2	2	Bachelor's Degree

\* F: Female, M: Male, T: Teacher, A: Administrator.

As seen in Table 2, the study group in the qualitative phase of the research consists of classroom teachers and principals working in public primary schools in İzmir. The study group was determined ensuring participants varied in gender, age, professional seniority, and educational status to achieve maximum diversity.

## 7.2. Research Instruments and Procedure

This study investigates the self-regulation abilities and decision-making approaches of primary school administrators, as perceived by teachers and administrators. The quantitative data for this study is collected using two scales: the "Self-Regulation Skills Scale for School Administrators" developed by the researcher, and the "Decision-Making Styles Scale" first produced by Scott and Bruce (1995) [34] and later translated into Turkish by Oğuz (2008) [60]. The "Self-Regulation Skills Scale for School Administrators" developed by the researcher had high internal consistency. Specifically, the self-reflection subscale had a Cronbach's alpha reliability value of 0.94, while both will control and foresight subscales had coefficients of 0.85. The overall dependability coefficient for the scale was computed to be 0.99. The scale accounts for 64.02% of the overall variability, with the items collected under three dimensions having factor loadings ranging from 0.88 to 0.41. The

confirmatory factor analysis ( $\chi^2/sd = 1099.259/816$ ; RMSEA = 0.043; CFI = 0.971; TLI = 0.969; SRMR = 0.071) verified that the scale had the same structure as indicated by the exploratory factor analysis.

The researcher developed the "Self-Regulation Skills and Decision-Making Styles Interview Form for School Administrators" and employed semi-structured interviews to gather qualitative data for the study. According to Smith et al. (2009) [61], interviews in qualitative research might be characterized as "purposeful conversations". The interview technique allows researchers to engage in flexible interaction and pose supplementary questions, enabling a thorough investigation and revealing experiences and interpretations [62]. This study employed this technique to comprehensively investigate the questions.

### 7.3. Data Analysis

We employed both quantitative and qualitative data analysis techniques in this mixed-methods research. For the analysis of quantitative data, frequencies and percentages were used to describe personal information, while the arithmetic mean, and standard deviation were calculated to evaluate the responses to the scale items. We calculated both Spearman's rank correlation coefficient and Pearson's product-moment correlation coefficient to elucidate the level and direction of the relationship between the self-regulation skills and decision-making styles of school administrators, as perceived by teachers and administrators. We utilized the SPSS software for the data analysis.

For the analysis of qualitative data, Interpretative Phenomenological Analysis (IPA) was applied. IPA is a person-specific, inductive, and interrogative method [61]. This approach evaluates how individuals interpret their experiences and aims to understand their subjective worlds. We used the Miles and Huberman (2015) [63] reliability formula ( $\text{Reliability} = \frac{\text{Agreement (64)}}{\text{Agreement (64)} + \text{Disagreement (6)}}$ ) during the NVivo 10 data analysis process to determine the reliability between participant views and the themes (categories) generated based on these views, achieving a consensus rate of 91% among the coders. We finalized the qualitative findings by re-evaluating the opinions and main categories with a supervising faculty member after determining the consensus rate. To ensure research validity, we used direct quotations from the participants' responses to the questions. In these direct quotations, the assigned codes represented the participants. Codes for female teachers were 1FT, 2FT, 3FT; for male teachers, 1MT, 2MT, 3MT; for female school administrators, 1FA, 2FA, 3FA; and for male administrators, 1MA, 2MA, 3MA.

## 8. Results

### 8.1. Quantitative Analysis of School Administrators' Self-Regulation Skills

This section details the quantitative findings derived from analysing school administrators' responses to a self-regulation skills scale, as perceived by both administrators and teachers. The scale measures three critical dimensions: foresight, will control, and self-reflection. The analysis focused on the overall scale as well as the individual dimensions, providing a comprehensive view of the administrators' self-regulation capabilities. The results of the descriptive analysis are summarized in Table 3.

**Table 3.** Descriptive Analysis Findings Related to the Responses to the Self-Regulation Skills Scale and Its Subdimensions by School Administrators and Teacher.

Group	Dimension	M	SD	Min.	Max.	Range	Skewness	Kurtosis
Administrator Views	Foresight	4,53	4,75	10,00	50,00	40,00	-2,93	15,19
	Self-reflection	4,51	11,75	26,00	125,00	99,00	-3,24	17,20
	Will control	4,51	3,35	7,00	35,00	28,00	-2,71	14,58
	Self-regulation	4,51	19,18	43,00	210,00	167,00	-3,28	18,35

Teacher Views	Foresight	4,23	7,77	14,00	50,00	36,00	-0,68	-0,97
	Self-reflection	4,25	20,00	34,00	125,00	91,00	-0,75	-0,95
	Will control	4,21	5,69	8,00	35,00	27,00	-0,75	-0,71
	Self-regulation	4,24	33,05	56,00	210,00	154	-0,73	-0,97

\* *M*: Mean, *SD*: Standard Deviation.

Table 3 reveals that both school administrators and teachers generally possess positive views about the self-regulation skills of school administrators. The research suggests that administrators consistently rank their own self-regulation skills higher in all aspects, in comparison to the ratings given by teachers. However, the scores reported by teachers are also significantly positive, suggesting a strong acknowledgment of administrators' self-regulation abilities. Significantly, administrators rated the foresight dimension slightly higher ( $M = 4.53$ ) compared to the other dimensions, indicating their proactive approach. In contrast, teachers assigned the highest rating ( $M = 4.25$ ) to the self-reflection category, indicating their recognition of administrators' introspective qualities. The convergence of average ratings among both sets of respondents demonstrates a shared acknowledgment of successful self-control among educational administrators.

### 8.2. Quantitative Findings on Decision-Making Styles of School Administrators

This study further investigated the decision-making styles of school administrators, as perceived by both the administrators themselves and the teachers. The "Decision-Making Styles Scale" used in the research includes dimensions such as intuitive, dependent, avoidant, rational, and spontaneous decision-making. Responses to the scale items were analysed separately for each dimension, and the results of the descriptive analyses are presented in Table 4.

**Table 4.** Descriptive Analysis Findings Related to the Responses to the Decision-Making Styles Scale and Its Subdimensions by School Administrators and Teachers.

Group	Dimension	M	SD	Min.	Max.	Range	Skewness	Kurtosis
Administrator Views	Intuitive	3,78	4,18	5,00	25,00	20,00	-0,86	0,03
	Dependent	3,91	3,35	9,00	25,00	16,00	-0,60	0,10
	Avoidant	3,17	5,71	5,00	25,00	20,00	-0,33	-1,19
	Rational	4,32	2,51	9,00	25,00	16,00	-1,27	3,55
	Spontaneous	3,10	6,29	5,00	25,00	20,00	-0,22	-1,49
Teacher Views	Intuitive	3,76	4,47	6,00	25,00	19,00	-0,27	-0,79
	Dependent	3,71	4,09	9,00	25,00	16,00	0,08	-1,21
	Avoidant	3,17	6,14	5,00	25,00	20,00	-0,11	-1,10
	Rational	4,14	3,99	9,00	25,00	16,00	-0,63	-0,94
	Spontaneous	3,09	6,62	5,00	25,00	20,00	-0,09	-1,24

\* *M*: Mean, *SD*: Standard Deviation.

Table 4 presents the descriptive statistics of decision-making styles as perceived by school administrators and teachers. Both groups provided similar ratings for each style, demonstrating a consistent comprehension of decision-making behaviours. The data show that both administrators and teachers identified rational decision-making (administrators  $M = 4.32$ , teachers  $M = 4.14$ ) as the most used style, indicating a preference for logical and systematic approaches to decision-making in school settings. Meanwhile, administrators and teachers rated the Style of making decisions on the spot as the least used ( $M=3.10$  and  $3.09$  respectively) meaning the groups have little interest in taking

hasty decisions without thorough planning. Also, the avoidant style had the lowest rating (administrators  $M = 3.17$ , teachers  $M = 3.17$ ), which reflects the respondent's unwillingness to make decisions, probably because of the fear of making the wrong choice or facing the consequences of the decision. The last dimension recognized in the study is the intuitive style which also gained a relatively higher level, though not as high as the sensitivity, which in fact also pointed to the orientation to feelings and past experiences in taking decisions. The authors' converged scores of the dimensions suggest an understanding of the importance and application of various decision-making methods when it comes to leadership in education. These findings imply that there is a high level of convergence between school administrators and teachers' perception towards the effectiveness and suitability of the various decision-making techniques used in the administration of the school and there is a consensus on the preference of rational and systematic form of decision making over other forms of decision making which are hasty or evasive in nature.

### 8.3. Quantitative Findings on the Relationships between School Administrators' Decision-Making Styles and Self-Regulation Skills

This study examined the relationships between school administrators' self-regulation skills and their decision-making styles. Both parametric and non-parametric analyses were used due to the non-normal distribution of administrators' self-perceptions (Table 3), and the results are presented in Table 5.

**Table 5.** The relationships between school administrators' self-regulation skills and decision-making styles, according to the opinions of school administrators and teachers.

Group	Style	Dimension	Foresight	Self-reflection	Will Control	Self-regulation	
Administrators Views	Intuitive	<i>r</i>	<b>0,38</b>	<b>0,28</b>	<b>0,21</b>	<b>0,31</b>	
		<i>p</i>	0,000	0,000	0,003	0,000	
	Dependent	<i>r</i>	<b>0,31</b>	<b>0,27</b>	<b>0,21</b>	<b>0,29</b>	
		<i>p</i>	0,000	0,000	0,003	0,000	
	Avoidant	<i>r</i>	0,19	0,03	0,02	0,07	
		<i>p</i>	0,008	0,682	0,822	0,337	
	Rational	<i>r</i>	<b>0,49</b>	<b>0,56</b>	<b>0,53</b>	<b>0,57</b>	
		<i>p</i>	0,000	0,000	0,000	0,000	
	Spontaneous	<i>r</i>	<b>0,21</b>	0,06	0,01	0,09	
		<i>p</i>	0,002	0,370	0,922	0,201	
	Teacher Views	Intuitive	<i>r</i>	<b>0,43</b>	<b>0,43</b>	<b>0,43</b>	<b>0,44</b>
			<i>p</i>	0,000	0,000	0,000	0,000
Dependent		<i>r</i>	<b>0,47</b>	<b>0,49</b>	<b>0,49</b>	<b>0,49</b>	
		<i>p</i>	0,000	0,000	0,000	0,000	
Avoidant		<i>r</i>	0,00	-0,01	0,02	0,00	
		<i>p</i>	0,948	0,770	0,662	0,931	
Rational		<i>r</i>	<b>0,88</b>	<b>0,90</b>	<b>0,88</b>	<b>0,90</b>	
		<i>p</i>	0,000	0,000	0,000	0,000	
Spontaneous		<i>r</i>	-0,05	-0,04	-0,01	-0,03	
		<i>p</i>	0,351	0,419	0,784	0,533	

Table 5 demonstrates statistically significant relationships between school administrators' self-regulation skills and their decision-making styles, highlighted in bold. These relationships encompass both overall self-regulation and its dimensions—foresight, self-reflection, and will control, as reflected in both administrators' and teachers' views. No statistically significant relationship was found between the avoidant decision-making style and self-regulation skills or its dimensions, nor between the spontaneous decision-making style and any self-regulation dimensions according to teachers. Further analysis shows positive, though low to moderate, correlations between intuitive and dependent decision-making styles and self-regulation. The highest correlations were observed with the rational decision-making style, showing positive, moderate relationships with overall self-regulation ( $r=0.57$ ) and its dimensions: foresight ( $r=0.49$ ), self-reflection ( $r=0.56$ ), and will control ( $r=0.53$ ).

From the teachers' perspective, like administrators, intuitive and dependent styles showed positive, moderate significant correlations with self-regulation skills and their dimensions. These correlations were generally higher than those calculated based on administrators' views. Yet, as with administrators, the highest correlations for teachers were also with the rational decision-making style, showing strong positive relationships between rational decision-making and overall self-regulation ( $r=0.90$ ), and its dimensions: foresight ( $r=0.88$ ), self-reflection ( $r=0.90$ ), and will control ( $r=0.88$ ). This analysis underscores a consistent recognition of the influence of rational decision-making in effectively managing and utilizing self-regulation skills within school leadership, as strongly endorsed by both teachers and administrators.

#### 8.4. Qualitative Findings on the Self-Regulation Skills of School Administrators

The qualitative findings related to the self-regulation skills of school administrators were obtained by separately analysing interviews conducted with school administrators and teachers. The results of the Interpretative Phenomenological Analysis concerning the "Self-Regulation Skills of School Principals" as expressed by school administrators and teachers are presented below in Table 6.

**Table 6.** Interpretative Phenomenological Analysis of School Administrators' and Teachers' Views on Self-Regulation Skills.

Main Theme	Sub-theme	Participant Views
Self-Regulation: Administrator Views	Willpower	<i>Participant 3-M-A:</i> "I value my own views and thoughts, but also consider how compatible they are with applicability."
	Self-reflection	<i>Participant 1-F-A:</i> "We value feedback from our teachers, students, and parents, and learn from it."
	Planned/foresight	<i>Participant 2-M-A:</i> "During the pandemic (COVID 19), we made plans on how things should be handled and organized educational settings accordingly."
	Empathy	<i>Participant 1-M-A:</i> "Empathy is essential in our work. We aim to make the right decisions by looking at things from different angles."
	Perspective-taking	<i>Participant 1-F-SP:</i> "We make forward-looking plans and must look at every incident from different perspectives. We analyse decisions by gathering everyone's opinion."
Self-Regulation: Teacher Views	Willpower	<i>Participant 1-F-T:</i> "Actions are taken based on feedback, allowing for evaluations. Feedback from teachers, parents, and us teachers within the school is very valuable."
	Self-reflection	<i>Participant 1-F-T:</i> "Evaluations are made based on feedback from teachers and parents."
	Foresight	<i>Participant 1-M-T:</i> "Future-oriented plans are made to ensure that operations continue appropriately. Seeing ahead is very important in administration."

Spontaneous decision-making	Participant 3-M-T: "Can make quick, impulsive decisions, and last-minute tasks can arise."
-----------------------------	--

\* F: Female, M: Male, A: Administrator, T: Teacher.

According to the self-assessments by school administrators, their self-regulation skills focus particularly on willpower, self-reflection, planned and foresighted actions, empathy, and the ability to view situations from various perspectives. These evaluations indicate that administrators exhibit conscious and careful approaches in both personal and professional decision-making processes. For instance, Participant 3-M-A emphasizes the importance of considering the applicability of decisions, while Participant 1-M-A highlights the significance of empathy in operational processes. This suggests that school administrators are sensitive both to their internal assessments and to the needs of those around them.

*Participant 3-M-SP stated, "I value my own views and thoughts, which can indeed become the most valued opinions and thoughts. However, the applicability aspect is also crucial. We always have views and thoughts, but it's important to balance them regarding their applicability. If there is no issue with applicability, I proceed focused on my own views and thoughts."*

*Participant 1-F-A said, "Of course, we value the feedback from our teachers, students, and parents. Therefore, we always learn a lesson from the feedback they provide. We try to foresee everything, but naturally, there are some things that we can't foresee, so we evaluate using the feedback we receive from parents, teachers, and students and try to be foresighted."*

*Participant 2-M-A commented, "In the past, there was a pandemic situation, and if we hadn't planned how things should be done during this period, our educational environments would have progressed in a very empty and inappropriate manner. But during these times, we evaluate situations from different angles and believe it's better to look forward. We don't think we could proceed healthily without the foresight in this process for both education and other environments."*

*Participant 1-M-A remarked, "Empathy is a must in our job. Approaching it as 'I only know, this is it' could lead to wrong judgments. So, of course, we try to manage the process by believing that we are making the right decision by looking at different perspectives."*

*Participant 1-F-A noted, "We make forward-looking plans, and we have to look at events from different angles because we deal with children, teachers, parents, students of different characters, different structures. That's why we must look at every event from different angles. That's why I believe it's necessary to analyse by taking everyone's opinion."*

Teachers' views on the self-regulation skills of school administrators focus on willpower, self-reflection, foresight, and the ability to make instant decisions. Teachers note that administrators act based on feedback and evaluate this process, valuing feedback from teachers, parents, and students. Participant 1-F-T highlighted the importance of feedback from teachers and other stakeholders, while Participant 1-M-T emphasized the administrators' ability to plan.

*Participant 1-F-T stated, "Yes, actions are taken based on feedback, and evaluations can be made because feedback from teachers, parents, and us teachers within the school is very valuable."*

*We are more present on the ground, and we already convey our feedback; of course, there can be problems, but evaluations are made from our feedback."*

*Participant 3-M-T observed, "Can make quick, impulsive decisions, and last-minute tasks can arise."*

*Participant 1-M-T explained, "Future-oriented plans are made to ensure operations continue appropriately. Because from the administration point, it's very important to see ahead when managing a place. I have witnessed this before, yes."*

When comparing the views of administrators and teachers, both groups agree that school administrators have strong self-regulation skills but focus on different aspects. Directors emphasize their internal processes and the applicability of their decisions, while teachers highlight administrators' sensitivity to the external world and flexibility in decision-making processes. This

situation shows that administrators balance internal and external factors well, and these skills are recognized by both themselves and teachers.

Thus, the process of effective school administration must incorporate the persons' capacity to carry out the self-evaluation and to weigh others' opinions.

Information Gleaned Through the University's Qualitative Research Regarding the Decision-Making Styles of School Administrators

The findings of the IPA study with emphasis on the "Decision-Making Styles of School Principals" as perceived by the respondents- school administrators and teachers are as follows in the Table 7.

**Table 7.** Perceptions of School Directors and Teachers Regarding the Styles Employed by School Administrators in Their Decision-Making Process.

Main Theme	Sub-theme	Participant Views
Decision-Making Styles: Administrator Views	Rational	<i>Participant 2-M-A</i> : "Rational because... when you bring together the logical process, we likely continue in a rational decision-making mode."
	Spontaneous	<i>Participant 3-M-A</i> : "When making decisions... it's necessary to think logically and make rational decisions."
	Dependent	<i>Participant 1-F-A</i> : "More often intuitive and spontaneous... we can make spontaneous decisions, but I think it's more intuitive."
	Intuitive	<i>Participant 3-F-A</i> : "There is definitely a dependent decision because you have responsibilities as a director. It's not possible for us to act independently."
Decision-Making Styles: Teacher Views	Rational	<i>Participant 2-M-T</i> : "Our principal tends to make decisions rationally... he proceeds according to whatever is logical."
	Intuitive	<i>Participant 2-F-T</i> : "In a dominant sense, I observe more rational decision-making... I can say decisions are based on data."
	Spontaneous	<i>Participant 1-F-T</i> : "Intuitive in this way, he does make decisions based on his experiences... of course, he also makes intuitive decisions."
	Dependent	<i>Participant 2-F-T</i> : "Spontaneous decision-making, definitely necessary in some situations."
	Avoidant and Collaborative	<i>Participant 3-F-T</i> : "Still feels the need for approval. Wants to get the same confirmation from someone else."

\* F: Female, M: Male, SB: School Principal, T: Teacher.

Respondents' self-generated strategies point towards the fact that their decision-making employs principal agent reasoning, emergent, retaliatory and instinctual styles. For instance, Participants 2-M-SP and 3-M-SP equally mention the concept of rationality in decision making pointing to fact that this kind of decision making means a logical analysis and evaluation of the consequences and their relationship to the decision. On the other hand, Participant 1-F-SP emphasizes on the fact that rational and purposefully calculated decisions are not always made having certain conditions in mind and that everyday life situations involve quick and instant decisions and actions,

which proves that the administrators can learn and develop new, more diverse skills, relying on their flexibility in decision making processes. Therefore, dependent decision-making, as focused on by F-SP, can be seen as revealing an understanding of the responsibilities involved in the respective roles, which delineates responsibility as an influence on their actions. This is the list direct quotes related to these themes here.

*"Rational because both the existence of the person and the continuity of the institution, and the whole logical process you bring together, likely means we continue in a rational decision-making mode." (2-M-A)*

*"Making a final decision coolly is very important. This requires rational decision-making. You need to think logically. You must lay out the pros and cons. That is, after thinking about how this decision will affect us positively or negatively, you need to make a rational decision. Logic has to be at the forefront, which I suppose falls into the rational decision-making part." (3-M-A)*

*"More often intuitive and spontaneous depending on the situation, we may have to make instant decisions. As I mentioned, we can make instant decisions in daily situations we experience, but I think it's more intuitive." (1-F-A)*

*"Dependent decisions are definitely there because you have responsibilities as a director. You have a responsibility associated with your position and office. Therefore, it is not possible for us to act independently. Yes, I make dependent decisions." (3-F-A)*

Teachers' views on the decision-making styles of school administrators encompass a wide spectrum including rational, intuitive, spontaneous, dependent, avoidant, and collaborative decision-making styles. Teachers generally note that administrators tend to make rational decisions based on data and information. Teachers also mention intuitive decision-making, suggesting administrators often rely on their experiences to make intuitive decisions. Teachers highlight the necessity of spontaneous decisions in some cases and observe that administrators sometimes make dependent decisions to obtain others' approval.

*"Our principal tends to make decisions more rationally. Rather than making intuitive or dependent decisions, he progresses according to whatever is realistic and logical." (2-M-T)*

*"In terms of dominance, I observe more rational decision-making because decisions are based on data from the start, which I can say are data-based decisions." (2-F-T)*

*"Intuitive in this way, of course, he makes decisions based on his experiences, 'this event happens like this, it can go this way too'." (1-F-T)*

*"Instant decision-making is definitely necessary in some situations." (2-F-T)*

*"He still feels the need for approval. He wants to get the same approval from someone else." (3-F-T)*

When comparing the views of directors and teachers, both groups indicate that school administrators adopt a diverse and flexible approach to decision-making processes. Directors focus on the importance of logical thinking and evaluating outcomes in the decision-making process, while teachers note that administrators can make decisions in various styles and adapt flexibly to situations. Teachers' views show that administrators not only make rational but also intuitive, spontaneous, and situation-dependent decisions. This comparison reveals the complexity and multifaceted nature of administrative decision-making processes, requiring various approaches for different situations.

The Integrated Results Matrix below presents a comprehensive evaluation of both quantitative and qualitative data, detailing the complex relationship between school administrators' self-regulation skills and their decision-making style.

### *8.5. Integrated Results Matrix on the Correlation Between School Administrators' Self-Regulation Skills and Decision-Making Style*

**Table 8.** Integrated Results Matrix on the Correlation between School Administrators' Self-Regulation Skills and Decision-Making Style.

Quantitative Results	Qualitative Results	Example Quotes
Quantitative data reveals moderate positive correlations between school administrators' self-regulation skills and various decision-making styles.	School administrators' self-regulation skills are categorized into themes like willpower, self-reflection, planned/foresighted action, empathy, seeing from different perspectives, and consulting colleagues.	<p><i>Participant 3:</i> "If there's no issue with the applicability, I tend to proceed based on my own views and thoughts." (3-M-A).</p> <p><i>Participant 1:</i> "We highly value the feedback from our teachers, students, and parents..." (E-A)</p> <p><i>Participant 2:</i> "...in these processes, we evaluate events from different angles and make plans, believing it's better to look ahead." (2-M-A)</p>
No significant relationship was found between avoidant and spontaneous decision-making styles and the aspects of self-regulation (Quote 4).	Teachers' views categorize school administrators' self-regulation skills into themes like willpower, self-reflection, foresightedness, and making quick decisions.	<p><i>Participant 1:</i> "Empathy is essential in our job... We try to manage the process by believing we make the right decision after looking at it from different angles." (1EM)</p> <p><i>Participant 1:</i> "We make forward-looking plans, we have to look at events from different angles..." (1-M-A)</p> <p>"Yes, he takes actions based on our feedback, as our feedback is very valuable..."</p> <p>Participant 1: (1-F-T)</p>

Both school administrators' and teachers' views suggest high-level correlations between rational decision-making and aspects of self-regulation.	School administrators' decision-making styles are classified as rational, spontaneous, dependent, and intuitive.	<i>Participant 2:</i> "Rational because... combining all the logical processes like the continuity of the institution, the healthy progression of the process, probably leads us to continue with rational decision-making." (2-M-A)
		<i>Participant 1:</i> "More intuitive and spontaneous, it varies according to the situation, we sometimes have to make instant decisions." (1-F-A)
		<i>Participant 3:</i> "There definitely is dependent decision-making because you have responsibilities as a principal... I do make dependent decisions." (3-M-A)

\* F: Female, M: Male, A: Administrator, T: Teacher.

This study used a combination of qualitative and quantitative methodologies to thoroughly investigate the relationship between the self-regulation skills of school administrators and their decision-making styles. The quantitative results indicate that there are moderate positive correlations between self-regulation skills and different decision-making styles. This means that these talents have a good correlation with the procedures used in decision-making and this is as follows. The qualitative findings give a better description of the elements of self-regulation which include the will power, self-audit, and anticipation, and types of decisions within the rational, instinctive, reliance, and capricious decisions. The given qualitative data and the examples provided show that administrators' self-regulation affects their level of decision making. There is emphasis lodged in bureaucracy where decision making is done in a systematic way with relation to some events but where administrators occasionally resort to intuitive and reliable ways of handling some prevalent situations. Such an analysis provides a rather extensive understanding of how self-regulation contributes to rational decision making of school heads which responds to the rising importance of these competencies in educational management. It is highly useful to gain these insights when it comes to enhancing processes that boost bureaucracy of educational settings.

## 9. Discussion, Conclusion and Recommendations

Using a mixed-methods approach that included both quantitative surveys and qualitative interviews, the study investigated the relationship between school administrators' self-regulation abilities and decision-making styles. This extensive study sought to determine how different facets of self-regulation affect administrators' capacity for effective decision-making in learning environments.

School administrators exhibit high levels of foresight and self-reflection, essential for proactive and introspective leadership in schools. These abilities enhance strategic planning and decision-making by allowing administrators to consider past actions and anticipate future challenges. According to Dedov et al. (2021) [64], foresight sessions in professional self-development are crucial for future specialists, directly linking to the proactive skills required for school leadership. Yan's (2020) [65] research underscores the critical role of self-evaluation and self-reflection in self-regulated learning, highlighting their importance in educational leadership and effective decision-making. Yan's findings also indicate that individuals with strong self-regulation abilities typically achieve their goals, which is promising for school efficacy [66]. School administrators must possess the flexibility and foresight to thrive in goal-oriented and environmentally influenced settings [67]. Derkach et al. (2023) [68], reveal that foresight projects can significantly improve the educational process by enabling leaders to predict future trends and challenges more accurately. Mohammad Noman (2023) [69] emphasizes the crucial role of visioning in leadership, stating that strong foresight is essential for creating a relevant and responsive educational vision. Belenkova (2021) [70] examines metacognitive skills and reflection as key components of effective self-education, highlighting their importance in enhancing educational leadership. Collectively, these studies underscore the importance of self-awareness and foresight in improving educational leadership, aligning with the attached document's findings on the significance of these abilities in school administrators' work.

Research indicates that most school administrators make logical decisions, significantly impacting organizational outcomes and instructional leadership. This methodical approach facilitates strategic implementation and effective problem-solving in educational environments. Ding et al. (2020) [71] found that emotional intelligence is crucial in decision-making, as it helps educational leaders control their emotional reactions, resulting in better-informed and objective decisions. Amalia et al. (2020) [72] emphasizes the importance of logical decisions in educational settings, where decisions affect teachers, parents, and students. Their findings indicate that a structured approach to decision-making facilitates clearer and more effective leadership. Tomas et al. (2019) [73] highlights the growing importance of data-driven decision-making in education, where logical examination of data improves decision-making and learning outcomes, helping educators adapt to the complexities of educational settings.

Our study aimed to determine whether decision-making styles and administrators' capacities for self-regulation are correlated. The findings indicate a positive correlation between self-regulation abilities and rational decision-making style, but no significant relationship with the spontaneous decision-making style. Literature supports this finding, suggesting that rational decision-making develops alongside self-regulation skills [45,74–76]. Self-regulation showed little to no correlation with avoidant or spontaneous decision-making styles, consistent with research indicating that future-focused individuals do not favor these styles [77]. Self-regulation involves thinking ahead and planning, which are incompatible with impulsive or avoidant decision-making. Teachers and school administrators generally believe that administrators make decisions logically, aligning with literature indicating that school administrators use a rational decision-making process [78–80]. Rational decision-making, involving weighing potential outcomes and choosing the best course of action, is essential for goal achievement [81,82]. However, research also emphasizes that decision-making processes in school administration have limited rationality [38].

School administrators also exhibit dependent and intuitive decision-making styles, demonstrating flexibility in unclear or complex situations. Flexibility is crucial for navigating educational challenges. Ali Khan et al. (2023) [83]. found that intuition complements rational strategies by offering prompt, experience-based solutions, positively influencing transformational

leadership styles. Dependent decision-making harnesses diverse perspectives, enhancing the process, especially when collective input is vital [84]. Iqbal et al. (2020) [84] found that leaders combining analytical and intuitive styles encourage greater involvement in decision-making, enhancing organizational effectiveness in educational institutions. These findings underscore the importance of adaptable leadership in education, balancing rational, intuitive, and dependent styles for optimal outcomes.

Educational outcomes are directly impacted by the integration of decision-making styles and self-regulation. Administrators with strong self-regulation foster positive learning environments and successfully implement educational reforms. Research indicates that improved self-regulation is crucial for raising student success and boosting institutional effectiveness. Lauermann and Butler (2021) [85] show that teachers' motivations, emotions, and self-control significantly influence their professional judgment and instructional strategies, affecting students' learning outcomes. Vasconcellos et al. (2020) [86] found that students' adaptive outcomes are positively correlated with autonomous motivation, highlighting self-regulation's role in educational success. Li and Bagasol (2023) [87] suggest a strong positive correlation between college students' cognitive styles and self-regulated learning, enhancing student outcomes. García-Pérez et al. (2021) [88] demonstrate that college students modify their learning strategies for various courses, impacting their academic performance and capacity for self-regulated learning.

This study employed a mixed-methods approach, combining qualitative interviews with quantitative findings to enhance the validity and reliability of the research. The interviews provided specific instances that clarified the quantitative data, which can often be abstract [89]. The study found congruence between qualitative interviews and quantitative results regarding the self-regulation abilities and decision-making approaches of school administrators. Qualitative interviews with teachers and administrators supported quantitative findings indicating high self-regulation skills, highlighting themes of will control, self-reflection, and predictive and sudden decision-making, with a notable emphasis on self-regulation. Rational decision-making was frequently cited in both interviews and quantitative data, aligning closely. Administrators also mentioned intuitive, spontaneous, and dependent styles, though they preferred rational, intuitive, and dependent styles, suggesting a nuanced approach to leadership decision-making. Quantitative data indicated that spontaneous decision-making is the least preferred approach, and qualitative interviews did not reveal a preference for avoidant decision-making, possibly due to reluctance to admit using such styles [38,90].

The inclusion of qualitative data from interviews enriched the findings by highlighting the crucial roles of empathy and perspective-taking in educational leadership. Administrators emphasized the significance of empathy in their roles, promoting inclusive and thoughtful decision-making processes, while teachers stressed the importance of administrators being receptive to feedback, enhancing cooperative educational management. Rezaei et al. (2023) [91], showed that arts education and reflective practices in medical training enhance empathy and perspective-taking abilities, essential for effective leadership in any educational context. Similarly, Lobchuk et al. (2021) [92] found that cognitive empathy significantly influences the efficacy of educational leadership across various academic departments. Aslan and Köksal Akyol (2020) [93] demonstrated that empathy training programs positively impact children's ability to understand others' perspectives, suggesting that administrators could use similar strategies to create a more empathetic and inclusive educational environment. These findings underscore the importance of empathy and perspective-taking in improving educational leadership, contributing to more effective, inclusive, and responsive educational environments. Integrating self-regulation, decision-making styles, empathy, and perspective-taking can substantially enhance educational settings.

The findings of the study indicate that school administrators with robust self-regulation skills are more inclined to employ efficient decision-making methods. There is a measurable and moderately positive relationship between self-regulation skills and various decision-making styles, implying that administrators with strong self-regulation can effectively use different decision-making styles. Themes from interviews, such as will control, self-reflection, and foresight, contribute

to both rational and intuitive decision-making. Recent literature supports these findings: Rashedi et al. (2021) [94] identified a significant relationship between self-regulation and decision-making styles in educational leaders, affecting their effectiveness in managing schools. They suggest that higher self-regulation skills improve the rationality and adaptability of administrators' decisions [95]. Sharma et al. (2020) [96] also found that combining rational and intuitive decision-making, supported by robust self-regulation, yields superior results in educational environments. This supports the notion that effective leadership requires an adaptable decision-making approach, dependent on the leader's self-regulatory capacities [96]. Fernandez-Rio et al. (2017) [97] investigated the impact of self-regulation on leadership decision effectiveness in education, finding that leaders with greater self-regulation engage in proactive and well-thought-out decision-making processes, enhancing school performance. These studies confirm the crucial role of self-regulation in improving decision-making among school administrators, highlighting the importance of developing self-regulation skills in educational leaders to enhance their decision-making abilities and improve educational outcomes.

In conclusion, the study's results demonstrate a clear link between the self-regulation abilities of school administrators and their decision-making styles. The findings indicate that administrators who possess strong self-regulation skills are better equipped to effectively employ different decision-making approaches. Both the qualitative insights illustrating themes like self-reflection, will control, and foresight and the quantitative data demonstrating moderately positive correlations support this. These abilities are essential because they help administrators think more strategically and make well-informed decisions by improving their capacity to anticipate problems in the future and reflect on past decisions. The studies by Noman (2023), Yan (2020), Derkach et al. (2023), and Belenkova (2021)'s [65,68–70] further support that self-regulation is essential in enabling school leaders to adapt to complex educational demands effectively. Furthermore, incorporating rational, intuitive, and dependent decision-making styles, as proposed by Ding et al. (2020), Amalia et al. (2020) [71,72]. The studies conducted by Iqbal et al. (2020), Fernandez-Rio et al. (2017), and Khan et al. (2023) [83,84,97], emphasize the necessity for educational leaders to possess adaptability and promptness. In summary, these findings confirm that the cultivation and improvement of self-regulation and adaptive decision-making abilities are essential for school administrators, guaranteeing their effective leadership in ever-changing and varied educational environments. As educational environments progress, it is essential for those in leadership positions to continuously develop their skills to maintain and improve educational outcomes.

Interviews with school administrators and teachers regarding the decision-making styles of school administrators align closely with the findings from quantitative data, particularly in relation to the most employed decision-making style. Both interviews with school administrators and teachers consistently indicate that school administrators frequently employ a rational decision-making approach. Quantitative data supports this claim, showing that school administrators from both groups have a strong preference for the rational decision-making style. Qualitative interviews emphasise the importance of adhering to a composed and logical decision-making process to ensure the smooth functioning of the school. In interviews, school administrators have stated that they employ spontaneous, intuitive, and dependent decision-making styles. The frequency of these styles employed by school administrators has been determined through qualitative interviews to be rational, intuitive, spontaneous, and dependent, in that specific sequence. In contrast to the qualitative findings, the quantitative data indicate that the spontaneous decision-making style is the least favoured. Furthermore, the qualitative interviews did not yield any findings regarding the avoidant decision-making style, which was found to be moderately utilised based on the quantitative data collection tool. The reason for this disparity can be attributed to the school administrators' desire to avoid being perceived as deficient in critical managerial abilities, such as decision-making [38]. The likelihood of this bias is increased when teacher interviews reveal that administrators at schools occasionally make decisions in an avoidant manner [90].

Given the research findings indicating that school administrators who possess strong self-regulation skills exhibit more effective decision-making abilities, it is advisable for educational institutions to introduce focused training programmes. These programmes should prioritise the

cultivation of self-regulation skills, including emotional intelligence, strategic planning, and reflective practices. School administrators can make better decisions, manage complex educational challenges, and lead their schools more successfully by enhancing these skills. All administrators should have access to these training programmes as part of their regular professional development plans, so they are prepared for the demands of their positions in fast-paced learning environments.

It is advised that researchers studying education look more closely at the relationships school administrators' self-regulation and decision-making styles have. This could include long-term research projects that evaluate the effects of focused training on self-regulation on administrative choices and learning objectives. Researchers should also investigate the relationships between various educational leadership philosophies and self-regulation components to determine which approaches work best in which kinds of educational settings. These studies would contribute to our understanding of the function of self-regulation in educational leadership and provide guidance for creating training programmes that are more effective and more suited to the needs of various educational settings.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** All necessary guidelines were followed.

**Informed Consent Statement:** Informed consent was received from all participants.

**Data Availability Statement:** The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author/s.

**Conflicts of Interest:** The author declares no conflict of interest.

**AI Support:** We acknowledge the use of DeepL (<https://www.deepl.com/>) and Grammarly (<https://www.grammarly.com/>) during the translation, language, and editing processes of this work.

## References

1. Schunk, D.H.; Zimmerman, B.J., Eds. *Motivation and Self-Regulated Learning: Theory, Research, and Applications*; Routledge, 2012.
2. Webb, L.D.; Brigman, G.A.; Campbell, C. Linking school counselors and student success: A replication of the student success skills approach targeting the academic and social competence of students. *Prof. Sch. Couns.* 2018, 12, 413-420.
3. Maslow, A.H. A theory of human motivation. *Psychol. Rev.* 1943, 50, 370-396.
4. Carter, P.L.; Skiba, R.; Arredondo, M.I.; Pollock, M. You can't fix what you don't look at: Acknowledging race in addressing racial discipline disparities. *Urban Educ.* 2015, 52, 207-235.
5. Unver, V.; Atzori, W.; Surucu, S.G. The impacts of self-regulation skills training on decision-making processes and styles in healthcare leadership. *J. Healthc. Leadersh.* 2022, 14, 65-78.
6. De la Fuente, J.; Martínez-Vicente, J.M.; Santos, F.H.; Sander, P.; Fadda, S.; Karagiannopoulou, E.; Boruchovitch, E.; Kauffman, D. Advances on Self-Regulation Models: A New Research Agenda Through the SR vs ER Behavior Theory in Different Psychology Contexts. *Front. Psychol.* 2022, 13, 861493. <https://doi.org/10.3389/fpsyg.2022.861493>.
7. Masaki, F. Self-regulation from the sociocultural perspective—A literature review. *Cogent Educ.* 2023, 10, 2243763.
8. Blair, C.; Ku, S. A hierarchical integrated model of self-regulation. *Front. Psychol.* 2022, 13, 245. <https://doi.org/10.3389/fpsyg.2022.725828>.
9. Eisenberg, N.; Valiente, C.; Eggum, N.D. Self-regulation and school readiness. *Early Educ. Dev.* 2010, 21, 681-698. <https://doi.org/10.1080/10409289.2010.497451>.
10. Liew, J. Effortful control, executive functions, and education: Bringing self-regulatory and social-emotional competencies to the table. *Child Dev. Perspect.* 2012, 6, 105-111. <https://doi.org/10.1111/j.1750-8606.2011.00196.x>.
11. Schunk, D. Commentary on self-regulation in school contexts. *Learn. Instruc.* 2005, 15, 173-177. <https://doi.org/10.1016/j.learninstruc.2005.04.013>.
12. Webb, M.; Johnson, E.S.; Meek, J.; Herzog, B.; Clohessy, A.B. Developing a school-based multitiered model for self-regulation. *Interv. Sch. Clinic* 2018, 53, 300-307. <https://doi.org/10.1177/1053451217736862>.
13. Zimmerman, B.J. Self-efficacy: An essential motive to learn. *Contemp. Educ. Psychol.* 2000, 25, 82-91. <https://doi.org/10.1006/ceps.1999.1016>.
14. Bandura, A. Social cognitive theory: An agentic perspective. *Annu. Rev. Psychol.* 2001, 52, 1-26. <https://doi.org/10.1146/annurev.psych.52.1.1>.
15. Dowdy, R.; Estes, J.; McCarthy, C.; Onders, J.; Onders, M.; Suttner, A. The influence of occupational therapy on self-regulation in juvenile offenders. *J. Child Adolesc. Trauma* 2023, 16, 221-232.
16. Andrews, M.A.; Okuliar, C.A.; Whelton, S.A.; Windels, A.O.; Kruse, S.R.; Nachnani, M.G.; Durning, S.J. Using self-regulated learning microanalysis to examine regulatory processes in clerkship students engaged in practice questions. *Perspect. Med. Educ.* 2023, 12, 385.
17. Fomani, F.K., et al. Exploring the effects of self-reflection practice on cognitive emotion regulation and resilience among mothers of premature neonates. *J. Clin. Psychol.* 2022, 9, 211-220.
18. Schunk, D.H.; Zimmerman, B.J. Influencing children's self-efficacy and self-regulation of reading and writing through modeling. *Read. Writ. Q.* 2007, 23, 7-25. <https://doi.org/10.1080/10573560600837578>.
19. Thunholm, P. Decision-making under uncertainty: A review of twenty years of research. *Cogn. Psychol.* 2023, 20, 42-58.
20. Byrnes, J.P. The nature of decision making: Different types of decisions require different types of information. *Annu. Rev. Psychol.* 2013, 64, 125-150.
21. Thunholm, P.; Henåker, L. A tentative model on effective army combat tactics. *Comparative Strategy.* 2020, 39, 490-504. <https://doi.org/10.1080/01495933.2020.1803713>.
22. Permiakova, M.; Ershova, I.; Permiakov, M. The Connection Between Intuition and Decision-Making Styles. *Izvestia Ural Federal University Journal Series 1. Issues in Education, Science and Culture.* 2023, 29(3), 051. <https://doi.org/10.15826/izv1.2023.29.3.051>.
23. Ramadhan, M.D.; Siantar, P.B.L.; Rosalina, S. The influence of leadership style on decision-making. *J. Manag. Stud.* 2022, 2, 27-29.
24. Jackson, T.; Smith, S.; Linebaugh, K. Self-regulation and decision-making: Enhancing executive function in leaders. *Leadersh. Q.* 2023.
25. Nutt, P.C. Investigating the success of decision-making processes. *J. Manag. Stud.* 2008, 45, 425-455.
26. Aydın, M. *Education management*; Hatiboğlu Publishing: Ankara, Turkey, 2010.
27. Başaran, İ.E. *Organizational behavior: Human productivity*; Ekinoks: Ankara, Turkey, 2008.
28. Simon, H.A. The business school: A problem in organizational design. *J. Manag. Stud.* 1967, 4, 1-16.
29. Bonnyventure, S.N. The Nexus Between Strategic Decision-Making, Strategic Communication and Organizational Performance: A Critical Literature Review. *J. Strateg. Manag.* 2022, 6, 37-49.

30. Sansone, M.; Balconi, M. Did it work? Effective decisions in the workplace. *Neuropsychol. Trends* 2023, 34, 59-84.
31. Thunholm, P. Decision-making style: habit, style or both? *Pers. Individ. Differ.* 2004, 36, 931-944.
32. Marques da Rocha, M.C.; Malloy-Diniz, L.F.; Romano-Silva, M.A.; Joaquim, R.M.; Serpa, A.L.D.O.; Paim Diaz, A.; de Miranda, D.M. Decision-making styles during stressful scenarios: The role of anxiety in COVID-19 pandemic. *Front. Psychiatry* 2023, 14, 1105662.
33. Vohs, K.D.; Baumeister, R.F.; Schmeichel, B.J.; Twenge, J.M.; Nelson, N.M.; Tice, D.M. Making choices impairs subsequent self-control: A limited-resource account of decision making, self-regulation, and active initiative. *J. Pers. Soc. Psychol.* 2018, 94, 883-898.
34. Scott, S.G.; Bruce, R.A. Decision-making style: The development and assessment of a new measure. *Educ. Psychol. Meas.* 1995, 55, 818-831. <https://doi.org/10.1177/0013164495055005017>.
35. Egbaria, H.; Zaid, J. The Association of Personality Traits and Decision-Making Styles among Arab Undergraduate Students in Israeli Universities. *Int. J. Soc. Sci. Humanit. Manag. Res.* 2023, 2, 232-242.
36. Acconito, C.; Rovelli, K.; Angioletti, L. Neuroscience for a new concept of decision-making style. *Neuropsychol. Trends* 2023, 33, 17-35.
37. Robbins, S.P.; DeCenzo, D.A.; Coulter, M. *Fundamentals of management: Essential concepts and applications*; Prentice Hall: Upper Saddle River, NJ, USA, 2002.
38. Hoy, W.K.; Miskel, C.G. *Educational administration: Theory, research, and practice*; McGraw-Hill: New York, NY, USA, 2013; 9th ed.
39. Mulesa, O.; Myronyuk, I.; Geche, F.; Horvat, P.; Imre, Y. Models for management decision-making on the organization of the educational process in conditions of a high level of uncertainty. *Ukr. J. Inf. Technol.* 2022, 4, 74-79.
40. Qendraj, D.H.; Xhafaj, E.; Kosova, R.; Gjokaj, N. Factors Affecting the Adoption of Cloud-Based Learning Management System: A Decision Approach via Fuzzy Z-AHP. *Interdiscip. J. Res. Dev.* 2023, 10, 82-82.
41. Cameron, K.S.; Dutton, J.E.; Quinn, R.E. *Positive organizational scholarship: Foundations of a new discipline*. Berrett-Koehler Publishers, 2017.
42. Lord, R.G.; Diefendorff, J.M.; Schmidt, A.M.; Hall, R.J. Self-regulation at work. *Annu. Rev. Psychol.* 2010, 61, 543-568.
43. Goleman, D. *Working with emotional intelligence*; Bloomsbury Publishing: London, UK, 1998.
44. Gouanet, N. Motivation to Learn, Self-Regulating Skills and Science Achievement of JHS Students amidst Pandemic: Basis for Enhanced Learning Continuity Plan. *AIDE Interdiscip. Res. J.* 2022, 3, 50-73.
45. Byrnes, J.P. *The nature and development of decision-making: a self-regulation model*; Erlbaum: Hillsdale, NJ, USA, 1998.
46. Byrnes, J.P.; Miller, D.C.; Reynolds, M. Learning to make good decisions: A self-regulation perspective. *Child Dev.* 1999, 70, 1121-1140.
47. Lord, R.G.; Day, D.V.; Zaccaro, S.J.; Avolio, B.J.; Eagly, A.H. Leadership in applied psychology: Three waves of theory and research. *J. Appl. Psychol.* 2017, 102, 434.
48. Miller, D.C.; Byrnes, J.P. Adolescents' decision making in social situations: A self-regulation perspective. *J. Appl. Dev. Psychol.* 2001, 22, 237-256.
49. Rew, L. Intuition in decision-making. *Image: Journal of Nursing Scholarship.* 1988, 20(3), 150-154.
50. Güler, B.; Şahin, M. The effect of blended learning method on preservice elementary science teachers' attitudes toward technology, self-regulation and science process skills, 2015.
51. Çelik-Ercoşkun, N.; Köse, E. Examination of self-regulation and problem-solving skills of primary education department teacher candidates. *International Online Journal of Educational Sciences* 2014, 6(2), 413-428.
52. Duru, E.; Balkis, M.; Buluş, M.; Duru, S. The role of self-regulation, academic achievement, and demographic variables in predicting academic procrastination tendency in teacher candidates. 18th Educational Sciences Congress, Izmir, Turkey, 2009.
53. Aksoy, A.; Tozduman-Yaralı, K. Examination of children's self-regulation skills and play skills by gender. *Trakya University Journal of Education Faculty* 2017, 7(2), 442-455.
54. Eberlin, R. J.; Tatum, B. C. Making just decisions: organizational justice, decision making, and leadership. *Management Decision* 2008, 46(2), 310-329.
55. Creswell, J. W. Mixed-method research: Introduction and application. In *Handbook of Educational Policy*; Academic Press, 1999; pp. 455-472.
56. Plano Clark, V. L. Mixed methods research. *The Journal of Positive Psychology* 2017, 12(3), 305-306.
57. Ivankova, N. V.; Creswell, J. W.; Stick, S. L. Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods* 2006, 18(1), 3-20.
58. Wisdom, J.; Creswell, J. W. Mixed methods: Integrating quantitative and qualitative data collection and analysis while studying patient-centered medical home models. *PCMH Research Methods Series* 2013, 13, 1-15.

59. Gay, L. R.; Mills, G. E.; Airasian, P. *Educational Research Competencies for Analysis and Applications*, 9th ed.; Pearson Education International: New Jersey, 2009.
60. Oğuz, E. *The relationship between leadership styles and decision-making styles of primary school administrators*. Ph.D. Thesis, Ankara University, Education Sciences Faculty, Ankara, Turkey, 2008.
61. J.A. Smith, P. Flower and M. Larkin. *Interpretative Phenomenological Analysis: Theory, Method and Research*. 2009, 6(4), 346-347.
62. Yıldırım, A.; Şimşek, H. *Qualitative Research Methods in Social Sciences (Expanded 9th ed.)*; Seçkin Publishing: Ankara, Turkey, 2013.
63. Miles, B. M.; Huberman, M. A. *Qualitative Data Analysis*; Translated by S. Akbaba Altun and A. Ersoy; Pegem Akademi: Ankara, Turkey, 2015.
64. Dedov, N.P.; Fantalova, E.B.; Vaganova, O.I.; Lapshova, A.V.; Kuznetsov, V.A. *Role of Foresight Sessions in Professional Self-Development of Students*. *Rev. Univ. Zulia* 2021, 12(35), 504-515.
65. Yan, Z. *Self-Assessment in the Process of Self-Regulated Learning and Its Relationship with Academic Achievement*. *Assess. Eval. High. Educ.* 2020, 45(2), 224-238.
66. Bertrams, A.; Baumeister, R.F.; Englert, C. *Higher Self-Control Capacity Predicts Lower Anxiety-Impaired Cognition during Math Examinations*. *Front. Psychol.* 2016, 7, 158469.
67. Tschannen-Moran, M. *Fostering Teacher Professionalism in Schools: The Role of Leadership Orientation and Trust*. *Educ. Adm. Q.* 2009, 45(2), 217-247.
68. Derkach, T.M.; Bilianska, M.M.; Yaroshenko, O.G. *Project-Based Learning as an Approach to Enhance Ecological Component in Professional Education*. *Educ. Technol. Q.* 2023, 2023(4), 481-497.
69. Noman, M. *Distributed Instructional Leadership: The SHARE Model*. In *Educational Leadership: Contemporary Theories, Principles, and Practices*; Springer Nature Singapore: Singapore, 2023; pp. 39-55.
70. Belenkova, Y. S. *Metacognitive Skills and Reflection as Essential Components of Self-Education*. *MIER Journal of Educational Studies Trends and Practices* 2021, 10(1), 30-46.
71. Ding, R. X.; Palomares, I.; Wang, X.; Yang, G. R.; Liu, B.; Dong, Y.; ... & Herrera, F. *Large-Scale decision-making: Characterization, taxonomy, challenges and future directions from an Artificial Intelligence and applications perspective*. *Information fusion* 2020, 59, 84-102.
72. Amalia, K.; Komariah, A.; Sumarto, S.; Asri, K.H. *Leadership in education: Decision-making in education*. In *3rd International Conference on Research of Educational Administration and Management (ICREAM 2019)*, Atlantis Press, 2020, pp. 134-137.
73. Tomas, W. M.; de Oliveira Roque, F.; Morato, R. G.; Medici, P. E.; Chiaravalloti, R. M.; Tortato, F. R.; ... & Junk, W. J. *Sustainability agenda for the Pantanal wetland: perspectives on a collaborative interface for science, policy, and decision-making*. *Tropical Conservation Science* 2019, 12, 1940082919872634.
74. Gollwitzer, P. M.; & Sheeran, P. *Self-regulation of consumer decision making and behavior: The role of implementation intentions*. *Journal of Consumer Psychology* 2009, 19(4), 593-607.
75. Wood, R.; & Bandura, A. *Social cognitive theory of organizational management*. *Academy of Management Review* 1989, 14(3), 361-384.
76. Zimmerman, B. J.; & Martinez-Pons, M. *Development of a structured interview for assessing student use of self-regulated learning strategies*. *American Educational Research Journal* 1986, 23, 614-628.
77. Geisler, M.; & Allwood, C. M. *Relating decision-making styles to social orientation and time approach*. *Journal of Behavioral Decision Making* 2018, 31(3), 415-429.
78. Hariri, H.; Monypenny, R.; & Prideaux, M. *Teacher-perceived principal leadership styles, decision-making styles and job satisfaction: How congruent are data from Indonesia with the Anglophile and Western literature?* *School Leadership & Management* 2016, 36(1), 41-62. <https://doi.org/10.1080/13632434.2016.1160210>
79. Olcum, D.; & Titrek, O. *The effect of school administrators' decision-making styles on teacher job satisfaction*. *Procedia-Social and Behavioral Sciences* 2015, 197, 1936-1946.
80. Uğurlu, C. T. *Öğretmenlerin iletişim becerisi ve empatik eğilim davranışlarının çocuk sevme düzeyleri üzerine etkisi*. *Pegem Eğitim ve Öğretim Dergisi* 2013, 3(2), 51-61.
81. Rebore, R. W. *The ethics of educational leadership*. Upper Saddle River, NJ: Merrill Prentice Hall, 2001.
82. Shiloh, S.; Koren, S.; Zakay, D. *Individual differences in compensatory decision-making style and need for closure as correlates of subjective decision complexity and difficulty*. *Personality and Individual Differences* 2001, 30(4), 699-710.
83. Ali Khan, H. G.; Khan, M. A.; Ali, M. I.; Khattak, S. I.; Shujaat, S.; Alam, B. F. *Trust, performance and level of happiness of healthcare employees in the presence of authentic leadership*. *Work* 2023, 74(1), 111-118.
84. Iqbal, Q.; Ahmad, N. H.; Nasim, A.; Khan, S. A. R. *A moderated-mediation analysis of psychological empowerment: Sustainable leadership and sustainable performance*. *Journal of Cleaner Production* 2020, 262, 121429.
85. Lauermann, F.; Butler, R. *The elusive links between teachers' teaching-related emotions, motivations, and self-regulation and students' educational outcomes*. *Educational Psychology* 2021, 56(4), 243-249.

86. Vasconcellos, D.; Parker, P. D.; Hilland, T.; Cinelli, R.; Owen, K. B.; Kapsal, N.; ... Lonsdale, C. Self-determination theory applied to physical education: A systematic review and meta-analysis. *Journal of Educational Psychology* 2020, 112(7), 1444.
87. Li, F.; Bagasol, M. T. The influence of cognitive style on self-regulated learning ability of college students. *Journal of Education, Humanities and Social Sciences* 2023, 19, 21-24.
88. García-Pérez, D.; Fraile, J.; Panadero, E. Learning strategies and self-regulation in context: How higher education students approach different courses, assessments, and challenges. *European Journal of Psychology of Education* 2021, 36(2), 533-550.
89. Johnson, R. B.; Onwuegbuzie, A. J. Mixed methods research: A research paradigm whose time has come. *Educational Researcher* 2004, 33(7), 14-26.
90. Donaldson, S. I.; Grant-Vallone, E. J. Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology* 2002, 17, 245-260.
91. Rezaei, S.; Childress, A.; Kaul, B.; Rosales, K. M.; Newell, A.; Rose, S. Using visual arts education and reflective practice to increase empathy and perspective taking in medical students. *MedEdPORTAL: The Journal of Teaching and Learning Resources* 2023, 19, 11346. [https://doi.org/10.15766/mep\\_2374-8265.11346](https://doi.org/10.15766/mep_2374-8265.11346).
92. Lobchuk, M., Bell, A., Hoplock, L., & Lemoine, J. (2021). Interprofessional discharge team communication and empathy in discharge planning activities: a narrative review. *Journal of interprofessional education & practice*, 23, 100393.
93. Aslan, D., & Köksal Akyol, A. (2020). Impact of an empathy training program on children's perspective-taking abilities. *Psychological reports*, 123(6), 2394-2409.
94. Rashedi, R. N., Rowe, S. E., Thompson, R. A., Solari, E. J., & Schonert-Reichl, K. A. (2021). A yoga intervention for young children: Self-regulation and emotion regulation. *Journal of Child and Family Studies*, 30(8), 2028-2041.
95. Cazzell, M.; Li, L.; Lin, Z.J.; Patel, S.J.; Liu, H. Comparison of neural correlates of risk decision making between genders: an exploratory fNIRS study of the Balloon Analogue Risk Task (BART). *Neuroimage* 2012, 62 (3), 1896-1911.
96. Sharma, M.; Gupta, R.; Acharya, P. Prioritizing the critical factors of cloud computing adoption using multi-criteria decision-making techniques. *Global Business Review* 2020, 21 (1), 142-161.
97. Fernandez-Rio, J.; Cecchini, J.A.; Méndez-Gimenez, A.; Mendez-Alonso, D.; Prieto, J.A. Self-regulation, cooperative learning, and academic self-efficacy: Interactions to prevent school failure. *Frontiers in psychology* 2017, 8, 239947.
98. Isichei, E.E.; Aminu, A.A.; Chukwu, B.I.; Ike, N.M.; Agbaeze, K.E.; Anthony, I. Linking ambidextrous leadership and small and medium scale enterprises export performance. *South African Journal of Business Management* 2022, 53 (1), 14.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.