

Reflective Thinking And Successful Intelligence And Their Relationships To Self-Efficacy Among Kindergarten Teachers

Sayed Ibrahim Ali^{1,2,*}, Hoda Ibrahim Ali³

¹ Assistant Professor, King Faisal University, Saudi Arabia. Email: seali@kfu.edu.sa
<https://orcid.org/0000-0002-8808-6296>

² Lecturer, Educational Psychology Department, College of Education, Helwan University, Egypt.

³ Lecturer of curricula and teaching methods of kindergarten - Department of Curricula and Teaching Methods, College of Education, Helwan University, Egypt. Email: dr_hoda782004@yahoo.com

*Corresponding author: email: seali@kfu.edu.sa

Abstract:

Background: The kindergarten teacher is the primary individual responsible for forming children's personalities and minds, which are basic factors of any educational system. This study aimed to reveal the levels of reflective thinking and successful intelligence in kindergarten teachers and their relationship to self-efficacy. **Methods:** This research followed a descriptive-analytical approach. The sample consisted of 191 female kindergarten teachers in Al-Ahsa, Saudi Arabia. In addition, three questionnaires were employed by the researchers. **Results:** The participants showed high levels of reflective thinking, successful intelligence, and self-efficacy. There was a significant positive relationship between self-efficacy and both reflective thinking and successful intelligence; moreover, the self-efficacy of kindergarten teachers could be predicted by both reflective thinking and successful intelligence. **Conclusion:** The researchers in the present study recommended conducting in-depth research on the impact of successful intelligence among female teachers on self-efficacy and linking it to variables such as age and years of experience.

Keywords: Reflective thinking; Successful intelligence; Self-efficacy; Kindergarten teachers; Saudi Arabia.

1. Introduction:

The kindergarten teacher is the primary individual responsible for forming children's personalities and minds, which are basic factors of any educational system and major axes in the education of children. Various societies, with different cultures and goals, have paid attention to how to prepare teachers and ensure that they are qualified. It is necessary to provide opportunities for sustainable professional development,

especially in an era characterized by rapid developments and changes, that require teachers to develop their performance. This begins with their desire to work in the field of education and the acquisition of basic skills. In light of the educational process of cognitive development, which has imposed many challenges on all workers in the field of education, especially teachers, there has been increased attention to the self-efficacy of teachers. This is an important pillar that

determines teachers' level of motivation and ability to achieve.

Al-Jubouri (2013) believes that the level of self-efficacy of an individual affects the quality of the activities and tasks they choose and the amount of effort they will expend to accomplish them [1]. In education, self-efficacy refers to a teacher's assessment of his or her achievements, capabilities, abilities, and skills in relation to various situations that arise during the educational process; in other words, it is his or her belief about what has been achieved and what he or she can actually perform [2, 3]. As for intelligence, it has long been a subject of great interest to scientists, philosophers, and educators. Aristotle believed that people differ in their characteristics, including intelligence, depending on where they live [4]. One type of intelligence that has received attention, research, and study is successful intelligence, a contemporary trend that supports Sternberg's pluralism of intelligence [5]. Sternberg believes that intelligence was not limited to traditional, academic intelligence. He has extended his study to include the intelligence of individuals in different fields of work, situations, and environments, aiming to identify the factors that lead to success in each and infer the foundations of individual success [6].

Zoghbi (2017) believes in that having successful intelligence helps a kindergarten teacher achieve his or her goals and perform the role of teaching children, allowing them to acquire various skills [7]. Thinking is one of the most essential qualities that distinguish humans from other creatures. Thinking has many forms, including contemplative thinking, which is a type of thinking that depends on objectivity in solving problems and interpreting phenomena. Al-Qatrawi (2010) sees contemplative thinking as a "purposeful mental activity based on meditation through visual vision skills, revealing fallacies, reaching conclusions, giving convincing explanations, and developing proposed solutions to practical problems" [8].

The results of many studies indicate that it is necessary for a teacher to possess the skill of reflective thinking. It is a basic criterion of preparation because of its important role in encouraging professional growth, a deeper and more comprehensive understanding of the requirements of education and its problems, and the resulting diversity of teaching and evaluation methods. This leads to an improvement in the teacher's performance and the exercise of his or her professional responsibilities [9, 10].

1.1. Research problem:

As the educational sector is witnessing a cognitive boom that has produced many challenges that have, in turn, affected the educational process, kindergarten teachers have been forced to adapt and face these challenges through self-efficacy, successful intelligence, and reflective thinking. Therefore, the current study aims to reveal the level of reflective thinking and successful intelligence in kindergarten teachers and their relationships to self-efficacy.

1.2. Research questions:

The research questions of the current study are as follows:

- 1- What is the level of reflective thinking among kindergarten teachers in Al-Ahsa?
- 2- What is the level of successful intelligence among kindergarten teachers in Al-Ahsa?
- 3- What is the level of self-efficacy of kindergarten teachers in Al-Ahsa?
- 4- What are the relationships between self-efficacy and both reflective thinking and successful intelligence in kindergarten teachers?
- 5- Can the self-efficacy of kindergarten teachers be predicted by either reflective thinking or successful intelligence?

1.3. Research objectives:

The objectives of the current research are to reveal the levels of reflective thinking and successful intelligence among kindergarten teachers in Al-Ahsa, as well as their relationships to self-efficacy.

1.4. Importance of research:

The importance of this research at the theoretical and applied levels is determined by the following considerations:

1.4.1- Theoretical importance:

- Providing the Arab community with theoretical literature on the subject of self-efficacy and its relationships to reflective thinking and successful intelligence among kindergarten teachers.

- Helping to shed light on the importance of reflective thinking, successful intelligence, and self-efficacy in kindergarten teachers.

1.4.2- Applied importance:

- Directing the attention of those responsible for preparing kindergarten teachers to the importance of including self-efficacy, reflective thinking, and successful intelligence in their programs.

- Providing teachers with feedback about their self-efficacy, reflective thinking, and successful intelligence.

1.5. Research determinants:

The current research has been limited based on the following determinants:

Spatial determinants: Al-Ahsa, Saudi Arabia

Temporal determinants: first semester of the 2021–2022 academic year

Objective determinants: determining the relationships between self-efficacy and both reflective thinking and successful intelligence in kindergarten teachers

Human determinants: kindergarten teachers in Al-Ahsa.

1.6 Research terminology:

1) Reflective thinking:

Al-karkhi (2016) defines reflective thinking as thinking in which an individual contemplates the situation before them, breaks it down into elements, draws up the necessary plans to understand it and reach the necessary results, and evaluates these results in light of the plans [11].

It is procedurally defined as "a teacher's ability to reflect, observe and analyze educational situations, events, and stimuli in-depth, through her ability to self-evaluate, lifelong learning skills, awareness of how learning occurs, and beliefs about self and self-efficacy." It was measured by the score the teacher obtained on the reflective thinking scale designed by the researchers.

2) Successful intelligence:

The concept of successful intelligence refers to an individual's ability to reach personal and social goals within his or her cultural context [5].

It is defined procedurally as "a teacher's ability to balance their analytical, creative, and practical abilities." It was measured by the score the teacher obtained on the successful IQ scale designed by the two researchers.

3) Self-efficacy:

The concept of self-efficacy refers to "the ability of an individual to perform behavior that achieves desired results in a given situation, to control events that affect his or her life, to make subjective expectations of how he or she will perform, the activities he or she performs, and to predict how much effort and perseverance is required to achieve that activity" [12].

It is defined procedurally as "the ability of a teacher to evaluate her achievements, potential, abilities, skills and dealing with different situations during the educational process." It was measured by the score the teacher obtained on the measure of self-efficacy designed by the researchers.

2. Literature review:

2.1. Reflective thinking:

Al-Mahmood (2019) believes that reflective thinking is a pattern of thinking and a basic and original characteristic of an individual's personality. It should be promoted by kindergarten teachers because this style of thinking plays an essential role in increasing children's understanding of the world around them [13].

Kovalik and Olsen (2010) see the practice of reflective thinking as a habit that is invaluable for the mind. It reduces stress, improves learning and decision-making, boosts performance, and lets students move from thinking, "so what?" to "how can I use this in the present and the future?" It also helps them store their learning in their long-term memory [14].

Practicing reflective thinking in the process of education transforms the learner from a consumer of knowledge to a producer of it. It reduces hasty and routine thinking and enables the learner to foresee things and act deliberately to achieve specific purposes [15].

Its role is more evident in the educational process when it encourages communication between teacher and learner. It also improves problem-solving skills and helps individuals analyze information, make generalizations about behaviors, evaluate them, and develop self-evaluation skills such as asking questions related to oneself and one's performance [16].

As noted by The Ustaz (2011), Shon (1989) proposed three stages of reflective thinking for teachers to contemplate:

1) Meditation in planning: at this stage, the teacher follows mental methods through which he or she is aware of the activities to be organized, the educational behaviors to perform, and the results to be achieved.

2) Meditation during implementation: at this stage, the teacher follows mental ways through which he is aware of the reality of his educational practices, which enables him to

make appropriate decisions to make appropriate adjustments.

3) Meditation in evaluation: at this stage, the teacher follows mental methods through which he or she becomes aware of the results of his or her educational behaviors. The result is self-criticism, which helps the teacher to develop perceptions of modified behaviors [17].

Al-Karkhi (2016) pointed out that reflective thinking includes a set of mental abilities, represented by:

- Ability to identify a problem.
- Ability to analyze the elements of the problem.
- Ability to recall general rules that can be applied, as well as ideas and information that are related to the problem.
- Ability to form specific hypotheses and test the assumptions of the accepted standards.
- Ability to organize accessible outcomes to solve the problem [11].

Chee and Pou (2012) developed a reflective thinking scale that includes four basic dimensions based on research by Hamilton (2005). These dimensions were:

1- Ability to self-evaluate: the teacher's ability to analyze his or her past experiences and how those experiences affect his or her current practices and relationships with students, which helps the teacher to evaluate his or her own strengths and weaknesses.

2- Awareness of how learning occurs: the teacher's ability to meditate, analyze, and clarify the problems he or she may encounter in the classroom before taking action, which may allow for more constructive actions than implementing a quick solution.

3- Lifelong learning skills: the teacher's ability to continuously evaluate his or her educational strategies and their impact on student learning.

4- Beliefs about oneself and self-efficacy: ideas that are closely related to the teacher's values and views of the world and have a significant influence on how he or she plans and delivers lessons [18].

Liu (2015) adds that reflective thinking is one of the most important tools possessed by both teachers and scientific researchers because it alerts them not only to their mental processes but also to the content of their thinking, their goals, and how to convert information into knowledge [19].

2.2. Successful intelligence:

Sternberg believes that smart individuals are not those who do not make mistakes, but those who learn from their mistakes and do not continue to make them. This is called learning from experience. Adapting to the surrounding environment means more than getting high marks on school tests; it can include having a job and successful relationships with others, as well as managing and facilitating life in general [7].

Sternberg distinguished successful intelligence from other forms of intelligence, describing it as an integrated system comprising the range of abilities that an individual needs to succeed in life as taught within the context of an organization or a particular social group. Individuals succeed because of their knowledge of the points that differentiate them from others. They also identify their weaknesses, find appropriate alternatives, correct them and replace them. They are characterized by their ability to adapt to and shape their environment by balancing practical, creative, and analytical abilities. These three abilities comprise a theoretical framework. In addition, empirical research provides articles and books that facilitate the task of developing successful intelligence [20].

Mandelmal et al. (2015) mentioned that individuals establish the determinants of their own success within the framework of a social and cultural context. People with successful intelligence have the ability to strike a balance between analytical, creative, and

practical abilities, as well as shape their environments or choose new environments. Intelligence in this sense goes beyond professional success; it includes success in life [21].

Successful intelligence involves creative skills that are manifested in the production of new ideas, analytical skills that assess whether those ideas are good, and practical skills that put those ideas into practice and convince others of their value. These skills are based on wisdom and the idea that the individual uses his or her knowledge and skills to serve the common good [22].

Kindergarten teachers can promote successful intelligence by implementing activities that include analysis, evaluation, comparison, judgment, logical thinking, discussion, and asking questions, which help students develop their analytical abilities. When they apply what they have learned in solving problems and facing different situations., they develop their practical abilities. When teachers use activities that allow children to generate new ideas, design and implement new games, and invent stories, these students develop their creative abilities.

2.3. Self-efficacy:

Al-Yousef (2013) believes that self-efficacy is not a general emotion but an individual's assessment of what he or she can do, how persistent he or she is, how much effort he or she expends, how resilient he or she is in difficult and complex situations, and how resistant he or she is to failure [3].

Pandora (1977) identified three dimensions according to which self-efficacy changes:

1- Effectiveness: determined by the difficulty of the situation or the task; becomes clear when tasks are arranged from easy to difficult; when one's degree of experience or skill decreases, one is unable to face the challenge.

2- Generality: an individual's ability to generalize his abilities to similar situations or

transfer self-efficacy from one situation to another; varies in degree among individuals.

3- Strength: individual differences between people facing different situations due to the disparity in their sense of their own effectiveness [23, 24].

Therefore, self-efficacy is an important determinant of human behavior that works to build a kindergarten teacher's sense of themselves. It depends mainly on what he or she thinks about his or her effectiveness and his or her expectations about the behavioral skills required for effective interactions with children, in particular, and in life in general.

3. Previous studies:

3.1. Studies on reflective thinking:

A study by Hassan (2020) aimed to measure the effectiveness of the TPACK model in the development of self-efficacy and reflective thinking among students in the Department of Mathematics at the Faculty of Education in Hurghada, Egypt. The research consisted of one experimental group. A self-efficacy scale and reflective thinking test were used. The results of the study showed a statistically significant difference between the average scores of the research group on the self-efficacy scale and the test of reflective thinking in favor of the post-test [25].

A study by Al-Otaibi and Tamimi (2020) aimed to reveal the impact of lesson study on the development of reflective thinking among teachers in the Qassim region, and its relationships with the variables of experience and educational level. A descriptive method was used. The research sample consisted of 120 female teachers. The tool used was a measure of reflective thinking. The research found significant differences in favor of the group participating in the study in terms of the variables of experience and educational level [26].

Al-Khuzam's (2019) study aimed to identify the level of reflective thinking of mathematics teachers in the first three grades in light of the variables of educational

experience and scientific qualification. The study population consisted of all mathematics teachers in the first three grades at public schools in Mafraq, Jordan during the first semester of 2019. This amounted to 835 female teachers, 500 of whom participated in the study. The study tool was a questionnaire consisting of 30 paragraphs that aimed to measure reflective thinking based on the Eysenck-Wilson method. The researcher used a descriptive-analytical method and found statistically significant differences among the teachers' levels of reflective thinking, which were attributed to teaching experience and scientific qualification [27].

Al-Najjar and Al-Zayat's (2018) study aimed to verify the effectiveness of an in-service training program that aimed to develop reflective thinking among science teachers for grades 5–10 in the West Bank directorates in Palestine. The research sample consisted of 149 science teachers in public schools who were enrolled in the teacher qualification program for the academic year 2017/2018. The researchers used a descriptive-analytical approach and used the Eysenck-Wilson scale to measure the level of reflective thinking among the teachers. They also used a questionnaire and a classroom observation tool to track the teacher's reflective practices. The results showed that the training program did not have a significant impact on the development of reflective thinking among the participants, according to the tribal and dimensional scale that included gender variables, educational qualification, and years of service. However, there was a statistically significant difference in favor of the Qubatiya directorate [28].

Abdel Aal (2017) aimed to build a program and measure its effectiveness in developing reflective thinking skills and self-efficacy among student teachers in the mathematics division of the College of Education. The study included constructing measures of reflective thinking skills and self-efficacy. It revealed that the program was effective in developing the reflective thinking skills and self-efficacy of the participants [29].

A study by Brown (2014) aimed to train pre-service primary school teachers to use reflective thinking to implement active learning strategies on the Internet. The sample consisted of two groups of pre-service teachers (experimental and control groups). The study used an achievement test to verify its results. It showed that there were no statistically significant differences between the two groups in general achievement ability but a statistically significant difference in the use of higher levels of thinking by the end of the study in favor of the experimental group. It also showed a statistically significant correlation between the use of higher levels of thinking and the ability to lead discussions on the Internet [30].

3.2. Studies on successful intelligence:

A study by Al-Talhy and Ismaeal (2021) aimed to discover the relationship between teachers' levels of successful intelligence and the analytical skills of kindergarten students. The sample consisted of 10 kindergarten teachers in Jeddah, who were divided into two groups (the highest score on the scale and the lowest score on the scale) and 30 students. A measure of self-esteem for the teachers and the Wexler measure for children were used. The results showed that kindergarten teachers with analytical, practical, and creative abilities had a positive impact on the development of analytical skills among their students [31].

A study by AlKassi et al. (2020) aimed to develop a training program based on successful intelligence to improve creativity in the teaching process. The sample consisted of 34 faculty members at King Khalid University, who participated in the training program for four days and an average of four hours per day. The results of the study showed that the level of teaching based on the theory of successful intelligence among the participants was average and was not affected by rank, gender, or experience [32].

A study by Momani and Saaida (2018) aimed to identify the level of successful intelligence

of a sample of 149 teachers of outstanding students in King Abdullah Althani and its relationship to their decision-making skills. A successful IQ scale and decision-making scale were used. The results indicated that the overall successful intelligence level was low, while the decision-making levels in Images A and B were high. The study also showed a statistically significant positive correlation between successful intelligence and decision-making skills and indicated that there were no significant differences in successful intelligence or decision-making based on educational experience [33].

A study by Zoghbi (2017) aimed to identify the relationship between the assessment of successful intelligence and educational practices among teachers at private schools in Amman during the first semester of the 2015–2016 academic year. The sample included 221 teachers of humanitarian and scientific subjects. It found that the successful intelligence of the sample predicted their educational practices. The study did not reveal statistically significant differences in successful intelligence based on gender or academic specialization. However, it did find statistically significant differences in educational practices in favor of scientific disciplines [7].

Al-Fayez and Al-Sarri (2016) aimed to determine the impact of a mathematics training program based on the theory of successful intelligence in the development of problem-solving skills among gifted kindergarten students. The study adopted a semi-experimental approach and used the Pride scale to identify gifted students in Al-Radwan schools in Amman. The 28 students were randomly divided into control and experimental groups, both of which were evaluated using the problem-solving skill scale. The results of the study found that there were statistically significant differences between the problem-solving skills of the students of the experimental group and those of the control group, but no statistically significant differences based on gender [34].

3.3. Studies on self-efficacy:

Hammouri's (2021) study aimed to identify the dimensions of self-efficacy among teachers of talented students. The sample consisted of 104 teachers of talented students working at King Abdullah II schools of excellence in the Hashemite Kingdom of Jordan. The study used a descriptive–analytical method. The researcher used a measurement tool to determine that the participants scored high in terms of self-efficacy overall and all of its dimensions. There were significant differences based on specialization in favor of scientific disciplines, based on sex in favor of female teachers, and based on years of experience in favor of teachers with high and medium levels of experience [35].

Al-Shehri and Al-Naim's (2020) study aimed to identify the level of self-efficacy of teachers with learning difficulties in Al-Ahsa. The study used a descriptive method and the sample consisted of 32 teachers and 39 teachers of students with learning difficulties. They answered questions to measure their self-efficacy. The results of the study found that the participants had moderate levels of general self-efficacy and teaching self-efficacy. There were no statistically significant differences based on gender, but there were statistically significant differences in favor of those with more years of experience and students who were at an above-average level [36].

Al-Shara's (2019) study aimed to reveal the self-efficacy of secondary mathematics teachers in schools of education in the Ramtha region and their ability to solve students' problems. The study followed a descriptive approach and included 82 participants. It found that they had high levels of self-efficacy [37].

A study by Barham and Talafah (2019) aimed to reveal the levels of self-efficacy among secondary teachers of the Arabic language in Jordan and its relationship to their ability to solve students' problems. The study was conducted in the schools of the first Zarqa Education Directorate during the 2018 academic year. Out of a total of 150 teachers,

133 responded and participated in the study. The results showed a direct correlation between self-efficacy and the ability to solve students' problems [38].

Based on these studies, it is clear—to the best of the researchers' knowledge—that there is a lack of Arab studies that have dealt with the levels of reflective thinking and successful intelligence of kindergarten teachers and their relationship to self-efficacy, although many studies have confirmed the importance of these three attributes. The researchers have benefited from previous studies in preparing appropriate study tools, identifying the theoretical framework, and discussing and interpreting the results.

4. Methods and Materials:

This research followed a descriptive–analytical approach. This was used to describe the phenomenon in question and based on a theoretical study of educational literature and previous research that has dealt with the set of scientific themes included in the research.

Study population:

The research population included all 461 kindergarten teachers in schools in Al-Ahsa governorate schools during the 1442h-1443h academic year.

Pilot study sample:

The pilot study sample consisted of 46 female kindergarten teachers in Al-Ahsa governorate schools.

Main study sample:

The research sample consisted of 191 female kindergarten teachers in Al-Ahsa governorate schools during the 1442h-1443h academic year.

Research tools:

The researchers used the following tools:

- Reflective Thinking Scale (Prepared by the researchers)

- Successful Intelligence Scale (Prepared by the researchers)

- Self-Efficacy Scale (Prepared by the researchers)

I- Reflective Thinking Scale (RTS):

The aim of the scale was to determine the level of reflective thinking among kindergarten teachers in Al-Ahsa. The process of preparing the scale included the following stages:

Scale building sources:

After reviewing a number of Arab and international studies that measured reflective thinking, the researchers adopted the dimensions identified by Chee and Pou (2012): ability to self-evaluate, awareness of how learning occurs, lifelong learning skills, and beliefs about oneself and self-efficacy.

Formulation of scale items:

The RTS was initially formulated to include 21 items distributed over four dimensions. In front of each item, there were three responses (often, sometimes, never) that corresponded to a three-point Likert scale (3, 2, 1). The total score for the scale was 63.

Validity:

RTS was initially judged by a group of experts in psychology and education, who expressed opinions on the integrity of its vocabulary, the correctness of its formulation, and its suitability for the study sample. The experts made some comments on the wording because it was unclear; these items were amended accordingly.

Internal consistency:

Internal consistency refers to the extent to which each portion of the scale relates to the dimension it measures, as well as the extent to which each dimension relates to the overall scale. It was measured using the Pearson correlation coefficient. All correlation values were significant at a 0.01 significance level. In addition, the correlations between the dimensions of the scale and the overall scale

were significant at the 0.01 significance level.

Reliability:

The reliability of the RTS was calculated using the split-half method and Cronbach's alpha. The values of the reliability coefficients ranged from 0.739 to 0.938, which implies that the scale was reliable and suitable for application.

2- Successful Intelligence Scale (SIS):

The aim of the scale was to identify the level of successful intelligence of kindergarten teachers in Al-Ahsa. The process of preparing the scale included the following stages:

Scale building sources:

After reviewing a number of Arab and international studies that measured successful intelligence, the researchers adopted the dimensions identified by Sternberg (2009): analytical, creative, and practical intelligence.

Formulation of scale items:

The SIS was initially formulated to include 24 items distributed over three dimensions. In front of each item, there were three responses (often, sometimes, never) that corresponded to a three-point Likert scale (3, 2, 1). The total score for the scale was 72.

Validity:

The SIS was initially judged by the group of experts, who expressed their opinions on the integrity of its vocabulary, the correctness of its formulation, and its appropriateness for the study sample. The experts made some comments on the wording because it was unclear; these items were amended accordingly.

Internal consistency:

Internal consistency was evaluated using the Pearson correlation coefficient. All correlation values were significant at the 0.01 significance level. In addition, the

correlations between the dimensions of the SIS and the overall scale were significant at the 0.01 significance level.

Reliability:

The reliability of the SIS was calculated using the split-half method and Cronbach's alpha. The values of the reliability coefficients ranged from 0.718 to 0.967, which confirms that the scale was reliable and suitable for application.

3- Self-Efficacy Scale (SES):

The aim of the scale was to identify the level of self-efficacy of kindergarten teachers in Al-Ahsa. The process of preparing the scale included the following stages:

Scale building sources:

After reviewing a number of Arab and international studies that measured self-efficacy among teachers, including those by Hammouri (2021) and Shara (2019), the two researchers designed a measure of self-efficacy for kindergarten teachers.

Formulation of the scale items:

The SES was initially formulated to include 31 individual items. In front of each item, there were three responses (often, sometimes, never) that corresponded to a three-point Likert scale (3, 2, 1). The total score for the scale was 93.

Validity:

The measure was initially judged by the group of experts, who expressed their opinions on the integrity of its vocabulary,

the correctness of its formulation, and its appropriateness for the study sample. The experts made some comments on the wording because it was unclear; these items were amended accordingly.

Internal consistency:

Internal consistency was evaluated using the Pearson correlation coefficient. All correlation values were significant at the 0.01 significance level. In addition, the correlations between the dimensions of the SES and the overall scale were significant at the 0.01 significance level.

Reliability:

The reliability of SES was calculated using the split-half method and Cronbach's alpha. The values of the reliability coefficients ranged from 0.783 to 0.917, which confirms the reliability of the measure and its suitability for application.

3. Results

First": the results related to the answer to the first question "What is the level of Reflective thinking among kindergarten teachers in Al-Ahsa governorate?"

To answer this question, the arithmetic mean and standard deviation of the scores of the study sample members were calculated on the scale of Reflective thinking and its dimensions, where the standard adopted in the degree of judgment of the scale was: (from 1 to 1.8) very low, (from 1.81-2.6) low, (from 2.61 to 3.4) average, (from 3.41-4.2 high), and (from 4.21-5 very high), and Table (1) shows these results.

Table (1): level of Reflective thinking and its dimensions in the study sample Dimensions and total degree

Dimensions	Mean	SD	Rank	Level
The ability to self-evaluation	4.85	0.73	1	Very high
Beliefs about self and self-efficacy	4.14	0.51	3	High

Awareness of how learning happens	4.36	0.43	2	Very high
Lifelong learning skill	4.08	0.51	4	High
Total score	4.43	0.45		Very high

It is clear from Table 1 that the level of Reflective thinking in the study sample came with-in the high and very high levels, where the average of the responses of the parameters on the scale of Reflective thinking as a whole (4.43) and a standard deviation (0.45), and the ability to self-assessment came at the first place of the levels of Reflective thinking and then dimensions of awareness of how learning occurs, beliefs about oneself, self-efficacy and the skill of lifelong learning.

Second: the results related to the answer to the second question'' which states "what is

the level of successful intelligence among kindergarten teachers in Al-Ahsa governorate?''

To answer this question, the mean and standard deviation of the scores of the study sample were calculated on the scale of successful intelligence and its dimensions, where the standard adopted in the degree of judgment of the scale was: (from 1 to 1.8) very low, (from 1.81-2.6) low, (from 2.61 to 3.4) average, (from 3.41-4.2 high), and (from 4.21-5 very high), Table 2 shows these results.

Table (2): level of successful intelligence and its dimensions in the study sample Dimensions and total degree

Dimensions	Mean	SD	Rank	Level
Analytical intelligence	4.26	0.43	2	Very high
creative intelligence	4.05	0.61	3	High
practical intelligence	4.3	0.73	1	Very high
Total score	4.18	0.51		High

It is clear from the table (2) that the level of successful intelligence in the study sample came within the high and very high level, where the average computational responses of the parameters on the successful intelligence scale as a whole (4.18) and standard deviation (0.51), and the dimension came first was the practical intelligence.

Third: the results related to the answer to the third question, which states, "what

level of self-efficacy among kindergarten teachers in Al-Ahsa governorate?''

To answer this question, the mean and the standard deviation of the scores of the sample members of the study were calculated on the measure of self-efficacy, where the standard adopted in the degree of judgment of the scale was: (from 1 to 1.8) very low, (from 1.81-2.6) low, (from 2.61 to 3.4) average, (from 3.41-4.2 high), and (from 4.21-5 very high), and table (3) shows these results.

Table (3): level of self-efficacy in the study sample

Dimensions	Mean	SD	Level
Total score	4.38	0.38	Very high

It is clear from Table (3) that the level of self-efficacy of the study sample reached (4.38), which is a very high level of self-efficacy.

Fourth: the results related to the answer to the fourth question: which states "what is the relationship between self-efficacy and both Reflective thinking and successful

intelligence of kindergarten teachers in Al-Ahsa governorate?"

To answer this question, the Pearson correlation coefficient was calculated between the scores of the study sample individuals on both measures of self-efficacy, reflective thinking and successful intelligence, and table 4 shows these results.

Table (4): the relationship between self-efficacy and both reflective thinking and successful intelligence

Variables		Self-Efficacy
Reflective thinking	Pearson correlation	0.275**
	P-value	0.0001
Successful intelligence	Pearson correlation	0.502**
	P-value	0.0001

Table (4) shows that there is a statistically significant positive relationship at (0.01) level of significance between reflective thinking and self-efficacy, and there is a statistically significant positive relationship at (0.01) level of significance between successful intelligence and self-efficacy.

Fifth": results on the answer to the fifth question: "Can self-efficacy of kindergarten teachers be predicted by both reflective thinking and successful intelligence?"

To answer this question, a multiple regression analysis was performed, and the results are as shown in Table (5)

Table (5) results of multiple regression analysis

Independent variables	Dependent variable	Constant	R	R ²	Beta	T value
Reflective thinking	Self-Efficacy	74.460	0.596	0.355	0.384	5.067**
Successful intelligence					0.450	6.994**

The model was validated by ANOVA test and the result was statistically significance, confirming the fitness of the model to predict.

Table (5) shows that there is a statistical significance at the level of (0.01) for the

coefficient of regression of both Reflective thinking and successful intelligence on self-efficacy, and reached a value of $R^2 = (0.355)$, which means that the variables of Reflective thinking and successful intelligence explain (35.5%) of the variation in self-efficacy.

The predictive equation can be written as follows:

$\text{Predicated Self-Efficacy} = 74.460 + 0.384 * \text{Reflective Thinking} + 0.450 * \text{Successful Intelligence}$
--

5. Discussion:

The study revealed that the level of reflective thinking among the participants was very high. The high level of reflective thinking among kindergarten teachers may be attributed to the continuous supervision and guidance they receive from the Ministry of Education in the Kingdom of Saudi Arabia during and after they enter service. This takes the form of training courses and workshops, which play a prominent role in a teacher's possession of reflective thinking skills. This is also an essential element of professionalism, which has been confirmed by previous studies [9, 10, 26-28].

The findings of the present study also showed that the participants had high levels of successful intelligence. Overall, this finding indicates that kindergarten teachers developed successful intelligence through positive interactions with children, accumulated experience, and a sense of achievement in their work. The answer to the second question shows that teachers developed more practical and analytical intelligence than creative intelligence. Kim (2011) suggests that the decline in creative skills compared to analytical and practical skills may be due to the overemphasis of these skills in cultural and educational systems and their poor attention to and encouragement of creative skills [39]. These results are consistent with the study by Talhi and Ismail (2021), which showed that a successful preschool teacher's analytical, practical, and creative abilities had a positive impact on students' analytical skills. In addition, studies [7, 32-34] have shown that there is a positive and statistically significant relationship between successful intelligence and educational practices.

In addition, the present study showed that the participants had high levels of self-efficacy. These results are consistent with those of Hammouri's (2021) study, which showed high levels of teaching self-efficacy among the experienced female teachers in the

sample. They also agree with Al-Shehri and Al-Naim's (2020) study, which found that teachers with more experience have higher levels of overall self-efficacy and teaching. In addition, they are in line with studies by Shara (2019) and Barham and Talafah (2019), which showed high levels of self-efficacy among the sample. This may indicate the extent of the Ministry of Education's interest in preparing kindergarten teachers and providing professional development before and after entering service [35-38].

The results also showed a significant positive relationship between reflective thinking and self-efficacy. This can be explained by the fact that when a teacher confronts new ideas with analysis and discussion to determine whether they are suitable for his or her context, considers what he or she has gained from each experience, engages in lifelong learning and self-assessment, and strives to understand how learning occurs, then he or she becomes proud to be a teacher. This allows him or her to lead a team effectively or solve problems independently, increasing his or her self-efficacy.

In addition, to explain the relationship between successful intelligence and self-efficacy, teachers ask their students to identify relationships between the objects and phenomena they have studied. This allows complex ideas to be expressed in simple forms that are easy for children to learn and gives them opportunities to analyze, make comparisons, and come up with new, innovative and diverse ideas during the educational process. It is focused on children's ability to plan and implement practical experiments, projects, and applications. It is thus highly effective.

Overall, this result indicates that the level of self-efficacy of female teachers can be predicted by their level of reflective thinking and successful intelligence.

6. Conclusion:

The main aim of this study was to measure the relationships among successful intelligence, self-efficacy, and reflective thinking. This study revealed that there are positive relationships between self-efficacy and both successful intelligence and reflective thinking. Moreover, self-efficacy can be predicted by successful intelligence and reflective thinking. The researchers recommend conducting in-depth research on the impact of successful intelligence among female teachers on their self-efficacy and linking it to variables such as age and years of experience.

7. Recommendations:

Based on the findings of the current research, the following actions can be recommended:

- 1- Planning training courses for kindergarten teachers, mothers, and fathers under the supervision of specialists from faculties of education to teach them about methods of helping children develop reflective thinking skills.
- 2- Conducting in-depth research on the impact of successful intelligence among female teachers on self-efficacy and linking it to variables such as age and years of experience.
- 3- Conducting in-depth research on the impact of female teachers' self-efficacy on reflective thinking and linking it to variables such as age and years of experience.
- 4- Conducting in-depth research on the level of reflective thinking among female teachers and its role in improving self-efficacy and linking it to variables such as age and years of experience.

Funding: "This research was funded by the Deanship of Scientific Research at King Faisal University, Saudi Arabia, Grant No. (Grant190).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors declare no conflict of interest.

Acknowledgments: The authors acknowledge the Deanship of Scientific Research at King Faisal University for obtaining financial support for research, authorship, and the publication of research Grant No. (Grant190).

References

1. Al-Jubouri, M.(2013). The concern of the future and its relationship with both self-efficacy and academic ambition and the direction of social integration of open education students - the Arab Open Academy in Denmark as a model - [unpublished PhD thesis], Faculty of Arts and Education, Department of psychological, educational and Social Sciences.
2. Salhi, A.(2013). Dimensions of self-efficacy teaching according to the level of experience of the teacher and his specialization and the educational stage in which he is studying, the Journal of Arab and Human Sciences,7 (1), 449-486.
3. Youssef, R.(2013). Social skills and their relationship to perceived self-efficacy and overall academic achievement among a sample of middle school students in the Hail region of Saudi Arabia in light of a number of variables. Journal of the Islamic University of educational and Psychological Studies, 21 (1), 327-365.
4. Zaghloul, I.(2012). Principles of educational psychology, University Book House. United Arab Emirates.
5. Sternberg, R.(2004). Culture and intelligence. American Psychologist, 59(5), 325–338.
6. Al-Jassim, F.(2011). The impact of the successful adaptation of the theory of intelligence on the curriculum of the third grade in the kingdom of Bahrain on analytical, creative and practical abilities, Journal of the Faculty of Education, Mansoura University, 75(3), 192-268.

7. Zogby, A.(2017). Relationship between successful intelligence and its practice in education among teachers of private schools in Amman, *Jordanian Journal of Educational Sciences*, 13 (4), 419-431.
8. Al-Qatrawi, A.(2010). Impact of the use of similarity strategy in the development of science processes and skills of Reflective thinking in science in Eighth-grade students, [unpublished master thesis], Faculty of Education, Islamic University, Gaza.
9. Zayat, F.(2015). Training program based on Reflective thinking skills to develop cognitive motivation in the student teacher, *Educational and social studies*, 21(2), 943-1003.
10. Ahmed, E., Al-Khalili, K.(2013). The Impact of Using Reflective Teaching Approach on Developing Teaching Skills of Primary Science Student Teachers. *The Online Journal of New Horizons in Education*, 3(2), 58-64.
11. Karkhi, G.(2016). An introduction to strategic thinking, Amman: Dar Al-Maaraj.
12. Al-Shalawi, A.(2016). The effectiveness of the psychological counseling diploma program in the development of habits of mind and self-efficacy in the light of some demographic variables among a sample of education teachers in Dawadmi governorate, *Journal of human and society Sciences*, (21), 201-246.
13. Mahmoud, G.(2019). The impact of imagination strategy on the development of Reflective thinking skills in kindergarten children, [unpublished master thesis], Arab East Colleges, kindergartens, Saudi Arabia.
14. Kovalik ,S. & Olsen, K.(2010). *Kid's Eye View of Science: A Conceptual Integrated Approach to Teaching Science K-6*. U.S.A. : Sage.
15. Lyons, N.(2010). *Handbook of Reflection and Reflective Inquiry: Mapping a Way of Knowing for Professional Reflective Inquiry*. U.S.A.; Springer.
16. Tashman, G., Al-kharish, S., Al-Masaieed, M. & Al-Maqsqas, M.(2012). The impact of the use of my strategy: multiple intelligences, and conceptual maps, in the development of reflective thinking in the geography of the Arab world among the students of the class teacher at the University of Isra - Jordan. *Journal of the Islamic University for educational and psychological studies*, 20 (1), 243- 281.
17. Al-Ustaz, M.(2011). The level of reflective thinking ability of science teachers at the basic level in Gaza, *Al-Azhar University Journal. Humanities series*, 13 (2), 1329-1370.
18. Chee, C. & Pou, S.(2012). Reflective thinking and teaching practices: a precursor for incorporating critical thinking into the classroom? *International Journal of Instruction*, 5 (1), 167-182.
19. Liu, K.(2015). Critical Reflection as a Framework for Transformative Learning in Teacher Education. *Educational Review*, 67 (2), 135 -157.
20. Sternberg, R.(2009). *Conceptions of giftedness*, New York, England.
21. Mandelman, S., Barbot, B. & Grigorenko, E.(2015). Predicting academic performance and trajectories from a measure of successful intelligence. *Learning and Individual Differences*, 51, 387–393. <https://doi.org/10.1016/j.lindif.2015.02.003>
22. Sternberg, R.(2015). Successful intelligence: A new model for testing intelligence beyond IQ tests. *European Journal of Education and Psychology*, 8, 76–84
23. Osman, A. & Abed, A.(2018). The effectiveness of a training program to enable teachers of mathematics to the mathematical knowledge necessary to teach according to their own effectiveness in acquiring mathematical concepts and solving problems, *Journal of Educational Sciences*, Faculty of Educational Sciences, Hashemite University, Jordan, 45 (4), 665-686.

24. Khazraji, S.(2017). Self-efficacy and its relationship to the ability to solve social problems in primary school teachers, *Al-Fatih Journal*, 12 (72), 373-401.
25. Hassan, M.(2020). A program based on the TPAC model and the development of self-efficacy and Reflective thinking among students teachers mathematics division of the Faculty of education in Hurghada, *educational journal*, (75), 611-645.
26. Al-Otaibi, A. & Al-Tamimi, G.(2020). The impact of the study research on the development of reflective thinking among teachers in the Qassim region and its relationship with the variables of experience and educational stage, *Arab Journal for science and research publication, Journal of educational and Psychological Sciences*, 4 (24), 96-113.
27. Khazam, A.(2019). The level of Reflective thinking of mathematics teachers for the first three grades in Jordan, *Journal of educational and Psychological Sciences*, 3 (23), 39-52.
28. Al-Najjar, I. & Al-Zayat, H.(2018). The impact of the effective implementation of an in-service training program on the development of the level of Reflective thinking among science teachers for grades 5-10 in the West Bank directorates in Palestine. *Seventh International Conference of the Faculty of Arts, Zaytouna University of Jordan, future prospects for education in a changing world.* (3-4 April, 2018).
29. Abdel Aal, H.(2017). A program based on the study of the lesson to develop the skills of Reflective thinking and self-efficacy of students teachers mathematics division, Faculty of Education, *Journal of mathematics pedagogy*, 20 (10), 156-189.
30. Brown, A.(2014). Implementing active learning in an online teacher education course. *American Journal of Distance Education*, 28 (3), 170-182.
31. Talhi, N. & Ismail, A.(2021). The relationship between the abilities of teachers with successful intelligence and analytical talents of a preschool child, *scientific journal, Faculty of Education, Assiut University*, 37(4), 363-396.
32. Al kasi, A.(2019). Training program based on the theory of successful intelligence to develop creativity in teaching among faculty members at King Khalid University, *Journal of the Islamic University for educational and psychological studies*, 28 (2), 382-399.
33. Al-Momani, T. & Al-Saaida, N.(2018). Successful intelligence and its relationship to the decision-making skill of distinguished student teachers in King Abdullah II schools of excellence, *Journal of the Islamic University for educational and Psychological Studies*, 26 (6), 587-612.
34. Al-Masri, E. and Al-Fayez, M.(2016). The impact of a mathematics training program based on the theory of successful intelligence on the development of problem solving skills of gifted students in kindergarten, *Al-Manara Magazine*, 22 (2), 371-398.
35. Al-Hammouri, K.(2021). Dimensions of teaching self-efficacy among talented student teachers, *Altralang Journal*, 103 (3), 179-200.
36. Shahri, S. & Naim, F.(2020). Self-efficacy of teachers with learning difficulties in Al-Ahsa governorate in light of some variables, *Journal of special education and rehabilitation*, 10 (38), 81-115.
37. Shara, A.(2019) Self-efficacy and ability to solve student problems among secondary school mathematics teachers in Ramtha education schools in Jordan, *Journal of educational and Psychological Sciences*, 3(16). 38-55.
38. Barham, A. & Talafah, H.(2019). Self-efficacy among secondary school Arabic teachers in Jordan and its relationship to the ability to solve student problems, *educational journal, University of Jordan*, 46 (2), 485-506.
39. Kim, K.(2011). The Creativity Crisis: The decrease in Creative Thinking Scores on Torrance Tests of Creative Thinking. *Creativity Research Journal*, 23 (4), 285-295.