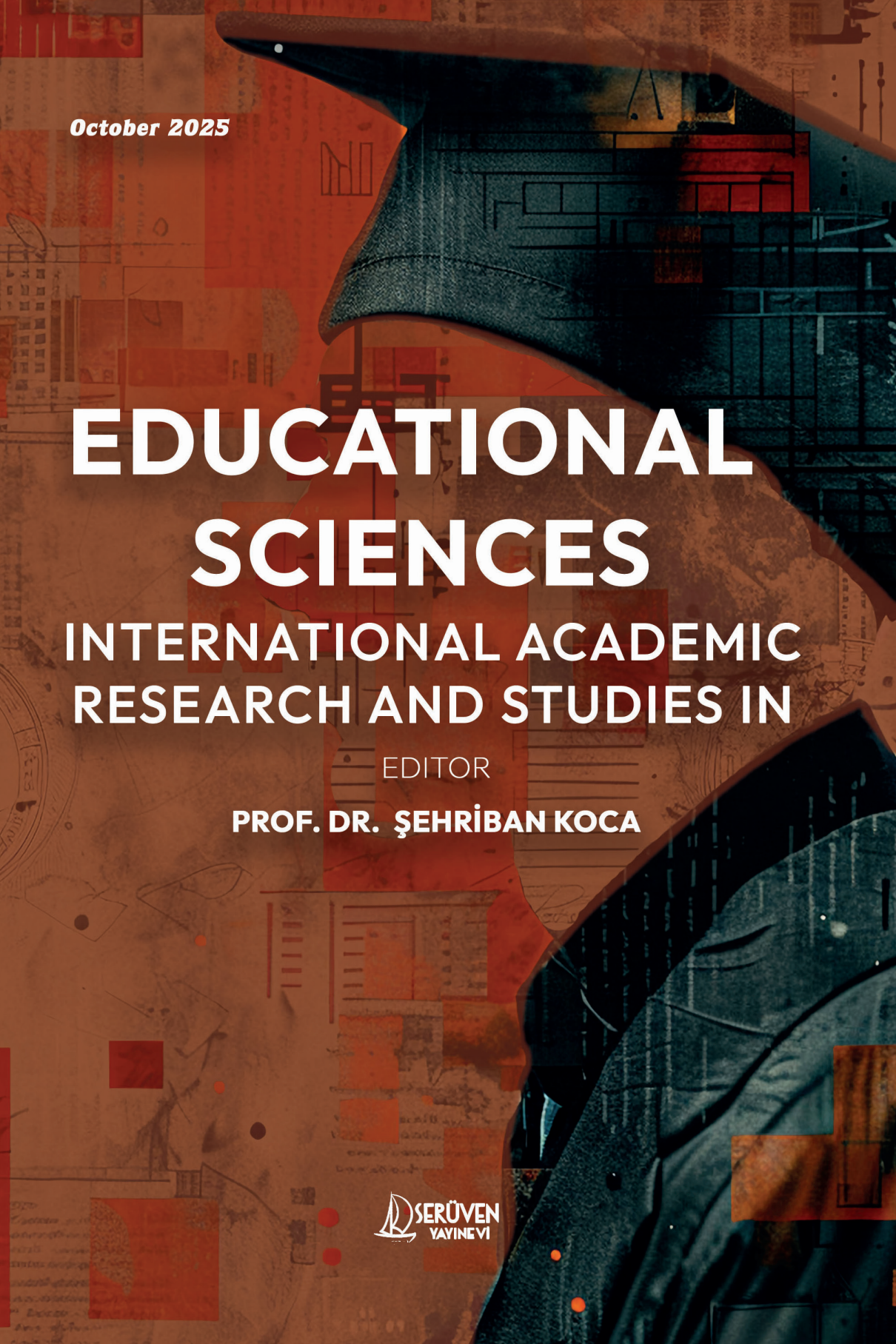

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PROF. DR. ŞEHRİBAN KOCA

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CONTENTS

Chapter 1

SOCIAL CLASS OR SOCIOECONOMIC STATUS-BASED DIFFERENCES, INEQUALITIES AND GAPS IN COGNITIVE TEST SCORES OF CHILDREN

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Introduction

The present research aims to contribute to understanding of social class or socioeconomic inequalities in cognitive test points in childhood. The researchers have conducted a comparative analysis of a cohort of children born in 1970 and another cohort of children born 30 years later in 2000. The analysis showed that children born into families with less advantaged social classes or socioeconomic status (SES) often obtained lower scores on cognitive tests in childhood. This result suggests that children born into less advantaged social classes or SES families enter middle school with limited capacities as far as logical thinking, concept creation and reasoning are concerned.

Cognitive tests appraise not only individuals' abilities to learn and recall information, but also their abilities to recognize concepts as well as relationships between these concepts, and apply this information (Neisser, Gwyneth, Boodoo, Boykin, Brody, Ceci et al. 1996). Childhood cognitive abilities have long been studied within the scope of psychology (Rutter, 1985). Childhood cognitive abilities have been linked to educational attainment, labor market outcomes as well as well-being across the life stages of individuals (Nettle, 2003; Deary et al., 2007; Vanhanen, 2011). Theorists and researchers have indicated that childhood cognitive abilities undergo social stratification, layering and differentiation from very early stages of life (Duncan, Jean, Jeanne and Judith, 1998; Feinstein 2003; Gottfried, Gottfried, Baturst, Guerin and Parramore, 2003; Sullivan, Ketende and Joshi, 2013; Skopek and Passaretta, 2021).

The "Flynn Effect" is regarded as a significant improvement in comprehending and explaining general cognitive ability during childhood. It describes empirical observations indicating notable and substantial enhances in average inter-population intelligence test points across the twentieth century (Flynn, 2012). Initially, the Flynn Effect was utilized as a theoretical framework to investigate relative social class disparities in cognitive test points for two cohorts of children born separately with a difference of 30 years.

The Flynn Effect has displayed that children's average cognitive performance on diverse items or subtests changes at different proportions (Wicherts, Dolan, Hessen et al., 2004). It has been asserted that average cognitive performance of population on other subtests has shifted very little during the twentieth century, while other studies have indicated large, and sometimes fast improvements and advancements in mean cognitive performance of the population on some subtests. Progressive matrices and the similarities test of Raven revealed the largest cognitive benefits as subtests (Flynn 2012). Flynn assumed that these cognitive benefits could be linked to varying "habits of mind" within societies over time, and he based his theory on this assumption. This particular theory has encouraged researchers to view

and examine the habits of mind in societies all over the world (Flynn 2012).

The present research focuses on the Similarities Test to measure and appraise children's cognitive abilities. In this test, children are given a set of words or concepts and asked to designate and define what these words or concepts have in common. For instance, when children are asked the words "cabinet," "table," and "bed", and they say that they are all furniture, this response is considered correct. This correct response displays that children are conditioned and trained to view the world scientifically or conceptually (Flynn, 2012). When children are given the words "cabinet," "table," and "bed," and they respond that "these are all objects we employ", "these are all objects in the house," or "you can encounter them all," these responses indicate that they have an nonability to conceptually group these words. These incompetences show that children are either unable to master abstract conceptualization or have a more pragmatist view of the world. Flynn (2012) assumed and theorized that in modern societies, we have acted beyond relying on "concrete reflecting" and have influentially worn "scientific glasses," which refocused and directed us toward how we should observe the world and interplay in it.

Flynn's explanation for population average increases in Similarities Test scores strongly resonate with work in the sociology of education developed by Basil Bern-stein. Bernstein (1971) theorised that working class children engaged in particular- istic rather than universalistic orientation to meaning (see also Hasan 2002).

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Flynn's comments on the mean enhances in similarity test points across cohorts powerfully matched with work on the sociology of education devised by Bernstein. Bernstein (1971) assumed and theorized that children from laouring-class families engaged in an independent/self-seeking orientation rather than a universal orientation toward understanding (Hasan 2002). In more recent times, it has been argued that these diverse linguistic and verbal patterns are eventually attributable to social class related-differences in the skills that permit and enable the processing of symbolic information (Nash, 2016). As a whole, Flynn's theory focused on explaining the average

enhances in similarities test points across communities, and Bernstein's reciprocal theories endeavoured to reveal social class-based inequalities in abstract conceptualization. The main objective of the present research is to address a compelling empirical question. How and to what extent have these relative social class inequalities in abstract conceptualization skills changed if children in newer cohorts are better prepared and equipped to utilize, engage in and master abstract conceptualization on average? Nash (2001) has remarked that children who are sensitive to different linguistic, verbal and cognitive socialization have different abilities to satisfy the requirements of formal education, and he underlined the significance of understanding these inequalities in abstract conceptualization skills.

The present research is mainly addressed to investigating the relation between social class of parents and similarities test scores of children. The connection between social class of parents and cognitive test performance of children has been consistently proved and substantiated. Empirical evidence has shown that children from families in higher social class generally are more advantaged and achieve better scores on cognitive tests (Feinstein 2003; Blanden, et al., 2007; Schoon, Cheng and Jones, 2010; Schoon, Jones, Cheng and Maughan, 2011; Sullivan, Ketende and Joshi, 2013; Dickerson and Popli 2016). It has been asserted that more socioeconomically advantaged families are better able to utilize and mobilize strategies to maintain and preserve their children's advantage (Devine 2004). Theorists and researchers have discussed probable explanations for the impacts of socioeconomic factors on cognitive test scores of children. In addition, they have highlighted the roles of both parents' cultural and cognitive resources as well as their child's socialization, education and rearing activities (Ermisch 2008; Lareau 2011; Sullivan et al. 2013; Washbrook 2011).

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The present research seeks to make a distinct and particular contribution to this field of study by displaying the consequences of an original examination of the varying nature of the impacts of parental social class on the similarity test points of children in two nationally representative communities, born in 1970 and 2000/2. Against the background of large and significant enhances in cohort mean cognitive test points during this period, relative social class inequalities continued to exist.

(1) In the first theoretical scenario, it was assumed that similarity test scores improved and increased for children who live families in all

socioeconomic statuses or social classes, and therefore, relative social class inequalities would remain invariable, constant and stable.

(2) In the second theoretical scenario, it was assumed that similarity test points improved and increased for children who live families in the most advantaged social classes, which eventually contributed to an increase in the average test scores of the population. In this scenario, it was asserted that relative social class inequalities would increase, leading to a wider gap, disparity and inequality between children from families in higher social classes or most advantaged socioeconomic statuses and their peers from families in lower social classes or the less advantaged socioeconomic status.

(3) In the third theoretical scenario, it was hypothesized that similarities test points improved and increased for children who live families in lower social classes or the least advantaged socioeconomic status, contributing to an increase in the average test scores of the population. In this third scenario, it is asserted that relative social class disparities would diminish, and the gap, disparity and inequality between children who live families in lower social classes or the least advantaged socioeconomic status and those who live families in higher social classes or the most advantaged socioeconomic status would become narrower.

Data

This research utilized data from two longitudinal studies, one on the cohort of children born in 1970 and one on the cohort of children born 30 years later in 2000. It has been stated that the 1970 British community study ensures a proper standard against which to match data collected on children in the Millennium cohort study. The present research utilized measures from the first three waves of the British community study data collection at ages 5 and 10, as well as data from the first five waves of the Millennium community study data at ages 9 months, 3 years, 5 years, 7 years, and 11 years. The birth cohort data were integrated into the analysis, which yielded clear analytical benefits.

Similarities Test Points

The similarities test was administered to children at age 10 in the British cohort study and at age 11 in the Millennium cohort study. In the test administered in both studies, children are given words, and then asked to designate and define why these words fit together. For example, the words "sad", "worried" and "happy." would be read to the children. Then, they would be asked to reflect on what these words had in common and they were expected to come up with "emotions" as the correct answer (Hansen, 2014; Parsons, 2014). The British cohort study utılized the word similarities subscale in the British ability scales to measure and assess cognitive abilities, while the

Millennium cohort study administered the verbal similarities subscale in the British ability scales to measure and assess cognitive abilities (Elliott, Smith and McCulloch, 1997).

In the British cohort study, children were asked to name a group of components or words and also to provide an example of a compatible word. For instance, when presented with a list of words containing "sad", "worried" and "happy", children were asked to name these words in common, think about what they represented, and were expected to come up with "emotions" as the correct answer. They were also asked to add a compatible word to this list. For instance, "excited" would be a correct answer. The original scoring system in the British cohort study assigned one point for each item if children responded both items correctly. This test was administered in a somewhat different manner in the Millennium cohort study, and children were not asked to provide an additional example word. The present research focused on analyzing the "naming" items in the British cohort study test to make sure that the measures in the two cohort data sets were sufficiently comparable.

The test administered in the Millennium cohort study contained a path selection methodology. Children were presented with items with different levels of difficulty based on the number of errors they had made on prior items (Elliott, Smith and McCulloch,1996). In the Millennium cohort study, test points were modified considering the difficulty levels of the items fulfilled by children, and test points were arranged according to the children's age at the time when the test was applied. In the British cohort study, test points were not arranged for age at the time of testing. Nevertheless, this was considered insignificant or irrelevant as all of these children were born within the course of a single week.

The analysis introduced beneath does not attempt to augment the "Flynn influence," which has been the subject of many previous studies so far (Wicherts et al.,2004; Flynn, 2012; Bratsberg and Rogeberg, 2018). The present research concentrates on examining the nature of the relative impacts of parents' social class on scores on similarities tests of children. As mentioned earlier, the word similarities subscale in the British ability scales employed in the British Cohort Study varied slightly from the verbal similarities subscale in the British ability scales employed in the Millennium cohort study. It was assumed that these two tests would be functionally comparable and equivalent for numerous analyses. The analysis mentioned below arithmetically standardized the similarities t-test scores from the British community study and the millennium community study as a Z point with a mean of 0 and a standard deviating of 1 to them compare. Hence, it was asserted that these scores should be perceived as relative measures for comparing with peers within the same birth community.

Parents' Social Class

The present study operationalized an vocation-based measure of socioeconomic position to analyze the impacts of parents' social class. Traditionally, sociological discussions and debates have been utilized to theoretically justify and verify the occupation-based class scheme, and it has been asserted that vocation-based socioeconomic measures are reliable indications of positions in social classes (Rose and Pevalin 2002). The analysis utilized the National Statistical Socioeconomic Classification (NSSEC), the official classification extensively utilized in social research studies (Rose and Pevalin 2003).

Parents' socioeconomic classification was calculated by means of standardized vocational codes, and job status information for parents was gathered in the age 10 wave of the British Cohort Study and the age 11 wave of the Millennium Cohort Study. The vocational coding for the British Cohort Study was devised by Gregg (2012), and utilizinbg this coding, measures of parents' social class were founded on contemporary standard vocational codes for both communities to ensure proper comparison.

Table 1. Distribution of the Variables

Variable	British Community study %	Millennium community study %
Sex		
Male	51	51
Female	49	49
Highest Education of Parent		
0 None	33	6
1 General Certificate of Secondary Education Below Grade C	20	5
2 General Certificate of Secondary Education Grade A-C	20	22
3 A-Levels	9	16
4 University Degree or Above	18	51
Parents' Social Class (Socio-economic Classification)		
1.1 Individuals who are large employers and individuls who work in higher managerial and administrative vocations	3	6
1.2 Individuals who work in higher professional vocations	6	11
2. Individuals who work in lower managerial, administrative and professional vocations	22	30
3. Individuals who work in intermediate vocations	14	14
4. Individuals who are small employers and own account workers	11	11
5. Individuals who work in lower supervisory and technical vocations	16	7

6. Individuals who work in semi-routine vocations	14	14
7. Individuals who work in routine vocations	15	7
(Unweighted) n	10008	11457

(Gayle and Connelly, 2023, p. 278).

A measure of parents' social class was created using the mother's or father's highest socioeconomic classification category (Erikson 1984). The distribution of parents' National Statistics Socio-economic Classification in the two cohorts is presented in Table 1. This clearly shows the changes in the distribution of social class between these two cohorts. For instance, while 15% of the British Cohort Study had parents in the routine vocations category of socioeconomic classification 7, 7% of the Millennium cohort study were in the routine vocations category. By comparison, the proportion of parents in the higher professional vocations category of socioeconomic classifications 1 or 2 enhanced from 6% in the British community study to 11% in the Millennium community study.

Parents' Education

The cross-generational impacts of parents' education have often been underlined in sociological research (Jencks, 1979; Halsey, Heath and Ridge, 1980). The present research is largely addressed to the influences of social class. It is asserted that education in societies is associated with and is hindered by social class. It is pointed out that educational differences can be observed across social classes or socioeconomic strata in societies and that there is some variability in educational attainment within social classes. It is generally proposed that a moderate correlation exists between adults' educational attainment and their social class. In the British cohort study, the correlation is Cramer's V = 0.33, while it is Cramer's V = 0.30. in the Millennium cohort study.

The present study constructs a measure of parents' education based on National Vocational Qualification levels. In the Millennium cohort study, parental qualifications were measured in the Age 11 Survey, and National Vocational Qualification levels were arranged and organized into accumulated datasets. The analysis identifies and distinguishes parents' qualifications in the British cohort study from the most comparable National Vocational Qualification levels measured in the Age 10 Survey. Due to the fact that the present study could not differentiate and distinguish between these two groups in the British community study, it grouped parents in the Millennium cohort study so as to compare National Vocational Qualification level 4 with National Occupational Qualification level 5 (postgraduate degree). The analysis used the highest educational level of parents in community. Education levels of parents in the two communities is displayed in Table 1.

Table 2. Social Class-Based Disparities in Similarities Test Points in the 1970 British Communtiy Study

	British community study 1970		Millennium community study 2000-2	
	Avarage similarities point		Avarage similarities point	
	Mean	SD	Mean	SD
Sex				
Male	0.11	1.01	0.01	1.00
Female	-0.06	0.95	-0.08	0.94
Parents' Education				
0 None	-0.31	0.97	-0.68	1.08
1 General Certificate of Secondary Education Below Grade C	-0.12	0.95	-0.44	1.01
2 General Certificate of Secondary Education Grade A-C	0.13	0.92	-0.24	0.97
3 A-Levels	0.25	0.88	-0.06	0.91
4 University Degree or Above	0.57	0.89	0.18	0.91
Parents' Social Class				
1.1 Individuals who are large employers and individuals who work in higher managerial and administrative vocations	0.34	0.91	0.38	0.84
1.2 Individuals who work in higher professional vocations	0.55	0.87	0.38	0.86
2. Individuals who work in lower managerial, administrative and Professional vocations	0.33	0.92	0.09	0.89
3. Individuals who work in intermediate vocations	0.16	0.91	-0.03	0.91
4. Individuals who are small employers and own account workers	0.01	0.93	-0.20	0.97
5. Individuals who work in lower supervisory and technical vocations	-0.15	0.98	-0.25	0.96
6. Individuals who work in semi-routine vocations	-0.25	0.97	-0.38	1.07
7. Individuals who work in routine vocations	-0.38	0.97	-0.43	1.04

(Gayle and Connelly, 2023, p. 281).

Results

Descriptive statistics are shown in Table 2. It is mentioned that there are little observable diversities between the avarage similarities test points for males and females in both the British cohort Study and the Millennium cohort study. This suggests that there are observable differences, disparities and gaps in children's mean similarities test points owing to parental education. Children of parents with higher and better educational qualifications obtained higher mean cognitive test scores in both the British community study and the Millennium community study. It is also reported that there are observable differences, disparities and gaps in children's mean similarities test points owing to social class of parents. Children from more advantaged

socioeconomic classes obtained higher cognitive test scores in both the British cohort study and the Millennium community study.

Scores obtained from the children's similarity test, administered to measure and assess cognitive abilities, were modeled making use of ordinary least squares regression. A main influences model incorporating sex, parents' education and parents' social class was identified as the most suitable model for the Millennium community study and British community study data. The modeling results are displayed in Table 3.

The notable finding is that, although the children in the second community were born 30 years after those in the British cohort study, the impacts of sex, parents' education, and parents' social class were unbelievably similar. This suggests an observable negative social class or SES trend net stemming from sex and parents' education. Children from families in more advantaged socioeconomic class positions obtained, on average, higher relative test points on the similarity test. Children of parents in higher-level managerial, supervisory and professional vocations in socioeconomic classification categories 1.1, 1.2, and 2 had higher relative test points compared to both children of parents in intermediate vocations in socioeconomic classification categories 3, 4, and 5 and children of parents in routine and manual vocations in socioeconomic classification categories 6 and 7.

The analysis displayed a general lack of support for the theoretical argument that the relationship between social class of parents and their children's points on similarities tests could demonstrate notable and observable differences between these two communities. Changes in the vocations structure and composition of society, and emerging of an enhancingly technological and knowledge-related economy, appeared to have only slightly altered the relative social class-based disparities in similarities test points of children. The overall finding revealed a general stability, continuity and consistency in the relative social class-based disparities across the two communities, even though the children in the Millennium community study, carried out in the early 2000s, were born 30 years later than those in the 1970 British community study.

Table 3. Main influences models for the British community study and Millennium community study

	British cohort study		Millennium cohort stuıdy	
	β	SE	β	SE
Sex				
Male	0.00		0.00	
Female	0.18***	0.02	0.08***	0.02
Highest Education of Parent				

0 None	0.00		0.00	
1 General certificate of secondary education Below Grade C	0.12***	0.03	0.21*	0.08
2 General certificate of secondary education Grade A-C	0.3***	0.03	0.36***	0.07
3 A-Levels	0.40***	0.04	0.49***	0.07
4 University degree or above	0.66***	0.03	0.60***	0.07
Social Class of Parents				
1.1 Individuals who are large employers and individuals who work in higher managerial and administrative vocations	-0.07	0.06	0.01	0.05
1.2 Individuals who work in higher professional occupations	0.00		0.00	
2. Individuals who work in lower managerial, administrative and professional vocations	-0.03	0.04	-0.25***	0.03
3. Individuals who work in intermediate vocations	-0.07	0.05	-0.31***	0.04
4. Individulas who are small employers and own account workers	-0.17***	0.05	-0.42***	0.04
5. Individuals who work in lower supervisory and technical vocations	-0.29***	0.05	-0.46***	0.06
6. Individuals who work in semi-routine vocations	-0.33***	0.05	-0.53***	0.05
7. Individuals who work in routine vocations	-0.44***	0.05	-0.51***	0.06
Constant	-0.12*	0.05	-0.24**	0.08
N	10008		11457	
Adjusted R^2	0.13		0.09	
BIC	26817		31293	

(Gayle and Connelly, 2023, p. 282).

More detailed results have revealed that there are fine-line diversities in the overall pattern of relative inequalities based on social class or socioeconomic status in the birth cohort of children born more recently, in the early 2000s, which can potentially be sociologically enlightening. Compared to children born in 1970 to parents who took part in the 1970 British community study, children of parents working in lower managerial and supervisory and professional vocations (in socioeconomic class category 2) and intermediate vocations (in socioeconomic class category 3) in the Millennium cohort study, respectively, had comparatively lower test scores for children of parents working in small employers and self-employment (in socioeconomic class category 4), lower supervisory and technical vocations (in socioeconomic class category 5), and semi-routine occupations (in socioeconomic class category 6). It has been stated that this might be as a result of changes in the structure and composition of groups in social classes and changes in the job and working conditions of these parents. Nevertheless, the Millennium Cohort Study conducted in early 2000, compared with the British Cohort Study dated 1970, indicated no difference in test points among children of parents in the most disadvantaged social class, especially in socioeconomic class category 7. This

suggests a more complex pattern of comparative disparities based on social class than the three scenarios theorized earlier.

Cognitive scores from the similarities test administered to children in the 1970 British community study were structured and formed into two distinct and particular social class groups: socioeconomic class category 1.1, 1.2, 2, and 3, and socioeconomic class category 5, 6, and 7. A detailed examination of the Millennium community study data in the 2000s led to the emergence of a third segment. The first group, socioeconomic class category 1.1, 1.2, 2, and 3, appeared to split into two clear and distinct groups: socioeconomic class category 1.1, 1.2, 2, and 3, in the Millennium cohort study.

The quasi-variance-related 95% comparing intervals for socioeconomic class categories 1.1 and 1.2 in both the British community study and the Millennium community study exhibited substantial overlap. This led researchers to believe that these two social classes constituted a single segment. It was asserted that occupations within this segment required high levels of cognition, knowledge as well as comprehension, and routinely called for high levels of logical considering, concept forming and reasoning.

The second segment in the Millennium cohort study consisted of children of parents in socioeconomic class categories NS-SEC 2 and 3. These two class categories included parents working in intermediate occupations, both in lower managerial and lower professional vocations, as well as in clerical and administrative vocations, sales and services, and some technical and engineering occupations. It was pointed out that these parents were engaged in occupations that were semi-professional in nature, and historically these could be defined as "white-collar" jobs. It was asserted that occupations in this segment required less cognition, knowledge and understanding compared to those in more professional and managerial vocations in socioeconomic class positions 1.1 and 1.2.

Social stratification study on varying structures and social class mobility in society has produced a more delicate and not immediately observable awareness and perception of inequalities of social class. It has been asserted that the expanding of professional positions in social classes today has given rise to an increase in the number of individuals settling in higher social classes or more advantaged socioeconomic status (Goldthorpe 2016). This indicates an increased need and desire for individuals holding professional and managerial positions throughout society's economic system. It has also been asserted that this situation facilitates and enables the social mobility and social ascent of individuals in society. It has been predicted that some parents in socioeconomic class positions 1.1 and 1.2 in the Millennium cohort study were previously in lower socioeconomic class positions or less advantaged socioeconomic status. This can partially account for why children of parents

now in socioeconomic class positions 2, 3, and 4 in the Millennium cohort study have lower test points compared to their peers in the British cohort study.

It has been argued that this research has a clear and specific limitation, as it compares only two cohorts. It is stated that there would be significant benefits in repeating this analysis with other communities in various national contexts, where appropriate data would be available and accessible. This research concentrated on only one test, namely the similarities test, for measuring and assessing children's cognitive abilities. It is stressed here that examining variations in social class-based disparities in other components of cognitive ability across communities would also yield benefits.

Conclusions

The present research responded Flynn's call for theorists and researchers to assess sociological contexts and conditions in order to comprehend and explain the roles of social influences, social class on cognitive differences, inequalities and gaps in cognitive development in a more comprehensive and detailed manner. The research raised the theoretically illuminating and thought-provoking question of whether there had been any change in the relative differences, inequalities and gaps in similarities test points based on social class between the cohort of children born in 1970 and those born 30 years later in 2000. It was asserted that theory of Flynn on movement within social structure, away from concrete reflecting in society strongly matched with Bernstein's (1971) theory on linguistic and cognitive socialization in families from different social class. The general findings of the present study revealed that social class segments in similarities test points remained largely steady and consistent over a 30-year period. It has been noted that social class-based differences, disparities and gaps in this particular skill persisted in spite of broader social change (Flynn, 2012), including potential shifts in habits of mind, understanding, perception and consciousness at the level of the social structure. The research also observed some more delicate and detaied shifts in social class segments compared to previously assumed and theorized general scenarios.

The fact that social class-based disparities and gaps in cognitive ability may be detected when children are 10/11 years old has been regarded as significant as it implies that children from families in lower social classes or less advantaged socioeconomic status will reach secondary school with a specific and distinctive disadvantage. It has been stated that the logical thinking, concept forming and reasoning skills demonstrated by children from families in lower social classes or less advantaged socioeconomic status are not expected to help them to compete influentially in education and the job market (Nash 2005; Nash 2016). It has been underlined that there is ongoing

concern and anxiety about social disparities in education in society, and that many policy changes and initiatives undertaken to confront this inequality have gained significance. However, it has been pointed out that the policies being adopted have not shown sufficient desire, aspiration, enthusiasm and passion to address and eliminate the inherent and deeply rooted social inequalities that can arise from linguistic and cognitive socialising practices in the family of origin.

The present research discovered clear and distinct trends in social class in both the cohort of children born in 1970 and those born in 2000. It has been plausibly suggested that parents in higher social class or more advantaged socioeconomic status have the capacity and power to create family environments that facilitate and foster positive development and the financial rewards provided by their occupations. Findings previously shared by Parcel and Menaghan (1994) manifested that differences in social class or socioeconomic status tended to demonstrate diversities in the features and complexity of parents' jobs. These diversities and inequalities in social class may also reveal the instability and volatility of parents' work lives and the economic and social tensions, strains, and pressures in family life that result from being settled, rooted as well as living in lower social class or a more disadvantaged socioeconomic status (Conger and Conger 2002; Layte 2017). In conclusion, researchers established that parents' social class and parents' education were directly associated with differences, disparities and gaps in cognitive test scores of children. Nevertheless, they underlined that these differences, disparities and gaps could not be fully explicated even when modeling a wide range of comprehensive measures of both social resources of families and parenting behaviors (Sullivan et al., 2013). Psychologists highlighted that general cognitive abilities could be passed on to children genetically and hereditarily (Deary, Spinath and Bates, 2006; Tucker-Drob, Briley and Harden, 2013; Hill, Davies, Van De Lagemaat, Christoforou, Marioni, Fernandes, Liewald, Croning, Payton and Craig, 2014; Harden, 2021), which suggests that this could be another potentially sensible dimension of the persistent, permanent and constant negative trend of social class or socioeconomic status.

Taking into consideration a negative trend of social class, it has been underlined that theorists and researchers must be careful to avoid shifting to a mechanistic and incomplete theory to comprehend and account for social class differences, inequalities and gaps. Contrarily, it has been pointed out that elements such as parents' education, parents' skills, parents'profession and work, the market situation and the cognitive demands of their professions all contribute to the distinctively effective efforts of parents to promote, nurture, contribute, support and foster children's abstract reasoning skills. It has been asserted that the robust, deeply-rooted, fixed and unvarying nature

of these social class or socioeconomic status differences, inequalities and gaps contributes to the continuation and reproduction of these differences and inequalities in cognitive socialization.

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Chapter 2

NARCISSISM LEVELS OF SCHOOL PRINCIPALS: AN EVALUATION BASED ON TEACHERS' PERSPECTIVES

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Introduction

Modernism, which emerged due to industrialization, has continuously evolved, eventually leading to a postmodern society characterized by a significant value shift. This transformation is particularly evident in education and individuals' changing attitudes toward work (Podzimek, 2019). Moreover, technological advancements have intensified global competition and reinforced an increasing emphasis on individualism. As societies strive to keep up with rapid technological changes and maintain their competitive edge, they gradually shift from collectivist values to a more individualistic culture. Thus, the weakening sense of community and belonging has driven individuals to seek validation through material wealth and social status, ultimately reinforcing a consumerist society. In this culture of consumption, the concept of "self" has become increasingly dominant, as personal interests take precedence over collective well-being (Çoban & İrmiş, 2018). In this context, Milligan et al. (2022) defined Narcissism as characterized by extreme self-interest, encompassing personality traits such as arrogance, self-centeredness, a need for admiration, a sense of entitlement, grandiosity, a lack of empathy, and a tendency to exploit others. These traits can vary in intensity, ranging from common personality tendencies to a diagnosable condition known as narcissistic personality disorder. Over time, the term narcissism has been the subject of numerous theoretical studies, particularly gaining attention over the past three decades. In its earliest psychological research, narcissism was considered an essential component of personality development. However, more recent studies have increasingly classified it as a personality disorder (Bolat et al., 2016). Narcissism is a defining personality trait characterized by an obsession with success and power, a constant need for approval and admiration, and a lack of empathy (Duchon & Burns, 2008). Individuals with narcissistic traits struggle to regulate their self-esteem, making them highly dependent on external validation (Bergman et al., 2010). The concept of narcissism has been widely debated in mythology and psychology, with its historical roots tracing back to ancient times (Uçar, 2021). The term narcissism originates from Greek mythology, specifically the story of *Narcissus (Νάρκισσος*), a handsome young man who rejected the love of the nymph Echo. Instead, he became infatuated with his reflection in a pool of water. According to the myth, Echo suffered greatly from his rejection, while Narcissus remained captivated by his image until he ultimately transformed into a daffodil (Demirci & Ekşi, 2017; Milligan et al., 2022; Zhao, 2007). According to the Turkish Language Association (2025), narcissism is defined as an individual's admiration and attachment to their own physical and psychological self. The most distinguishing feature of narcissism is the exaggerated focus on the self (self), often at the expense of reduced interest in others (Timuroğlu & İşcan, 2008). The insecurity caused by increasing individualism is more pronounced in highly individualized societies. As a result, narcissistic individuals tend to compensate for this insecurity by seeking power, prestige, superiority, and authority (Alga, 2016). Additionally, in his commentary Is Narcissism Really So Bad? Campbell (2001) challenges the traditionally negative perception of narcissism. While

acknowledging its drawbacks—such as entitlement, lack of empathy, and interpersonal difficulties—Campbell also highlights its potential advantages, including confidence, leadership qualities, and the ability to influence others positively in certain situations. A review of the literature on organizational narcissism in educational institutions in Türkiye reveals that most studies have employed quantitative research methods, primarily using organizational narcissism scales (Karataş &Taş, 2017; Yurdakul, 2015; Kahveci et al., 2018; Salihoğlu & Camadan, 2020). However, there is a notable absence of qualitative research exploring school principals' organizational narcissism from teachers' perspectives at both national and international levels. Given this gap, the present study aims to be one of the first to examine this issue in depth. The study seeks to contribute to the academic literature by addressing this research deficiency. The primary objective of this research is to evaluate the narcissism levels of school principals based on teachers' perspectives. To achieve this goal, the study seeks to answer the following research questions:

RQ 1. What exceptional characteristics does your school principal possess that influence those around them?

RQ 2. How often does your school principal highlight their successes by using the word "I," and how do they compare to other principals regarding competence and success?

RQ 3. Can you provide an example of narcissistic behaviour exhibited by your school principal?

RQ 4. How does your school principal convey their sense of self-importance and exclusivity through their words and actions?

RQ 5. To what extent does your school principal influence teachers according to their preferences, and how frequently do they express this influence?

RQ 6. To what degree does your school principal seek recognition and appreciation for their accomplishments?

By addressing these questions, this study aims to provide deeper insights into the presence and impact of narcissistic tendencies among school principals, ultimately contributing to the teachers' perspective on education.

Narcissism in Educational Organizations

Narcissism has become a significant research topic in organizational behaviour and management, particularly regarding its implications for workplace dynamics. While international studies continue to explore its impact on organizations, research in Türkiye remains limited. The scarcity of studies on this topic suggests that narcissism is still primarily viewed as a pathological condition rather than an organizational phenomenon (Karataş & Taş, 2017). School principals play a critical role in achieving organizational goals in educational institutions. They possess authority derived from their position, which allows them to delegate power while maintaining overall

responsibility for the organization. School principals plan, coordinate, and oversee educational activities to ensure alignment with institutional objectives. Authority is a power source, legitimizing decision-making processes and leadership influence (Alga, 2016). Power distance refers to how social inequality and hierarchy are accepted within a society or institution (Aycan, 2000). Given the competitive and increasingly individualistic nature of modern culture, a certain level of narcissism may be necessary in schools to boost self-esteem, motivation, and determination. However, excessive narcissism can distort reality and harm the school and its surrounding environment (Hamedoğlu, 2009).

Research indicates that as narcissistic tendencies in leaders increase, workplace conflicts and dysfunctional work environments become more prevalent (Lubit, 2002). In this sense, evidence suggests that individual and collective narcissism are increasing worldwide. In this regard, individualism is increasing while collectivism is declining (Milligan et al., 2022). Extreme narcissism in individuals can lead organizations to adopt a dominant and authoritarian stance toward others (Yurdakul, 2015). In this context, school principals exhibiting excessive narcissistic traits such as a lack of empathy, a need for authority, and a constant desire for admiration may create harmful educational environments. Considering these factors, it is evident that leadership plays a crucial role in shaping organizational narcissism.

The increasing interest in narcissistic personality disorder, often referred to as the new personality disorder of our era, continues to grow (Kansu &Yıldırım, 2022). In early psychological research, narcissism was seen as an essential element for individuals to find their personality. However, recent studies define it as a personality disorder (Bolat et al., 2016). Narcissism is closely related to an individual's self-admiration, self-love, sense of value, and self-satisfaction. These emotions, which include self-esteem, self-worth, and self-respect, shape how individuals perceive their value and significance, especially in interactions with others (Hamedoğlu, 2009). The diagnostic criteria for Narcissistic Personality Disorder (NPD) are outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM) published by the American Psychiatric Association (APA, 2013). The literature presents different classifications of narcissism, generally addressing it from two perspectives: as a personality disorder and as subclinical narcissism. The concept has been studied from clinical and everyday perspectives for years (Bolat et al., 2016; Özsoy & Ardıç, 2017).

Narcissism, conceptualized as harmless, usual, or non-pathological in the literature, is associated with self-esteem and confidence (Çoban & İrmiş, 2018). Normal narcissism refers to a high level of self-confidence that remains stable despite external criticism or praise (Karaaziz & Atak, 2013). It is essential to an individual's development, contributing to survival, work, and identity maintenance. While a certain degree of narcissism is viewed as a typical personality trait, excessive self-admiration leading to an inflated sense of self is classified as pathological narcissism (Atay, 2009; Kartopu, 2013).

As the term suggests, pathological narcissism involves more problematic behaviours and reactions compared to normal narcissism (Bolat et al., 2016). Additionally, the key differences between normal and pathological narcissists are summarized as follows (Lubit, 2002, p. 128):

- Normal narcissists have genuine self-confidence, whereas pathological narcissists only appear confident.
- Normal narcissists strive for self-improvement, whereas pathological narcissists focus on crafting a flawless personal image.
- Normal narcissists respect the rights and well-being of others, whereas pathological narcissists exploit others without regard for their rights.
- Normal narcissists enjoy power, wealth, and admiration, while pathological narcissists become obsessed with these elements.

When individualism disregards others and lacks empathy, narcissism becomes a topic of organizational concern (Timuroğlu & İşcan, 2008, p. 239). Also, Duchon and Burns (2008) examine the concept of organizational narcissism, where organizations, like individuals, develop an inflated sense of self-importance. Such organizations exhibit excessive self-admiration, seek constant validation, and resist criticism. While narcissism can foster confidence and innovation, it can also lead to risky decision-making, unethical behaviour, and detachment from reality. The authors emphasize the need for self-awareness and external feedback to mitigate the adverse effects of organizational narcissism. Narcissism is a natural aspect of human psychology, essential for survival, work, and maintaining a stable identity (Yurdakul, 2015). However, it has evolved from merely a psychiatric or clinical issue to becoming a crucial research topic for organizations (Atay, 2009).

The social function of education is to equip individuals with the necessary skills to fulfill their roles in society. In this context, education shapes individuals in a way that aligns their desires with societal expectations. In educational organizations, school principals are key in effectively and efficiently managing school stakeholders. Regardless of their level within the organization, leaders are responsible for directing others to accomplish tasks (Alga, 2016). Instead of relying solely on authority and status, school principals should foster a culture of teamwork within educational organizations. To establish a healthy school culture, principals must possess knowledge and skills in management theories and human relations. By encouraging collective action, they can promote staff cohesion. School principals should exhibit synergistic leadership behaviours, ensuring collaboration among school staff. Therefore, the level of narcissism in educational organizations is significantly influenced by the narcissism levels of school principals, making this a key area of research.

Method

This study was conducted using a phenomenological approach, a qualitative research design. The phenomenological approach is suitable for studying intense human experiences (Merriam, 2013; Creswell, 2014) and

focuses on phenomena that are not fully understood in-depth (Yıldırım & Şimşek, 2018). In this research, teachers' perceptions of school principals' levels of narcissism were examined in detail.

Study group

The maximum variation sampling method, one of the purposeful sampling techniques, was used to select the study participants. Through this approach, 20 teachers were included in the research. According to Patton (2014), the primary goal of maximum variation sampling is to increase the diversity of characteristics among individuals who could potentially participate in the study. In selecting teachers for the research group, factors such as gender, age, professional seniority, undergraduate program completed, and duration of postgraduate education were considered sources of diversity, as shown in Table 1. The study participants comprised 20 teachers working in public schools during Turkey's 2024-2025 academic year.

Table 1. Demographic Characteristics of the Participants

Participants	Gender	Age	Education Level	Branch	Professional Seniority
1	Male	26-30	Master's Degree	Mathematics Teacher	1-5
2	Female	36-40	Bachelor's Degree	English Teacher	16-20
3	Female	36-40	Master's Degree	Mathematics Teacher	16-20
4	Male	31-35	Master's Degree	Religious Culture and Moral Knowledge Teacher	6-10
5	Female	31-35	Master's Degree	Guidance Counselor	6-10
6	Male	31-35	Master's Degree	Primary School Teacher	11-15
7	Female	36-40	Bachelor's Degree	English Teacher	11-15
8	Female	31-35	Master's Degree	English Teacher	6-10
9	Female	31-35	Master's Degree	Chemistry Teacher	6-10
10	Male	41 and over	Bachelor's Degree	Science Teacher	16-20
11	Female	25	Master's Degree	German Teacher	1-5
12	Male	36-40	Bachelor's Degree	Information Technology Teacher	11-15
13	Male	31-35	Bachelor's Degree	Preschool Teacher	11-15

14	Female	26-30	Master's Degree	Guidance Counselor	6-10
15	Male	36-40	PhD	Physical Education and Sports Teacher	11-15
16	Female	36-40	PhD	Primary School Teacher	11-15
17	Female	41 and over	PhD	Primary School Teacher	16-20
18	Female	25	Bachelor's Degree	Art Teacher	1-5
19	Male	41 and over	PhD	Primary School Teacher	21 and over
20	Female	31-35	Master's Degree	English Teacher	6-10

Table 1 presents the demographic characteristics of the participants, revealing a diverse group in terms of gender, age, education level, professional background, and experience. The sample includes 11 females and nine males, offering a balanced gender representation. The age range spans from 25 to over 41 years old, with the largest group being between 31 and 35 years old, indicating a mix of younger and more experienced teachers. Most participants hold a master's degree (12 participants), with 4 having a bachelor's degree and 4 holding a PhD, reflecting a highly educated group. Regarding teaching disciplines, the participants come from various subjects, including Mathematics, English, Chemistry, Primary School, Religious Culture and Moral Knowledge, Guidance Counselling, Physical Education, Information Technology, and Art, which adds depth to the findings by incorporating various educational contexts. Professionally, the participants have varied experience, with many in the 6-10- and 11-15-year range, while others have less than 5 years or more than 20 years of experience. This broad mix of backgrounds and experiences ensures a comprehensive view of the principal's leadership influence across different teaching environments.

Data collection tool

The researcher's semi-structured interview form served as a qualitative data collection tool. After reviewing studies in the literature, the interview questions were developed. Two subject matter experts in content validity and one expert in language and expression reviewed the form. The interview questions were finalized, and the expert feedback made necessary revisions. The researcher's semi-structured interview form revisions focused on enhancing content validity, language, and expression.

Data Collection

The first and second authors interviewed participants face-to-face or via email to obtain the study data. All participants were contacted before the interviews, and the time and location of the interviews were arranged. During

the preliminary meeting, participants were also informed about the study's aims, background, and scope. Data were collected voluntarily.

Validity and Reliability

In qualitative research, several procedures are employed to ensure internal validity (credibility), external validity (transferability), internal reliability (dependability), and external reliability (confirmability) (Patton, 2014). This study used participant validation (member checking) to confirm internal validity. To ensure the overall validity and reliability of the research, interview transcripts were shared with participants for their approval. Direct quotations from participants were included when necessary when presenting the study findings. The names of the participants and their schools were kept confidential, and each participant was assigned a code (P1, P2, up to P20) (Yıldırım & Şimşek, 2018).

Findings and Discussion

The primary aim of this study is to explore school principals' levels of narcissism as perceived by teachers. To achieve this aim, the researcher developed a semi-structured interview form of open-ended questions directed to teachers. The participants' responses were analyzed to generate themes and codes in the tables. The study's findings, along with the corresponding themes and codes derived from the data analysis, are discussed in the following sections.

RQ1. According to the first question of the research, what extraordinary qualities do your school principals possess that influence the people around them? Table 2 presents the themes and codes from the participants' responses to this question.

Table 2. Characteristics of the School Principals

Themes	**Codes**	**(f)**
Interpersonal and Emotional Competence	Effective communication skills, Empathy	19
Strategic and Innovative Leadership	Innovative, Solution-oriented	15
Ethical and Ambitious Character	Fair, Ambitious and superiority-driven	12

As seen in Table 2, based on participants' responses, three main themes emerged that capture the extraordinary qualities of school principals influencing those around them: Interpersonal and emotional competence, strategic and ınnovative leadership, and ethical and ambitious character. The most frequently mentioned theme was interpersonal and emotional

competence (f = 19), highlighting the significance of principals' ability to communicate effectively and demonstrate empathy. Participants emphasized that these qualities help principals build trust, foster collaboration, and maintain a positive school climate. Effective communication was the most cited code, suggesting it plays a foundational role in leadership effectiveness. This aligns with existing research underscoring that communication and empathy are essential components of transformational leadership (Leithwood et al., 2019). Effective communication has been identified as a core skill for promoting shared vision and community engagement in schools.

The second most emphasized theme was strategic and innovative leadership (f = 15), reflecting the importance of being creative and solution-oriented in today's complex educational landscape. Participants noted that principals who think creatively and address problems with practical solutions are more likely to inspire their teams and drive school improvement efforts. On the other hand, it is normal for individuals to seek admiration, recognition, and praise for their achievements; this is also expected and acceptable behaviour for school principals. Such behaviours can enhance the principal's motivation, enjoyment, and commitment to their work. It is natural for them to want to showcase, announce, and take pride in their successes. This way, they may feel empowered and focused on achieving their goals, demonstrating determined and committed behaviours (Hamedoğlu, 2009).

The third theme, ethical and ambitious character (f = 12), combines fairness and personal drive qualities. Respondents pointed out that balancing ethical judgment and ambition contributes to the principal's ability to lead with integrity while striving for high standards and institutional success. Rosenthal and Pittinsky (2006) defined leaders with high levels of self-esteem as demonstrating positive traits associated with narcissism, such as charisma, strong self-expression skills, and high personal energy.

In this context, the statements of the participating teachers are as follows:

One of the most exceptional characteristics of our principals is their ability to inspire and motivate teachers and students. He leads with a clear vision and is always open to innovation, encouraging us to try new teaching methods and grow professionally (P 8). My principal is knowledgeable about the written regulations and legislation in their field. With this characteristic, he effectively influences and addresses all staff (P 15). Our principal has a way of making everyone feel heard and valued, which sets the tone for a positive school environment. He is always approachable, whether for a quick chat in the hallway or a serious discussion about a challenge we face (P 9).

RQ2. According to the second question of the research, how often does your school principal highlight their successes by using the word "I," and how do they compare to other principals regarding competence and success? Table 3 presents the themes and codes from the participants' responses to this question.

Table 3. Success of the School Principal

Themes	Codes	(f)
Humble and Collective Leadership	Never uses the word "I"	9
Individualistic Leadership Style	Uses the word "I" in every conversation	7
Collaborative Success Orientation	We are a team	6

As seen in Table 3, the second research question asked participants how often their school principal highlights personal success using the word "I" and how they compare to other principals regarding competence and success. The analysis revealed three main themes: Humble and Collective Leadership, individualistic leadership style, and collaborative success orientation. The most frequently cited theme was humble and collective leadership (f = 9). Participants in this group indicated that their school principal never uses the word "I", reflecting a modest and self-effacing approach to leadership. This finding suggests a preference for leaders who avoid personal glorification and instead focus on team or institutional success.

The second most common theme was Individualistic Leadership Style (f = 7). These responses indicated that some principals use the word "I" in every conversation, pointing to a leadership style centred on personal achievement. While this may reflect strong self-confidence, it may also risk undermining team cohesion or suggesting an ego-driven approach.

The third theme, Collaborative Success Orientation (f = 6), emerged from participants who noted that their principals regularly express success using inclusive language such as "we are a team". This suggests a shared leadership model that values group contributions and fosters a collective sense of responsibility.

On the other hand, Okçu et al. (2022) found that school principals perceived narcissistic leadership level in the authority dimension was relatively high, indicating that teachers generally believe school principals exhibit behaviours aligned with this trait. The authority dimension is characterized by a strong belief that narcissistic leaders possess exceptional leadership abilities, feel entitled to influence others, and are inclined to take charge in authoritative situations and decision-making processes. According to Okçu et al., narcissistic leaders perceive themselves as natural leaders and often assert control over organizational dynamics.

In this context, the statements of the participating teachers are as follows:

The principal occasionally uses the word "I" when discussing successes, but he generally acknowledges the contributions of the entire team (Participant 16). Our school principal never uses the word 'I.' They constantly emphasize that

they are happy to work with us and highlight that the work is a team effort (Participant 2). I think "I planned" and "I made" are phrases they frequently use. It seems the principal makes almost all decisions in the institution, probably to avoid burdening us (Participant 3).

RQ3. The third question of the research is to provide an example to explain any narcissistic behaviour of your school principal. Table 4 presents themes and the codes from the participants' responses to this question.

Table 4. Narcissistic Behaviour of the School Principal

Themes	Codes	(f)
Absence of Narcissistic Tendencies	Does not have narcissistic behaviour	11
Presence of Narcissistic Traits	Has narcissistic behaviour	9

As seen in Table 4, the third research question aimed to explore whether school principals display narcissistic behaviour, as perceived by participants. The findings were categorized under two key themes: Absence of narcissistic tendencies and presence of narcissistic traits. The more frequently reported theme was Absence of Narcissistic Tendencies (f = 11). Participants under this theme stated that their school principals do not demonstrate narcissistic behaviour, suggesting they exhibit leadership characterized by humility, empathy, and a focus on collective well-being. This perception aligns with servant and transformational leadership characteristics, where the leader prioritizes the development and needs of others over personal gain (Greenleaf, 2002; Leithwood & Jantzi, 2005). Principals perceived this way are often seen as more trustworthy and effective in fostering a positive school climate. On the other hand, the presence of narcissistic traits (f = 9) was a significant finding, indicating that some participants did observe narcissistic tendencies in their principals. These behaviours may include self-centred decision-making, seek constant admiration, or emphasizing personal accomplishments over team success. Such traits are commonly associated with narcissistic leadership, which can harm organizational morale and reduce collaboration (Rosenthal & Pittinsky, 2006). In educational settings, narcissistic behaviours in leaders may hinder the creation of inclusive and democratic school cultures.

Horney (2013) emphasizes that self-esteem and self-enhancement should be considered separately, noting that narcissism relates to the unrealistic inflation of the self. Narcissism is typically discussed in psychology on two levels: normal and pathological. Normal narcissism is when an individual holds an inflated sense of self-worth but is unaffected by feedback from others (Rozenblatt, 2002). Some studies have shown no significant difference between the demographic characteristics, such as education level and narcissistic personality traits. However, it has been observed that individuals with advanced degrees tend to display fewer narcissistic traits compared to those with only a bachelor's degree (Atay, 2009; Karaaziz & Atak, 2013).

In this context, the statements of the participating teachers are as follows:

He is highly competent compared to other principals. He stays up to date with educational trends, supports teachers, and makes data-driven decisions to improve the school. His leadership reflects student success and teacher satisfaction (P 20). Our principal generally demonstrates strong leadership, but sometimes his behaviour appears somewhat self-centred. For example, he often dominates discussions during staff meetings, focusing on his ideas and achievements rather than encouraging open dialogue (P 10). For example, at school events, the principal tends to seek personal recognition, ensuring he is the center of attention rather than highlighting the collective efforts of the staff (P14).

RQ4, according to the fourth research question, how does your school principal make you feel their value and distinction through their actions and words? Table 5 presents themes and the codes from the participants' responses to this question.

Table 5. Value of the School Principals

Themes	Codes	(f)
Humble and Self-Sufficient Expectations	Do not expect praise	8
Emotional and Supportive Communication	Tone of voice	5
Positive Behavioural Reinforcement	Behaviour	3

As seen in Table 5, participants' responses to the fourth question of the research reveal different aspects. The fourth research question explored how school principals communicate value and distinction through actions and words. The findings revealed three primary themes: Humble and self-sufficient expectations, emotional and supportive communication, and positive behavioural reinforcement. The most frequently cited theme was humble and self-sufficient expectations (f = 8), which reflects participants who reported not expecting praise from their principals. This suggests that these leaders prioritize humility and self-sufficiency, fostering an environment where individual achievements are celebrated without excessive recognition. This aligns with the concept of servant leadership, where leaders focus on the growth and well-being of others rather than seeking personal validation (Greenleaf, 2002).

The second theme, emotional and supportive communication (f = 5), emphasizes how principals convey their value through the tone of their voice. Participants indicated that their principals use supportive and encouraging tones, fostering respect and appreciation. This is consistent with research highlighting the importance of emotional intelligence in leadership, where non-verbal communication, including tone and empathy, plays a crucial role in building trust and motivating staff (Goleman, 1998).

The third theme, positive behavioural reinforcement (f = 3), reveals that some principals communicate their values and distinctions through their actions and behaviours. Principals who lead by example and demonstrate respect for their staff and students show care and commitment and strengthen their position as respected leaders within the school community. Transformational leaders motivate followers to fully commit to the organization's goals and achieve performance outcomes beyond expectations. This type of leadership is characterized by inspiring and guiding others through the leader's actions, values, and vision (Steinmann et al., 2018).

From a different perspective, Bergman et al. (2010) highlight that the rise in narcissism presents substantial challenges for organizations, affecting their productivity and long-term viability. Additionally, Ames et al. (2006) defined how sub-clinical variance in narcissism has gained attention in recent decades as a personality trait, showing its impressive ability to predict various outcomes, including emotional reactivity and self-assessments of performance.

In this context, the statements of the participating teachers are as follows:

At school events, he takes center stage in speeches, emphasizing their leadership in achieving milestones, such as saying, under my leadership, our school has achieved remarkable academic performance (P 12). My principal needs practical communication skills and the ability to control the decision-making process by considering the staff's demands and needs (P 7). My school principal frequently acknowledges teachers' hard work while taking responsibility for the school's success, saying, "Together, we have built a learning environment where both students and teachers thrive"(P 9).

RQ5. According to the fifth question of the research, to what extent does the school principal influence teachers in the direction they desire, and how frequently do they express this? Table 6 presents the codes from the participants' responses to this question.

Table 6. Influence of the School Principal on Teachers

Themes	Codes	(f)
Communication and Alignment	Effective communication	10
Leadership and Structure	Authority and rules	7
Motivation and Engagement	Motivation, Reward, and Punishment	7

As seen in Table 6, participants' responses indicate that the fifth research question aimed to explore how school principals influence teachers in the direction they desire and how frequently they express this influence. The findings revealed three key themes: communication and alignment, leadership and structure, and motivation and engagement. Communication and alignment (f = 10) were the most frequently cited themes. Principals who

effectively communicate their expectations, feedback, and school vision can align teachers with the broader goals of the institution. This form of influence is crucial for fostering collaboration and ensuring that teachers understand their roles and responsibilities. However, Narcissists often perceive themselves as superior to others and seek to maintain this perception by surpassing others, leading to a high sense of self-efficacy (Weng et al., 2018). The frequency with which this theme appeared suggests that communication is the primary tool principals use to guide and influence teachers.

The second theme, Leadership and Structure (f = 7), underscores the role of principals in establishing authority and setting rules. By enforcing guidelines and regulations, principals create an environment of accountability and structure. This theme reflects more authoritative leadership, where principals use their formal position to maintain order and ensure compliance. This theme highlights that while communication is important, principals rely on their authority to influence teacher behaviour and establish a framework within which teachers can operate effectively (Okçu et al, 2022).

The third theme, motivation and engagement (f = 7), combines the motivation and reward and punishment codes, illustrating that principal influence teachers through encouragement and recognition or by managing their behaviour with rewards and consequences. This approach aims to foster engagement, inspire teachers to perform at their best, and maintain high professional performance. Motivation can increase job satisfaction and improve performance, while rewards and punishments can help maintain discipline and focus. Unlike the findings, Campbell (2001) discusses how narcissism exists on a spectrum, with extreme cases leading to significant personal and social harm, while moderate levels may contribute to personal success and ambition. He also explores cultural and societal changes that have influenced the rise of narcissistic traits, particularly in Western societies. Campbell stresses the importance of understanding narcissism in a nuanced way, recognizing that it is not entirely detrimental.

In this context, the statements of the participating teachers are as follows:

My principal consistently keeps us informed about school updates and expectations. He sends clear emails and holds regular meetings to ensure everyone is on the same page (P 7). Regarding motivation, while the principal inspires us to work toward the school's goals, their approach to motivation can sometimes feel more top-down, with directives that require us to align with their vision (P 13). When it comes to authority and rules, he sets clear boundaries. He ensures he adheres to the school's policies, emphasizing the importance of consistency and accountability in maintaining a productive learning environment (P15).

RQ6. According to the sixth research question, to what extent does your school principal expect their work to be appreciated by others? Table 7 presents the themes and the codes from the participants' responses to this question.

Table 7. School Principal's Expectation of Appreciation

Themes	Codes	(f)
Desire for External Validation	Expects approval and acceptance	12
Self-Sufficiency and Independence	Does not care about approval and acceptance	3
Appreciation through Incentives	Reward	3

As seen in Table 7, participants' responses to the sixth research question explored the extent to which school principals expect their work to be appreciated by others. The analysis of the participants' responses revealed three central themes: Desire for External Validation, Self-Sufficiency and Independence, and Appreciation through Incentives. The dominant theme, desire for external validation (f = 12), indicates that most respondents perceive their school principals as individuals seeking recognition, approval, or acceptance from others. This suggests that such leaders may be motivated by external affirmation and place significant value on how colleagues, superiors, or the broader school community perceive them. Such tendencies are often associated with narcissistic personality traits, which include a heightened need for admiration and validation from others (Campbell et al., 2011).

In contrast, the theme of self-sufficiency and independence (f = 3) reflects a minority of school principals who reportedly do not prioritize external validation. These principals exhibit traits associated with self-awareness and internalized motivation, distancing themselves from narcissistic tendencies. Research suggests that narcissistic individuals generally show lower levels of self-reflection and empathy, relying instead on external approval to maintain their self-image (Miller et al., 2011).

The third theme, Appreciation through Incentives (f = 3), identifies principals who expect acknowledgment through symbolic, verbal, or tangible rewards. This may reflect a strategic approach to leadership, where recognition is linked to performance outcomes. However, in cases where such expectations become excessive, it may overlap with narcissistic traits such as entitlement and reward-seeking behaviour (Grijalva & Harms, 2014). According to Bolat et al. (2016), individuals with narcissistic personality characteristics often struggle with empathy and demonstrate weak interpersonal communication skills. This can lead to difficulties in forming trusting relationships with staff and students in school settings.

In this context, the statements of the participating teachers are as follows:

At times, the principal encourages public acknowledgment of their leadership, which can create an environment where appreciation is directed toward them for the school's progress. While his hard work is undoubtedly noticeable and impactful, he values external recognition of his leadership and decisions (P 5). My principal takes pride in the school's achievements and highlights his role in these successes, whether in meetings or during school events (P 11). The principal does everything in his power to fulfill his duties. He expects

the people around him to work as hard as they do and appreciates them through work (P 15).

Conclusion

This study investigated how teachers perceive narcissistic behaviours in school principals, based on six key research questions. The results show that many principals exhibit traits commonly associated with narcissism, such as arrogance, a strong need for admiration, overconfidence, and a tendency to make decisions without consulting others. Teachers noted that some principals believe they are more capable than others and expect constant praise. They also tend to avoid criticism and react negatively when questioned about their decisions or authority. These behaviours suggest that narcissistic traits may harm school relationships and teamwork. Teachers reported that some principals believe they are more capable than their peers and often expect continuous praise. These principals avoid criticism and may respond negatively when their authority or decisions are questioned. Such behaviours can hinder collaboration, damage professional relationships, and create tension within the school environment.

However, not all observed behaviours were viewed negatively. Some teachers described their principals as confident, determined, and deeply committed to the school's success. While these traits may reflect self-focus, they were perceived positively when accompanied by fairness, respect, and inclusive leadership.

In conclusion, while not all principals were perceived as narcissistic, many displayed narcissistic tendencies that could influence school climate and professional dynamics. These findings underscore the importance of leadership development programs emphasizing self-awareness, emotional intelligence, and participatory decision-making.

Future research should explore how narcissism in school leadership impacts areas such as school governance, teacher-principal relationships, and student outcomes. Longitudinal studies could offer insights into the long-term effects of narcissistic traits on leadership effectiveness. Investigating professional development initiatives—especially those that cultivate emotional intelligence—may support school leaders in managing narcissistic behaviours and fostering more inclusive and collaborative school cultures.

Moreover, future studies should examine the role of cultural, societal, gender, and educational background factors in shaping narcissistic leadership styles. Understanding these influences can inform the design of more context-sensitive leadership training. Research should also focus on the consequences of narcissistic leadership on teacher well-being, stress, and overall school climate. Cross-cultural comparisons can provide a broader perspective on how narcissism manifests in different educational systems. Finally, developing reliable assessment tools to identify narcissistic tendencies in school leaders could support early intervention and promote healthier, more effective school leadership practices.

Limitation

This study is limited by its qualitative design and the relatively small sample size of 20 participants. While the use of maximum variation sampling aimed to capture diverse perspectives, the findings are not generalizable to all teachers. The results reflect the views of a specific group of teachers working in public schools in Turkey during the 2024–2025 academic year and should be interpreted within this context.

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Data availability: The data supporting this study's findings are available from the corresponding author upon reasonable request.

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Chapter 3

EFFECTS OF EDUCATIONAL SCREEN MEDIA ON EARLY CHILDHOOD DEVELOPMENT: A SYSTEMATIC REVIEW

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Introduction

Individuals in early childhood are frequently exposed to screen-based content through television, smartphones, tablets, computers, and game consoles, which have become part of their daily lives. The use of these devices is quite common among children, who are able to use them independently from the age of 3 (Kabali et al., 2015). For example, in the United States, 84% of children aged 2-4 years use media for an average of 2.5 hours per day (Rideout and Robb, 2020). In Turkey, as of 2024, 76.1% of children use smartphones, and the rate of internet use increased from 82.72% in 2021 to 91.3% in 2024 (TÜİK, 2024). With the intensive use of digital devices by children, they appear as "digital natives" or "digital children" (Shakirova, 2017; Yıldız and Kanak, 2021). The activities of these children in digital tools occur in various forms, such as playing games, participating in e-learning activities, watching videos, accessing search engines, or simply making phone calls (Goh et al., 2015).

The widespread access of children to screen-based content has brought about various discussions. On the one hand, screen-based activities can stimulate the development of a child's imagination, creativity, and vocabulary; on the other hand, they can cause obesity risk, attention, and sleep problems (Livingstone and Pothong, 2022; Hartstein et al., 2024; Gortmaker et al., 1996; Jing et al., 2023; Tamana et al., 2019; Zimmerman and Christakis, 2007). One of the main activities of children on digital devices is accessing screen media (Kabali et al., 2015); however, exposure to inappropriate content on these platforms brings with it the possibility of harm and abuse (Uzun, 2018). While individuals of all age groups are affected by media exposure, this effect is greater on individuals in early childhood (Paik and Comstock, 1994).

Although early childhood refers to the period between 0-8 years (UNICEF, 2001), children are at a critical stage of their physical and mental development (Shonkoff et al., 2012). Experiences during this period; by affecting epigenetic, immunological, physiological, and psychological mechanisms, it is an important determinant of the individual's lifelong health and well-being (Britto et al., 2017; Halfon and Hochstein, 2002). Therefore, the interaction between biological structures and environmental factors; significantly affects the child's developmental readiness, physical and psychological well-being, school success, and quality of life in adulthood (Shonkoff et al., 2000; McEwen and McEwen, 2017; Strathearn et al., 2020). In this context, screen media is one of the environmental factors that children frequently encounter, and its role in the development of the child has become an important topic of study for researchers.

The impact of screen media on a child's development depends on many factors. These factors; It can be the content type, usage style, usage time, usage age, and parental support during usage of the media. (Kirkorian et al., 2008; Wong, 2019; Dore et al., 2023). In particular, screen media tends to be classified according to its educational characteristics in developmental studies (Ardıç and Irmak, 2018; Kabali et al., 2015; Jing et al., 2023). Zimmerman and Christakis (2007) classified media content in their study as "educational", "non-violent entertainment" and "violent entertainment". The study showed that exposure to both types of entertainment content before the age of 3 poses a significant risk for the development of attention problems in later years; It found that exposure to educational media content does not pose such a risk. In addition, a longitudinal study conducted in the USA between 1986 and 1990 found a significant relationship between television viewing time and obesity. (Gortmaker et al., 1996). Another study found that increasing overall screen time negatively affects children's sleep health (Hartstein et al., 2024). Zimmerman and Christakis (2007) stated that non-educational media content has longer scene durations. In this context, non-educational media content may not be designed to suit children's developmental needs and may have negative consequences on their development. Educational screen media differs from non-educational screen media content in terms of its effects on children's development. This situation reveals the necessity of handling educational screen media under a separate heading.

Educational Screen Media

Educational media includes content produced in line with instructional goals to equip individuals with academic skills, life skills, prosocial behaviors, and moral values (Dore et al., 2023). Rideout (2014) and Fisch (2004) state that educational media is designed as instructional content that attracts children's attention by offering experiences that encourage exploration. In this study, the concept of "educational screen media" is examined when these educational contents are accessed through screen-based devices such as televisions, computers, and mobile devices.

Educational screen media is designed in various digital formats, which can include television programs (Khan & Paracha, 2019), animated series, digital games (Ongoro & Fanjiang, 2023), digital software (Dickinson & Bass, 2020), and internet-based content (Fredericks et al., 2015). For example, "Benimle Oynar Mısın?" was prepared by the Mother Child Education Foundation in a television program format to support the development and school readiness of children aged 4-6 years (Baydar et al., 2008). Educational digital games, on the other hand, are designed to provide individuals with specific knowledge and skills (Bétrancourt, 2005). As of the 1980s, the digital games "Snooper Troops" in 1982 to support problem-solving skills, and "Where in the World is Carmen Sandiego" in 1985 to improve geography knowledge, began to be published

(Bétrancourt, 2005). In the mid-1990s, with the rapid spread of internet technologies, the topic of internet-based learning has also gained importance (Schroeder, 2009). Web 2.0 tools can be used in the field of education for various purposes such as accessing information, interactive storytelling, video chatting, collaborative file editing and sharing (Richardson, 2008). Finally, educational media content appears as software-based produced content. Educational software can assume a function that supports the learning process by offering text, audio, videos, images, and interactive elements (Tzur et al., 2020). The concept of educational software includes various tools and applications. Among these tools are applications such as Khoot! and H5P, which allow the creation of interactive activities and virtual experiences, while there are also applications such as Khan Academy Kids, Duolingo ABC and ABCmouse, which aim to support children's academic skills.

Educational screen media content designed by considering the developmental needs of children has the potential to support the development of many children around the world (Borzekowski et al., 2023; Borzekowski et al., 2019b). The children's program "Sesame Street", which began broadcasting in 1969, has been an important turning point in terms of the educational function of screen media by presenting a model that supports children's development processes (Fisch et al., 1999). It has been broadcast in more than 150 countries around the world, including localized versions produced based on the original template in the USA (Sesame Workshop, 2024). In this context, Sesame Street is evaluated as an important example and intervention program of educational screen media. Mares and Pan (2013) found positive developments in the arithmetic, basic literacy, hygiene, and social skills of children who watched Sesame Street in their meta-analysis study.

There are also studies reporting some negative effects of educational screen media on children's social development. For example, Ostrov et al. (2006) reported in their study on 78 preschool children that exposure to educational screen media may be associated with relational aggression in later periods.

One of the indirect effects of educational screen media can also be observed on parent-child relationships. Educational media can increase play interaction between parent and child and can encourage the parent's motivation to read more books to their children (Pempek et al. 2011). Cohi et al. (2018), on the other hand, revealed that educational screen media watched in the home environment of low-income families does not encourage parents to participate in activities that support their children's cognitive development. In this context, the effects of educational screen media on parent-child interaction vary.

In the field, the developmental effects of educational screen media have been meticulously examined by researchers, and it has been determined that a considerable number of studies in this area have been added to the literature

(Borzekowski & Macha, 2010; Choi et al., 2018; Neuman et al., 2019). However, the findings of existing research may vary. Examining these findings in the literature through a systematic review approach will enable a holistic evaluation by providing clear criteria and a methodological framework. In this context, conducting a systematic review addressing the effects of educational screen media on the development of individuals in early childhood is predicted to make significant contributions to the field.

Current Study

Within the scope of this review study, a systematic literature review was conducted to understand the effects of educational screen media on the development of individuals in early childhood. The study focused on the following research questions:

1. What are the effects of educational screen media, as addressed in the research, on the different developmental areas of individuals in early childhood, and what similarities and differences have been observed in the results obtained regarding these effects in the studies conducted?

2. What methodological approaches and measurement tools have been used in studies to examine the effects of educational screen media on children's developmental areas?

3. What are the main characteristics of educational screen media content in the studies, and through which digital devices has it been presented?

Method

This review was prepared using the systematic review method, which is among the scientific research methods. In the systematic review method, studies on a specific topic are synthesized and reported by thoroughly scanning them with inclusion and exclusion criteria (Yılmaz, 2021). Thus, it allows complex, scattered, and conflicting data in the literature to be examined in a concise and orderly manner. When done with appropriate methods, systematic reviews can provide strong evidence to the relevant literature (Çınar, 2021; Karaçam, 2013). "Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) guidelines were used to comprehensively report the study and ensure the suitability of the search strategy and the reliability of the findings (Page et al. 2021).

Research Strategy

Within the scope of the research, appropriate keywords were determined, and a search was conducted on the Web of Science (WOS) database in November 2024. WOS stands out with its advanced search engine features that provide access to reliable literature. The use of only the WOS database was preferred because it allows keywords to be used appropriately for the research purpose and diversified to conduct a broader literature review. The following

keywords were used to target early childhood: ("preschool" OR "early childhood" OR "kindergarten" OR "young children" OR "preschoolers"). The word "educational" was preferred to reach media content with direct educational value, emphasizing the educational perspective of the content. Accordingly, ("educational technology OR "educational media") keywords were used. To reach studies examining the effects of educational media on early childhood development, the keyword "development" was used, which is frequently used in the literature and allows development to be defined from many perspectives. Keyword groups were combined with the "AND" operator, and searches were carried out in the "topic" section of the search engine.

Eligibility Criteria

Eligibility criteria were determined for the studies to be included in the research. There are five criteria for the content of the studies to be included. The first criterion is that the age group examined in the article must be between 0-8 years. If the average age of the researched group is over 8 years, it has not been included in the systematic review. The second criterion is that the group included in the research must show normal development processes. Since the evaluation of children who differ in terms of normal development processes requires different methodological approaches, studies involving children with special needs have not been included. The third criterion is that the research must contain educational media content. This media content must be directly defined as educational by the article authors or its educational value must be clearly determined. The fourth criterion is that the identified educational media must be transmitted via a screen. Finally, the fifth criterion is that the effect of educational screen media on the development of individuals in early childhood must have been directly examined.

Studies for which the full text was not available were not included. In accordance with the scope of the research, reports, compilations, and editorial content were excluded, and only research articles were included. Another inclusion criterion is that the research must be written in English. In addition, no restrictions were placed on the publication dates of the studies.

Data Collection

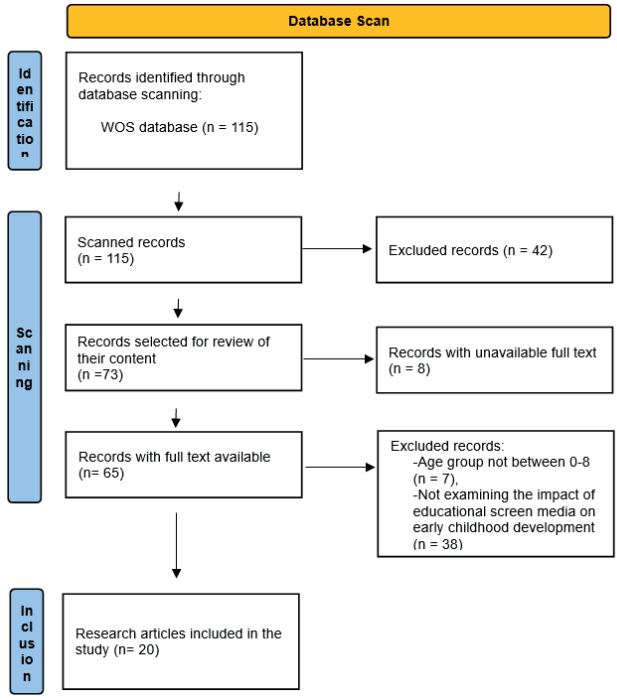
The flow followed in the data collection process is shown in the PRISMA diagram presented in Figure 1. In the preliminary screening conducted before applying the inclusion criteria, 115 results were obtained. Only research articles were included, and 25 results consisting of reports, compilations, and editorial content were excluded. In addition, 17 more articles that were not written in English were excluded. As a result, a total of 73 articles were identified for the evaluation of their content. The full texts of 8 of the 73 articles identified could not be accessed. The full texts of the 65 articles obtained were examined, and studies that did not meet the specified criteria were excluded from the

scope of the research. Following the reviews, 7 research articles that did not cover individuals aged 0-8 years were excluded. This includes: a) children whose average age was outside of 0-8 and b) samples including parents or teachers. Finally, 38 articles that did not examine the effect of educational screen media on early childhood development were not included in the study. This includes: a) the absence of educational screen media intervention and b) the failure to examine the effect of educational screen media content on the child's development or the presence of uncertainty in the effects on the child's development criteria. At the end of the process, 20 articles that were determined to be eligible were included in the study.

Data Extraction

The specified data were extracted for each article: (1) first author and year of publication of the study, (2) country in which the study was conducted, (3) design and method of the study, (4) characteristics of the participants and sample size, (5) characteristics of the identified educational screen media, (6) device through which the media content was presented, (7) which developmental areas of children aged 0-8 years were affected by the educational screen media, (8) how the measurements regarding the effect on children's development were made, (9) main findings of the study; this identified information was recorded in a summary table and is shown in Appendix-1.

Figure 1. PRISMA Flow Diagram



Findings

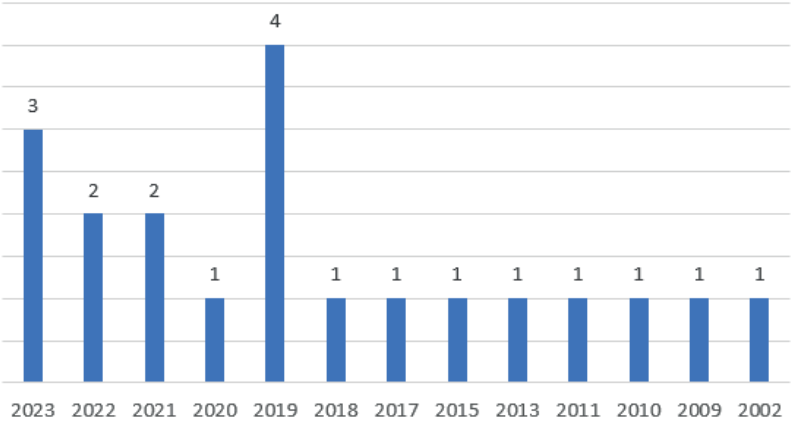
The findings obtained as a result of the examination of 20 articles that met the inclusion criteria are presented in this section. Table 1 presents the general characteristics of the studies: authors of the studies, years of publication, countries in which they were conducted, and methodologies used; characteristics of the research group, mean ages, and standard deviations (SD); developmental areas addressed in the studies, children's exposure times to educational screen media (ESM), and measurement tools with which developmental outcomes were evaluated; general characteristics of educational screen media and the tools with which they were transmitted. In addition, the main findings are also included in the table. If no data are available under the relevant heading, the relevant field has been left blank.

Publication Dates of the Studies

The publication dates of the articles examined within the scope of the systematic review vary between 2002 and 2023. The distribution of the research by year is visualized in Figure 2. As a result of the searches conducted with the identified keywords, it was determined that no study was published between 2003-2008, and it was observed that this period constituted a 6-year gap. In addition, no study older than 2002 was found.

According to the data obtained, a significant increase in the number of publications has been observed since 2019. In particular, a total of 12 studies were published in the 5-year period between 2019-2023. In contrast, 8 studies were published in the 17-year period between 2002-2018. This indicates that the topic has attracted more attention in recent years and that the intensity of work has increased.

Figure 2. Distribution of Articles by Year of Publication

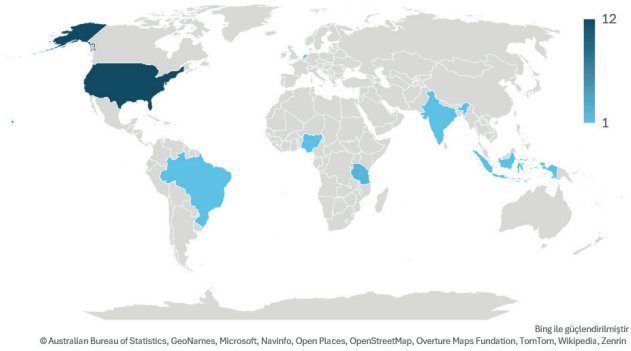


Countries Where Studies Were Conducted

The distribution of countries where the studies were conducted is presented in Figure 3. Twelve of the studies were conducted in the United States of America (USA), making this country by far the location with the most studies. While 2 studies were conducted in Tanzania, the remaining 6 studies were conducted in different countries.

The distribution of continents where the studies were conducted is visualized in Figure 3. Twelve of the 20 studies reviewed were conducted in North America, and 4 were conducted in Africa. The other 4 studies were conducted in Europe, South America, and Asia. Although the number of studies conducted on these 3 continents is limited, the inclusion of these studies has made it possible to examine at least 1 study from 5 of the world's most populous continents.

Figure 3. Distribution of Countries Where Studies Were Conducted



Characteristics of Sample Groups Included in Studies

The sample sizes of the studies range from n = 25 to n = 1340. The ages of the children in the sample group range from 6 months to 86.56 months. Seventeen of the studies reviewed targeted children in preschool education, while 2 included children attending the first grade. In addition, one study was conducted on mother-infant pairs. In total, 14 studies examined the development of children in low socio-economic environments. Two of these studies focused on the developmental outcomes of bilingual children in low socio-economic environments. There is also 1 study on migrant children. In this context, 15 studies examined the developmental effects of EEM on disadvantaged groups.

Methodologies of Studies

Nineteen of the studies were conducted with a quantitative method, and 1 with a mixed method. Seventeen of the quantitative studies used an

experimental or quasi-experimental design, while 2 used a longitudinal design.

Developmental Areas Addressed in Studies

The developmental areas and sub-dimensions addressed by the studies; are classified under the headings of cognitive, language, social and emotional, physical and health. The distributions of the studies regarding these classifications are presented in Table 2. Since some of the studies examined (Borzekowski et al., 2019a; Dore et al., 2023) cover more than one developmental area and sub-dimension, this has resulted in them being listed more than once in the table. Therefore, the total number of studies indicated in Table 2 appears to be more than 20, which is the total number of studies included in our systematic review.

Seven of the studies focused on cognitive development and its sub-dimensions: problem-solving skills, numerical skills, color knowledge, and shape knowledge. Sixteen studies examined language development and its sub-dimensions: literacy skills, early sign language skills, vocabulary acquisition, second language acquisition, story knowledge, and narrative skills. Eight studies addressed socio-emotional development and its sub-dimensions: mother-child interaction, environmental and cultural awareness. Finally, 6 studies addressed health and physical development; and examined sub-dimensions such as health knowledge, body awareness, safety knowledge, and drawing skills. A large part of the studies evaluated within the scope of the systematic review focused on language development and related sub-dimensions.

Table 2. Distribution of Studies by Developmental Areas and Sub-Dimensions Addressed

	n
Cognitive development	**7**
Problem-solving skills	1
Numerical skills	6
Color knowledge	2
Shape knowledge	3
Language development	**16**
Literacy skills	10

Early sign language skills	1
Vocabulary acquisition	5
Second language acquisition	3
Story knowledge and narrative skills	2
Social and emotional development	**8**
General social and emotional skills	7
Mother and child interaction	1
Environmental awareness	1
Cultural awareness	1
Health and physical development	**6**
Health knowledge	6
Body awareness	1
Safety knowledge	1
Drawing skills	1

Effects of Educational Screen Media Types and Contents Addressed in Studies on Early Childhood Development

The type of EEM content was classified by taking into account the data reported by the authors in their studies. Data on these contents are presented in detail in Table 1. In this context, the contents are grouped under four main headings: educational animation series, educational children's program, educational game, and educational software.

Educational animation series are produced with animation techniques and interact with viewers through visual and auditory stimuli. For example, content such as Akili and Me, Pinky Dinky Doo, and Clifford the Big Red Dog are included in this group. Educational children's programs, in addition to interacting with viewers through visual and auditory stimuli, differ from educational animation series in terms of production techniques by combining live shots, puppets, and animation elements. Productions such as Sesame Street, Peter's Picture, and Zoboomafoo are examples of this type. Educational games offer an interactive structure that encourages learning through active user participation. These games offer children a process of completing tasks, solving problems, earning rewards, and increasing their learning motivation. For example, Escribo Play is an application in this group. Educational

software analyzes children's learning levels through interactive experiences and provides learning materials suitable for these levels. In addition, it supports the education process by providing teachers with detailed feedback on children's learning levels. Schatkist met de Muis is an example of this type of software.

The distributions of EEM types and content examined in the studies are given in Table 3. Since some studies (Kennedy et al., 2022) addressed more than one type of EEM, the total number of EEM contents examined exceeds the number of 20 studies included in the systematic review. Eight of the studies examined 10 media contents in the educational animation series genre. In this context, Akili and Me and its adaptations were the most studied educational animation series, being addressed in 3 studies. Richert and Schlesinger (2017) stated that they used 3 videos from different popular educational animation series in their studies, but did not specify the names of the contents. The other 6 educational animation series were examined in only one study each. The number of studies focusing on educational children's programs is 9, evaluating a total of 3 educational children's programs. The most studied content in this genre was Sesame Street and its adaptations, which were addressed in 7 studies. The other 2 educational children's programs were evaluated in only one study. In the 2 studies conducted on educational games, they addressed educational games based on Escribo Play and the world of Molly of Denali. In addition, 1 study focused on the educational software called Schatkist met de Muis. Finally, 3 studies examined children's exposure to EEM content based on parent reports and time diaries. These studies did not focus on a specific media type or content and made a more general evaluation.

Table 3. Distributions of Educational Screen Media Types and Contents Addressed in the Studies

	n
Educational animation series	**12**
Akili and Me and its adaptations	3
Molly of Denali	1
Bubble Gubbies	1
Martha Speaks	1
Peep and the Big Wide World	1
Pinky Dinky Doo	1
Clifford the Big Red Dog	1
Other	3
Educational children's program	**9**
Sesame Street and its adaptations	7
Peter's Picture	1
Zoboomafoo	1
Educational game	**2**
Molly of Denali game	1
Escribo Play	1
Educational software	**1**
Schatkist met de Muis	1

Effects of Educational Animation Series on Early Childhood Development

The exposure durations, transmitted tools, and developmental outcomes of educational animation series are summarized in Table 4. In addition, children's exposure durations in the table are categorized as "short-term" for 1 day and less, "mid-term" for durations between 2 and 7 days, and "long-term" for durations longer than 7 days.

All of the 8 relevant studies reported that educational animation series had positive effects on children's developmental areas. None of the studies found any evidence that educational animation series had a negative impact on children's development. In 6 of these studies, positive effects were observed especially on language development, which was the most researched developmental area. In terms of content, the educational animation series

Akili and Me stands out due to its positive effects in the areas of cognitive, language, socio-emotional, physical, and health development. In the next section, the effects of educational animation series in the areas of cognitive, language, socio-emotional, physical, and health development will be discussed in detail.

Table 4. The Effects of Educational Animation Series on Development

Study	EEM Content	EEM Type	Tool	Exposure Time	Age (Month)	Development Area	Effect
Borzekowski ve ark., 2023	Akili and Me	Educational animation series	Television	Long	61.2	Cognitive	Positive
						Language	Positive
						Socio-emotional	Positive
						Physical and Health	Positive
Kauffman ve ark., 2022	Akili and Me	Educational animation series	-	Long	63.84	Cognitive	-
						Language	-
						Socio-emotional	Positive
						Physical and Health	Positive
Borzekowski ve ark., 2019b	Akili and Me	Educational animation series	-	Long	85.2	Cognitive	Positive
						Language	Positive
						Socio-emotional	-
						Physical and Health	Positive
Kennedy ve ark., 2022	Molly of Denali	Educational animation series	Tablet	Long	86.56	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Wong ve ark., 2021	Bubble Guppies	Educational animation series	-	Short	52.52	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Wong ve ark., 2021	Martha Speaks	Educational animation series	-	Short	52.52	Cognitive	-
						Language	Neutral
						Socio-emotional	-
						Physical and Health	-
Neuman ve ark., 2021	Peep and the Big Wide World	Educational animation series	Computer	Short	52.56	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Linebarger ve Piotrowski, 2009	Pinky Dinky Doo	Educational animation series	Television	Long	54.48	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Linebarger ve Piotrowski, 2009	Clifford the Big Red Dog	Educational animation series	Television	Long	54.48	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Richert and Schlesinger, 2017	Other	Educational animation series	Television	Short	63.48	Cognitive	Positive
						Language	-
						Socio-emotional	-
						Physical and Health	-

Effects of Educational Animation Series on Cognitive Development

All 3 studies examining the effect of educational animation series on cognitive development reported positive effects. Borzekowski et al. (2019b, 2023), in their studies with the educational animation series Akili and Me, addressed children's numerical skills, color and shape knowledge. In both studies, positive effects were observed on numerical skills and color knowledge. However, while a positive effect was also detected in shape knowledge in the 2019 study, this effect was not repeated in the 2023 study. Richert and Schlesinger (2017), on the other hand, reported that children exposed to educational animation series containing fantastic elements related to the problem-solving process remembered the solution better compared to other groups.

Effects of Educational Animation Series on Language Development

There are 6 studies addressing the effects of educational animation series on language development. Borzekowski et al. (2019b, 2023) found that the educational animation series Akili and Me had positive effects on early literacy skills. However, their 2023 study revealed that the content did not support English learning as a second language. Wong et al. (2021) found that children exposed to the audience participation-promoting content Bubble Guppies remembered words learned in a second language better than children exposed to the narrative format content Martha Speaks. Linebarger and Piotrowski (2009) determined that children exposed to narrative content such as Pinky Dinky Doo and Clifford the Big Red Dog performed better in story knowledge compared to children exposed to explanatory content and the control group. In addition, although children exposed to narrative types scored higher in narrative skills compared to other groups, this difference was not found to be statistically significant. These studies show that differences in presentation formats and configurations of educational screen media content lead to diversification of the effects on language development. Kennedy et al. (2022) stated that Molly of Denali content supports children's informative text comprehension and usage skills. Finally, Neuman et al. (2021) found that children exposed to Peep and the Big Wide World learned words from educational media. However, they did not detect a significant change in children's story comprehension and recall levels.

Effects of Educational Animation Series on Social and Emotional Development

The effect of educational animation series on social and emotional development has been examined by only 2 studies (Borzekowski et al., 2023; Kauffman et al., 2022). The studies addressed the educational animation series Akili and Me and found that it had a positive effect on children's socio-emotional skills.

Effects of Educational Animation Series on Health and Physical Development

The 3 studies addressing animation series have focused on children's health knowledge development (Borzekowski et al., 2023; Kauffman et al., 2022; Borzekowski et al., 2019b). These studies have identified significant improvements in the health knowledge of children who watched the educational animation series Akili and Me. However, Borzekowski et al. (2019b), who examined the effect of the Akili and Me series on children's physical development, did not detect a significant change in children's drawing skills.

Effects of Educational Children's Programs on Early Childhood Development

9 of the studies examined the effect of educational children's programs on children's developmental areas. 8 of these studies reported positive effects of educational children's programs, while 1 study did not detect a significant effect. 3 studies addressed developmental areas in a holistic way; the other 6 studies focused on language development. Sesame Street and its adaptations were examined by 7 studies, and this program has been the most researched educational screen media content in terms of its impact. 3 of the 7 relevant studies addressed the India, Indonesia, and Tanzania adaptations of the Sesame Street program. Studies examining Sesame Street and its adaptations have reported positive effects on cognitive, language, socio-emotional, health, and physical development areas. Educational animation series; exposure times, vehicles through which they are transmitted, and developmental outcomes are summarized in Table 5.

Table 5. The Effects of Educational Children's Programs on Development

Study	EEM Content	EEM Type	Tool	Exposure Time	Age (Month)	Development Area	Impact
Wong ve Neuman, 2023	Sesame Street	Educational children's program	-	Short	55.39	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Wong ve ark., 2021	Sesame Street	Educational children's program	-	Short	52.52	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Borzekowski ve ark., 2019a	Sesame Street adaptation	Educational children's program	Television	Long	3-7 years old	Cognitive	Positive
						Language	Positive
						Socio-emotional	Positive
						Physical and Health	Positive

Samudra and Ark., 2019	Sesame Street	Educational children's program	Computer	Short	53	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Neuman ve ark., 2019	Sesame Street	Educational children's program	Computer	Short	52.68	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Borzekowski ve Henry, 2011	Sesame Street adaptation	Educational children's program	-	Long	58.8	Cognitive	Positive
						Language	Positive
						Socio-emotional	Positive
						Physical and Health	Positive
Borzekowski ve Macha, 2010	Sesame Street adaptation	Educational children's program	Television	Long	71	Cognitive	Positive
						Language	Positive
						Socio-emotional	Positive
						Physical and Health	Positive
Moses ve ark., 2015	Peter's Picture	Educational children's program	Television	Short	47,28	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Linebarger ve Piotrowski, 2009	Zoboomafoo	Educational children's program	Television	Long	54.48	Cognitive	-
						Language	Neutral
						Socio-emotional	-
						Physical and Health	-

Effects of Educational Children's Programs on Cognitive Development

3 of the studies (Borzekowski et al., 2019a; Borzekowski and Henry, 2011; Borzekowski and Macha, 2010) examined the effects of local adaptations of the educational children's program Sesame Street on children's cognitive skills, numerical abilities, and shape knowledge. The findings show that the program has positive effects on children's cognitive development. For example, Borzekowski and Macha (2010) found that the Tanzania adaptation of Sesame Street provided significant improvements in children's number awareness, counting skills, and arithmetic abilities. Borzekowski and Henry (2011) observed positive gains in number awareness and counting skills in addition to the general improvement in children's cognitive skills in the Indonesian adaptation, but did not find a similar improvement in arithmetic skills. Finally, Borzekowski et al. (2019a) stated that

children in the India adaptation showed a marked improvement in the area of shape knowledge, while gains in numerical skills remained limited. These studies reveal that the effects of the educational children's program Sesame Street on children's developmental areas may vary depending on various factors. Possible reasons for these differences include sample characteristics, environmental factors, and the differentiation of the tools used to measure children's developmental outcomes. In addition, the localization of the Sesame Street program may have created significant changes in both content and format.

Effects of Educational Children's Programs on Language Development

All 9 studies examining educational children's programs addressed language development and its sub-dimensions. In this context, the effects of educational children's programs on literacy skills, early sign language skills, vocabulary acquisition, second language acquisition, story knowledge, and narrative skills were examined. Eight of the studies revealed that educational children's programs had positive effects on language development, while 1 study did not detect a significant change.

Seven of the 9 relevant studies examined the Sesame Street educational children's program and its adaptations. Studies addressing Sesame Street adaptations have focused particularly on children's literacy skills. For example, Borzekowski and Macha (2010) found significant gains in early literacy skills, especially letter awareness, in children watching the Tanzanian adaptation of Sesame Street. Similarly, Borzekowski et al. (2019a) examined the Indian adaptation and supported previous findings by determining that children watching this program demonstrated higher performance in early literacy skills. On the other hand, Borzekowski and Henry (2011), in their study examining the Indonesian adaptation, were unable to detect a significant improvement in early literacy skills, although they observed improvements in letter awareness.

Neuman et al. (2019) examined the effect of visual effects, sound effects, definitions, and repetition pedagogical supports in Sesame Street clips on children's vocabulary acquisition. The research revealed that children exposed to visual and sound effects were better able to recognize words in a new context compared to those receiving definition and repetition support. Wong and Neuman, in their 2023 study, revisited pedagogical supports, examining how these supports affect second language vocabulary acquisition in bilingual children and revealed that four different pedagogical supports aided vocabulary acquisition.

Linebarger and Piotrowski (2009) examined the effect of educational media content presented in explanatory and narrative formats on children's story knowledge and narrative skills. The research determined that the

Zoboomafoo educational children's program, prepared in an explanatory format, did not create a significant change in children's story knowledge and narrative skills. Wong et al. (2021), on the other hand, examined the effects of explanatory, narrative, and child participation-promoting formats on children's second language vocabulary acquisition. The research found that children exposed to the Sesame Street educational children's program in an explanatory format and to an educational animation series in a participatory format remembered words learned in the second language better compared to the narrative format.

Samudra et al. (2019) examined the effect of children co-viewing the Sesame Street educational program with adult support on their vocabulary acquisition. Children in the co-viewing group received additional support from adults while watching the clips, such as concept repetition, engaging explanations, and gestures. The study showed that children were able to learn vocabulary from the educational program. However, they did not find a significant effect of co-viewing on vocabulary acquisition.

Finally, Moses et al. (2015) created an audio version of the Peter's Picture educational children's program, previously designed for hearing-impaired children using American Sign Language, and examined its effect on early literacy and early sign language skills in hearing children. The study determined that hearing children exposed to the program showed positive improvements in early sign language skills. However, the results in early literacy and phonological awareness skills differed according to the measurement tool.

The "Peter's Picture Assessment Tool," which evaluated early literacy skills using video content, showed a significant improvement in children's early literacy skills. However, measurements made with the "Phonological Awareness Literacy Screening" (PALS-PreK) tool, although a slight increase was observed, were not found to be statistically significant. This situation reveals that the characteristics of the measurement tool used when evaluating the effects of educational children's programs on language development can create differences in the interpretation of the results.

Effects of Educational Children's Programs on Social and Emotional Development

All 3 studies examining the effect of educational children's programs on social and emotional development addressed adaptations of the Sesame Street program. Borzekowski and Macha (2010) identified significant progress in the social and emotional development areas of children watching the Tanzanian adaptation of Sesame Street. Borzekowski and Henry (2011), on the other hand, revealed that in addition to the gains in children's socio-emotional skills, there were also significant improvements in their cultural

and environmental awareness. Finally, Borzekowski et al. (2019a) in their research with the Indian adaptation; children made small but positive progress in their socio-emotional skills.

Effects of Educational Children's Programs on Health and Physical Development

Three different studies examining the effects of educational children's programs on health and physical development have addressed various adaptations of the Sesame Street program. The study by Borzekowski and Macha (2010) observed significant improvements in children's knowledge levels, especially regarding HIV and malaria. However, no significant change in health-related behaviors was detected. In a similar study, Borzekowski and Henry (2011) observed an increase in children's awareness of healthcare personnel and vaccines; however, they did not detect any significant improvement in general health knowledge and awareness of their bodies. Finally, another study by Borzekowski et al. (2019a) observed a small but positive effect on the health knowledge of children who watched the Indian adaptation of the Sesame Street program.

Effects of Educational Games on Early Childhood Development

Only 2 studies have examined the effect of educational games on children's development. Both of these studies focused on children's language development and used the tablet tool for content delivery. Kennedy et al. (2022) examined a digital game based on the world of Molly of Denali and found that it did not have a significant effect on children's ability to understand and use informative texts. Amorim et al. (2020), on the other hand, examined the effect of an educational program supported by Escribo Play, designed in a mobile game format, on children's literacy skills. The findings of the study revealed that there was a positive development in the literacy skills of children exposed to the educational game. However, no significant improvement was detected in children's phonological awareness. Educational games; exposure times, delivery tools, and developmental outcomes are summarized in Table 6.

Table 6. The Effects of Educational Games on Development

Study	EEM Content	EEM Type	Tool	Exposure Time	Age (Month)	Development Area	Effect
Kennedy ve ark., 2022	Digital game based on the Molly of Denali theme	Educational game	Tablet	Long	86.56	Cognitive	-
						Language	Neutral
						Socio-emotional	-
						Physical and Health	-
Wong ve ark., 2021	Escribo Play	Educational Game	Tablet	Long	56	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-

Effects of Educational Software on Early Childhood Development

Segers and Verhoeven (2002) conducted two studies to examine the effect of the educational software called Schatkist met de Muis on the vocabulary of migrant children. In their first study, they found significant gains in the vocabulary of children exposed to educational software. In their second study, they repeated this finding and found that the gains in children's vocabulary continued even 1 month after the training. Educational software; exposure time, delivery tool and developmental outcomes are summarized in Table 7.

Table 7. The Effects of Educational Software on Development

Study	EEM Content	EEM Type	Tool	Exposure Time	Age (Month)	Development Area	Effect
Segers ve Verhoeven, 2002	Schatkist met de Muis	Educational Software	Computer	Medium	65.4	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-
Segers ve Verhoeven, 2002	Schatkist met de Muis	Educational Software	Computer	Long	57.3	Cognitive	-
						Language	Positive
						Socio-emotional	-
						Physical and Health	-

Effects of Educational Screen Media Content Reported in Parent Diaries and Reports on Early Childhood Development

Reporting EEM content through parental diaries and reports is an important source of data for understanding the effects of children's exposure to this content in their natural environments on their development. Three studies conducted in this context have particularly focused on children's socio-emotional development. The findings show that the effects of EEM content exposed in the natural environment on children's socio-emotional development differ. For example, in a study conducted by Dore et al. (2023), it was determined that the EEM content reported by parents in 24-hour time diaries had positive effects on children's behavior control, task focus skills, and self-confidence. However, other findings show that these effects are not always positive. Ostrov et al. (2013) revealed that children exposed to media content defined as educational by parents may exhibit increased relational aggression even after 2 years. In a longitudinal study conducted by Choi et al. (2018), it was found that exposure to EEM content did not support the interactions of mother-infant pairs with low social environments.

Table 8. The Effects of Educational Screen Media Content Reported in Parent Diaries and Reports on Development

Study	EEM Content	Age (Month)	Development Area	Effect
Dore et al., 2023	The contents that the children were exposed to were coded according to their educational value after being recorded in 24-hour time diaries	55.39	Cognitive	Neutral
			Language	Neutral
			Socio-emotional	Positive
			Physical and Health	-
Choi ve ark., 2018	The media contents that the children were exposed to at home were recorded with retrospective time diaries and categorized according to their educational values	6.00 14.00 24.00 36.00	Cognitive	-
			Language	-
			Socio-emotional	Neutral
			Physical and Health	-
Ostrov ve ark., 2013	The educational value of the media content that children were exposed to was reported by parents.	42.44	Cognitive	-
			Language	-
			Socio-emotional	Negative
			Physical and Health	-

Conclusion

This systematic review aimed to evaluate the impact of EEM content on the development of children aged 0-8 years. As a result of the review, it was determined that the types of educational media content addressed in the studies were divided into four groups: educational animation series, educational children's programs, educational games, and educational software. All 8 studies conducted to examine the effect of animation series on children's development reported positive results. Of the 9 studies examining educational children's programs, 8 reported a positive effect and 1 reported a neutral effect. Of the 2 studies on educational games, 1 found a positive effect and the other found a neutral effect. The only study on educational software also reported positive results.

Studies examining the effect of EEM content on children's development in structured research environments report positive or neutral findings. These studies were mostly conducted in school or controlled laboratory environments, under conditions where the characteristics of the media content and exposure times were clearly defined. In contrast, studies that based data such as the educational value and duration of the content to which children were exposed on parental reports showed a more variable picture of the impact of screen media on children (Choi et al., 2018; Dore et al., 2023). In addition, it showed the only negative developmental outcome identified within the scope of the systematic review (Ostrov et al., 2013). Parental reports are important in that they allow the examination of children's real-world EEM exposures. However, as a limitation, there are uncertainties about the extent to which

parents accurately assess the educational value of media content (Ostrov et al., 2013).

Studies have addressed the impact of EEM on children's development through cognitive development, language development, socio-emotional development, and physical and health development dimensions. The most focused area in the literature has been language development. The results regarding language development vary depending on the type of EEM, the presentation format, the way the content is structured, which skills are measured, and the relationships between these variables. For example, Wong et al. (2021) found that children exposed to content that encourages audience participation remember words they learned in a second language better than children exposed to narrative-formatted content. In this context, the interaction of these variables in all of the studies controls the positive or neutral effects without creating a negative effect in the sub-dimensions of language development.

EEM content also has a high potential to support gains in cognitive development, physical and health development, and socio-emotional development dimensions. Studies have shown that children's numerical skills, color knowledge, shape knowledge, and problem-solving skills are supported in the area of cognitive development; in the area of physical and health development, they have found that awareness of health personnel, diseases, and information about vaccinations has increased. However, studies have shown differences while repeating the results in the sub-dimensions of developmental areas. These differences did not emerge as negative results, but were observed on positive or neutral results. For example, Borzekowski et al. (2019b) found a positive effect on children's shape knowledge in their study with an educational animation series, but could not repeat this effect in their 2023 studies.

In general, EEM content designed in line with educational goals, with appropriately adjusted exposure times, and used under adult supervision as a support element in the educational process supports children's development. EEM is a low-cost method that can support children's development and education even in resource-limited and challenging regions (Borzekowski and Macha, 2010). In addition, EEM stands out as an important element in ensuring the sustainability of learning opportunities in cases where environmental disasters such as COVID-19 and earthquakes disrupt education (Borzekowski et al., 2023). Identifying educational media content and clearly distinguishing it from other media types is important for effective use in education. In this regard, a quality educational media content can be determined and announced to the public by creating an evaluation system based on criteria determined by experts. In addition, awareness programs should be organized for parents and educators to promote the conscious and effective use of educational media content.

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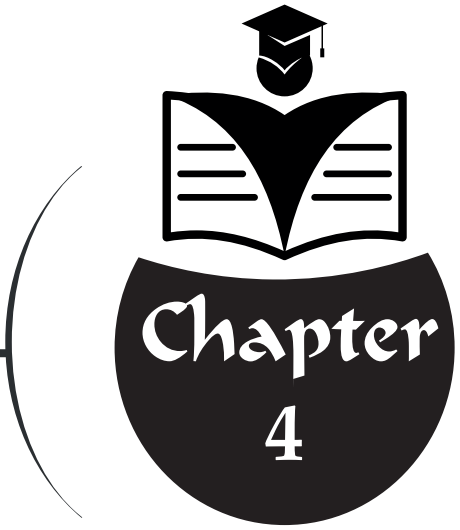

THE EFFECT OF PSYCHOLOGICAL SAFETY ON ORGANIZATIONAL BLINDNESS AMONG TEACHERS: THE MEDIATING ROLES OF ORGANIZATIONAL SILENCE AND INNOVATIVE WORK BEHAVIOR

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Introduction

Organizations are open social systems that must continuously interact with their environment to sustain their existence. In other words, they receive inputs such as information and resources from the outside, process them through internal mechanisms, and produce various outputs that are subsequently returned to the environment. In this way, organizations are influenced by their surroundings while simultaneously affecting them through the outputs they generate (Hoy & Miskel, 2013). This interaction process is typically explained through an input-process-output-feedback loop. One of the most critical components of this loop is undoubtedly feedback. Feedback from the environment allows organizations to assess their performance, identify and correct errors or deficiencies, and update their strategies. This cycle is crucial for enabling organizations to adapt to environmental changes, exploit opportunities, and respond effectively to emerging threats (Scott, 2003). However, in some cases, organizations may fail to perceive feedback from internal and external environments accurately. This perceptual limitation, referred to in the literature as "organizational blindness" or, in terms of visual analogy, "organizational myopia," prevents organizations from recognizing opportunities, threats, and risks arising from environmental changes. Borrowed from ophthalmology, the concept of myopia describes the eye's ability to see nearby objects clearly while failing to see distant ones, paralleling an organization's inability to detect long-term changes and opportunities (Seymen, Kılıç & Kinter, 2016). The origin of organizational blindness can be traced back to Levitt's (1960) concept of "marketing myopia," which illustrated how businesses, while focusing on marketing and growth, overlooked environmental opportunities. Over time, this concept evolved into what is now known as organizational blindness or organizational myopia (Huczynski & Buchanan, 1991; Catino, 2013). According to Huczynski and Buchanan (1991), organizational blindness occurs when an organization ignores problems or becomes accustomed to living with them. Catino (2013) defines organizational blindness as the barriers that prevent organizations from recognizing the challenges they must confront. Seymen, Kılıç, and Kinter (2016) describe it as the failure to perceive risks, opportunities, threats, problems, and changes in the internal and external environment due to factors such as habits, routines, adaptation mechanisms, focus on specific areas, and individual or organizational factors such as culture, leadership style, and industry structure.

Organizational blindness can lead to numerous obstacles and subtle issues within organizations, significantly affecting both the organization and its employees. Levinthal and March (1993) argue that organizations focusing on short-term objectives may neglect long-term innovation and opportunities. Similarly, Czakon, Klimas, Kawa, and Kraus (2023) highlight

that organizations and managers lose their capacity for innovation or adaptation when they fail to learn from past experiences and external resources. Golembiewski and Munzenrider (1988) suggest that excessive reliance on past successes and established routines can cause organizations to resist change, ignoring critical signals from their environment. This resistance and organizational inertia can blind organizations to environmental shifts and result in missed opportunities for innovation. Argyris (1991) emphasizes that such circumstances reduce innovative thinking and creativity among organizations and employees. Levinthal and March (1993) further argue that organizational blindness leads employees to miss development opportunities, resulting in job dissatisfaction and decreased motivation. Likewise, Czakon et al. (2023) note that obstructing employees' innovative ideas and solutions can cause dissatisfaction and psychological exhaustion. Moreover, employees who fail to adapt to innovations may miss career advancement opportunities (Huczynski & Buchanan, 1991). Organizational blindness also contributes to a monotonous organizational culture (Czakon et al., 2023) and slows organizational responses to environmental changes (Golembiewski & Munzenrider, 1988). Consequently, an organization's competitiveness diminishes (Tushman & O'Reilly, 1996). Deficiencies in information sharing and poor decision-making negatively impact organizational efficiency, leading to resource waste and lower performance (Argyris, 1991). Organizational blindness manifests in scenarios such as the repetition of the same work by the same personnel for extended periods, disregarding employee suggestions, weak external communication, resistance to development, internal conflicts, and reluctance to change. Additionally, excessive bureaucracy, adherence to the status quo, lack of vision and goals, autocratic management, and diminished employee motivation are among the consequences of organizational blindness (Güzel & Sığırcı, 2021).

As highlighted earlier, organizational blindness represents a significant challenge that weakens an organization's ability to adapt to environmental changes and seize opportunities. Minimizing the effects of organizational blindness and enhancing an organization's adaptability requires careful consideration of certain internal factors, particularly psychological safety, organizational silence, and innovative work behavior. Each of these factors can contribute to creating more flexible, innovative, and adaptive organizations, thereby reducing the risks and opportunity losses associated with organizational blindness. Consequently, understanding how these concepts interact and influence organizational blindness offers a valuable research avenue for improving organizational performance.

Psychological safety refers to employees' belief that they will not be punished or humiliated for sharing ideas, questions, concerns, or mistakes (Edmondson, 1999). Similarly, Kahn (1990) emphasizes that psychological

safety allows individuals the freedom to express themselves and make mistakes. According to Edmondson (1999), psychological safety enables employees to take risks, express ideas openly, and make mistakes without fear. When employees feel secure, they can generate new ideas and develop innovative solutions without apprehension (Edmondson & Lei, 2014). This safe environment not only fosters individual development but also promotes organizational learning. Schein (2010) regards psychological safety as a product of organizational culture and leadership behaviors. Cultural norms and leadership styles create conditions in which employees feel secure and are encouraged to innovate. Leaders play a crucial role in this process. Dirks and Ferrin (2002) note that leadership is critical in building trust within the workplace. When leaders cultivate a safe environment, employees are more productive, as they can take risks and demonstrate creativity (Sinek, 2014). Psychological safety enhances employees' sense of value, thereby increasing job satisfaction (Kark & Carmeli, 2009). Additionally, it facilitates open communication and collaboration among employees while fostering innovation, creative thinking, and problem-solving skills (Frazier, Fainshmidt, Klinger, Pezeshkan, & Vracheva, 2017).

Another concept closely associated with organizational blindness is organizational silence, which refers to employees' reluctance to share information, ideas, or suggestions concerning organizational matters for various reasons (Ahmadvand & Taghvaei, 2017; Morrison & Milliken, 2000). This phenomenon arises from a combination of individual, organizational, and cultural factors. Individual reasons may include lack of self-confidence, personality traits, or negative experiences (Brinsfield, 2013). From an organizational perspective, authoritarian management, a culture of fear, and the absence of effective feedback mechanisms contribute to silence (Slade, 2008; Milliken & Morrison, 2003). At the cultural level, high power distance and a tendency to avoid challenging authority increase silence (Vakola & Bouradas, 2005). Conversely, high levels of psychological safety in organizations allow employees to express ideas and suggestions more freely, thereby reducing organizational silence (Doğan & Derin, 2022). Organizational silence can lead employees to feel undervalued, resulting in lower job satisfaction and motivation (Yıldız, 2013). It also restricts organizational development and change by suppressing innovative ideas (Hirschman, 1970), diminishes the effectiveness of decision-making by concealing problems (Miller, 1972), and, in the long term, reduces employee engagement while increasing absenteeism, turnover, and dissatisfaction (Colquitt, Greenberg & Zapata-Phelan, 2005). Moreover, by preventing issues from being voiced, organizational silence can contribute to organizational blindness (Aydın & Sağır, 2021).

Innovative work behavior is another variable thought to be associated with organizational blindness. It refers to employees' generation and

implementation of ideas, suggestions, and practices aimed at improving work processes, solving problems creatively, and enhancing organizational competitiveness (Janssen, 2000). This behavior involves not only idea generation but also applying those ideas to work processes. Innovative work behavior enables employees to identify opportunities in the current work context and convert ideas into value (De Jong & Den Hartog, 2010), playing a critical role in organizational effectiveness, performance, and sustainable development (Yuan & Woodman, 2010). Individual traits such as creativity, problem-solving skills, and motivation support this behavior (Amabile, 1988; Scott & Bruce, 1994). Organizational factors such as flexible structures, human resource practices, technology and resource support, and reward systems also foster innovative work behavior (Bos-Nehles, Bondarouk & Nijenhuis, 2017; Yuan & Woodman, 2010). Additionally, transformational and supportive leadership styles encourage collaboration and communication, further enhancing innovation (Al-Omari, Choo & Ali, 2020; Prieto & Pérez-Santana, 2014). Özay and Kaymaz (2023) demonstrated that knowledge sharing, training, and development activities, along with innovative self-efficacy, significantly increase innovative work behavior. Innovative work behavior benefits both individuals and organizations. It enhances work processes, promotes organizational efficiency, and supports sustainable development over the long term (Yuan & Woodman, 2010; Oldham & Cummings, 1996). The emergence of new products, services, and processes provides competitive advantages while also fostering employees' creativity and problem-solving capabilities (Crossan & Apaydin, 2010; Scott & Bruce, 1994). Furthermore, innovative work behavior increases employee motivation and engagement (Prieto & Pérez-Santana, 2014). By strengthening teamwork and communication, it encourages knowledge sharing and improves work process efficiency (Al-Omari, Choo & Ali, 2020; De Jong & Den Hartog, 2005).

Educational institutions are dynamic organizations that must continuously adapt to evolving social and technological conditions. Schools are responsible not only for carrying out educational activities but also for developing innovative methods and practices that support student development. However, organizational blindness can sometimes occur in educational settings, resulting in unrecognized problems, overlooked process inefficiencies, and decreased employee motivation. Over time, this can negatively impact educational quality, weaken collaboration and communication, and reduce the institution's societal performance and competitiveness. Therefore, identifying both the factors that contribute to organizational blindness and those that mitigate it is crucial. As indicated in the literature, psychological safety contributes to preventing organizational blindness by creating an environment where employees can express ideas freely and take risks. Similarly, reducing organizational silence is critical because the lack of voicing

concerns and feedback can exacerbate organizational blindness. Furthermore, innovative work behavior can enhance organizational awareness and mitigate the effects of organizational blindness by generating and applying new ideas to work processes. In this context, testing the model titled *"The Mediating Role of Organizational Silence and Innovative Work Behavior in the Impact of Psychological Safety on Organizational Blindness"* provides insights for educational administrators to develop effective leadership strategies, increase teacher motivation and engagement, and promote innovative practices. It may also support improvements in educational quality and the sustainable success of schools.

Research Hypotheses:

H1: Psychological safety has a significant and negative effect on organizational blindness.

H2: Psychological safety has a significant and negative effect on organizational silence.

H3: Psychological safety has a significant and positive effect on innovative work behavior.

H4: Organizational silence has a significant and positive effect on organizational blindness.

H5: Innovative work behavior has a significant and negative effect on organizational blindness.

H6: Organizational silence and innovative work behavior mediate the relationship between psychological safety and organizational blindness.

Method

This study employed a relational research design to examine the mediating role of organizational silence and innovative work behavior in the effect of psychological safety on organizational blindness. The relational research method allows for the investigation of the existence, direction, and strength of relationships among multiple variables (Karasar, 2014). Furthermore, structural equation modeling (SEM) was utilized to test the direct and indirect relationships among these variables. SEM facilitates the analysis of complex interactions by modeling the relationships between variables in a comprehensive manner (Bayram, 2017). In the present study, a model based on the literature was proposed. In this model, psychological safety serves as the independent variable, organizational blindness as the dependent variable, and organizational silence and innovative work behavior function as mediating variables. The model is illustrated in Figure 1.

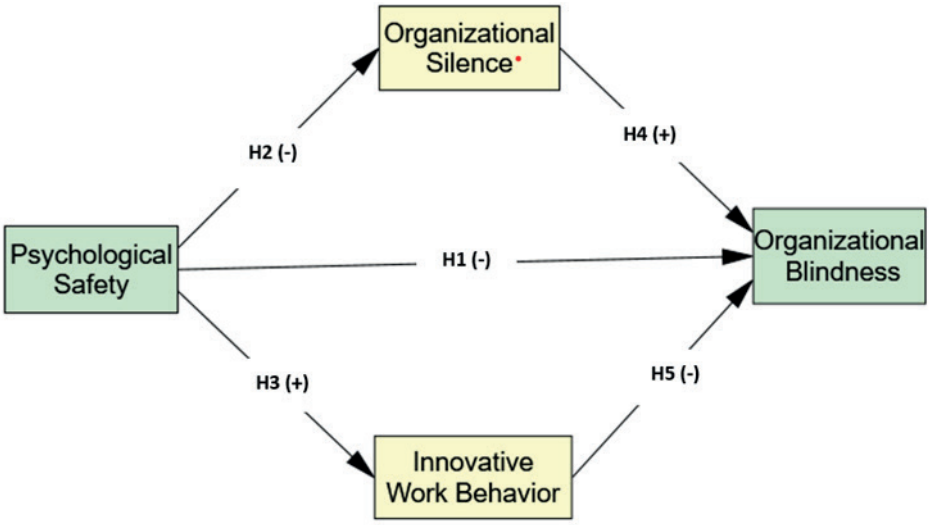

Figure 1. *The Research Model*

Population and Sample

The population of the study consists of teachers working in public schools in Kilis during the 2024–2025 academic year. The sample comprises 348 teachers who voluntarily participated in the study. Personal information of the participating teachers is presented in Table 1.

Table 1. *Personal Information of the Participants*

Variable	Groups	Frequency (f)	Percentage (%)
Gender	Female	208	59.8%
	Male	140	40.2%
Age	21–30 years	95	27.3%
	31–40 years	166	47.7%
	41–50 years	73	21.0%
	51 and older	14	4.0%
Education Level	Primary School	124	35.6%
	Secondary School	122	35.1%
	High School	102	29.3%

According to Table 1, 59.8% of the teachers participating in the study are female, while 40.2% are male. In terms of age distribution, 27.3% are between 21–30 years old, 47.7% are 31–40 years old, 21% are 41–50 years old, and 4% are 51 years or older. Additionally, 35.6% of the participants work at the primary school level, 35.1% at the middle school level, and 29.3% at the high school level.

Data Collection Instruments

The data for the study were collected using the Psychological Safety Scale, Organizational Silence Scale, Innovative Work Behavior Scale, Organizational Blindness Scale, and a Personal Information Form.

Psychological Safety Scale: Developed by Edmondson (1999), this scale consists of 7 items and a single dimension. The Turkish adaptation was carried out by Bülbül, İşiaçık, and Aytaç (2022). Validity and reliability analyses by Bülbül et al. (2022) confirmed the scale's single-factor structure. The scale uses a 5-point Likert-type rating and has a Cronbach's alpha coefficient of 0.87. In the current study, confirmatory factor analysis (CFA) was conducted to test the structure, and the scale demonstrated good fit with the data (χ^2/df = 4.01, RMSEA = 0.079, CFI = 0.91, TLI = 0.89, GFI = 0.89, AGFI = 0.87). Cronbach's alpha was calculated as 0.83.

Organizational Silence Scale: Developed by Kaveci and Demirtaş (2018) to measure teachers' perceptions of organizational silence, the scale contains 18 items and 5 dimensions. It uses a 5-point Likert-type rating. The overall Cronbach's alpha was reported as 0.89. In this study, CFA indicated that the scale fit the data well (χ^2/df = 3.43, RMSEA = 0.080, CFI = 0.90, TLI = 0.88, GFI = 0.91, AGFI = 0.90), and Cronbach's alpha was 0.86.

Innovative Work Behavior Scale: Developed by Janssen (2000) and adapted into Turkish by Töre (2017), the scale consists of 9 items and 2 subdimensions, using a 5-point Likert-type rating. The Cronbach's alpha was reported as 0.87. CFA results in the current study indicated good fit (χ^2/df = 2.50, RMSEA = 0.063, CFI = 0.88, TLI = 0.91, GFI = 0.90, AGFI = 0.88), and Cronbach's alpha was 0.89.

Organizational Blindness Scale: Developed by Aytemiz Seymen, Kılıç, and Kinter (2016) and validated with educational staff data by Sezen Gültekin (2019), the scale comprises 18 items and 3 subdimensions. The overall Cronbach's alpha was 0.82. CFA results in this study indicated good model fit (χ^2/df = 2.78, RMSEA = 0.046, CFI = 0.92, TLI = 0.89, GFI = 0.90, AGFI = 0.90), and Cronbach's alpha was 0.85.

Data Collection and Analysis

The data collection process involved uploading the instruments to Google Drive and sending the links to teachers via email. Teachers were asked to complete the instruments within two weeks. After completion, the data were prepared for analysis using SPSS 25. Outlier analysis identified six participants whose responses were removed from the dataset. Multicollinearity was checked, and no issues were found. Additionally, normality of the data for each scale and the combined scales was assessed. Confirmatory factor analysis was performed using AMOS to examine whether each scale's structure

was consistent with the collected data. Cronbach's alpha coefficients were subsequently calculated. Descriptive statistics were conducted using SPSS to determine teachers' perceptions of the research variables, while correlation analyses were carried out to examine relationships among variables. Moreover, the research model was tested using AMOS to identify direct and indirect effects. To assess the significance of indirect effects, bias-corrected bootstrap analysis with 5,000 samples at a 95% confidence interval was performed, revealing both direct and indirect effects.

Findings

Descriptive statistics and correlation values for teachers' psychological safety, organizational blindness, organizational silence, and innovative work behavior are presented in Table 2.

Table 2. Descriptive Statistics and Correlation Values for Psychological Safety, Organizational Blindness, Organizational Silence, and Innovative Work Behavior

Variables	M	SS	1	2	3	4
1. Psychological Safety	3.33	0.82	-			
2. Organizational Blindness	2.72	0.45	-0.459**	-		
3. Organizational Silence	2.97	0.65	-0.472**	0.636**	-	
4. Innovative Work Behavior	3.42	0.93	0.624**	-0.410**	-0.390**	-

** $p < 0.01$

According to Table 2, teachers' perceptions of psychological safety (M = 3.33), organizational blindness (M = 2.72), and organizational silence (M = 2.97) are at a moderate level, whereas their perceptions of innovative work behavior (M = 3.42) are at a high level. This indicates that teachers feel partially comfortable with making mistakes, expressing themselves, or sharing ideas in their institutions, although this perception is not fully established. The moderate levels of psychological safety and comfort suggest that the organizational climate in their institutions is supportive but may occasionally include limiting factors. In contrast, the high level of innovative work behavior is noteworthy, indicating that teachers are willing to try or implement new things even if they are not completely confident in their psychological environment. Examining the correlation values among the variables, teachers' perceptions of psychological safety are negatively and moderately correlated with perceptions of organizational blindness ($r = -0.459$; $p < 0.01$) and organizational silence ($r = -0.472$; $p < 0.01$), both statistically significant. Conversely, psychological safety is positively, moderately, and significantly correlated with innovative work behavior ($r = 0.624$; $p < 0.01$). Additionally, teachers' perceptions of organizational blindness are positively, moderately, and significantly correlated with organizational silence ($r = 0.636$; $p < 0.01$). Moreover, a negative, moderate, and significant correlation exists

between organizational blindness and innovative work behavior (r = -0.410; p < 0.01).

The path analysis results and standardized estimated values (β) of the research model, which was developed based on the literature, are presented in Figure 2.

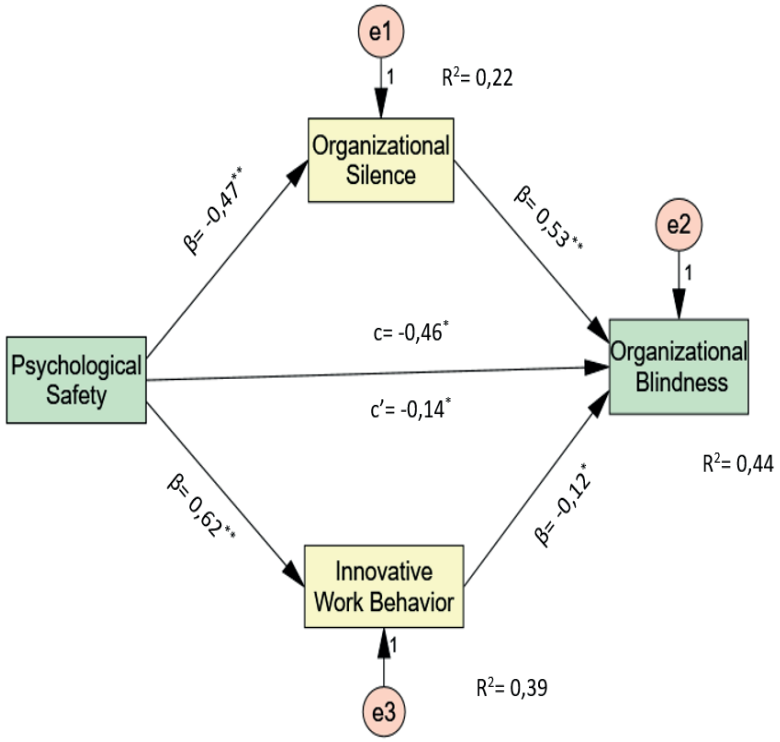

Figure 2. *Path Analysis Results and Standardized Estimated Values (β) of the Proposed Model Regarding Psychological Safety, Organizational Blindness, Organizational Silence, and Innovative Work Behavior*

As seen in the path diagram in Figure 2, all paths between the variables are significant (p < 0.05; p < 0.001). Examination of the goodness-of-fit indices indicates that these values are at a very good level (χ^2/df = 4.81, RMSEA = 0.08, CFI = 0.99, TLI = 0.93, GFI = 0.99, AGFI = 0.90). Based on this finding, it can be stated that the proposed model fits the research data very well. Looking at the standardized estimated values in Figure 2, the total effect of psychological safety on organizational blindness is negative and significant (β_c = -0.46; p < 0.05). Additionally, teachers' perceptions of psychological safety have a negative and significant effect on their perceptions of organizational silence (β = -0.47; p < 0.001). Conversely, psychological safety has a positive and significant

effect on innovative work behavior (β = 0.62; p < 0.001). Moreover, teachers' perceptions of organizational silence have a positive and significant effect on organizational blindness (β = 0.53; p < 0.001), whereas innovative work behavior has a negative and significant effect on organizational blindness (β = -0.12; p < 0.05). These findings indicate that Hypotheses H1, H2, H3, H4, H5, and H6 are supported. According to the path diagram in Figure 2, teachers' psychological safety perceptions significantly predict organizational silence, explaining 22% of its variance. Similarly, psychological safety significantly predicts innovative work behavior, accounting for 39% of its variance. Furthermore, psychological safety and organizational silence together, along with innovative work behavior, significantly predict organizational blindness, explaining 44% of its variance.

To examine the significance of indirect effects, bias-corrected bootstrap analysis with 5,000 samples at a 95% confidence interval was performed. The results indicated that part of the effect of teachers' psychological safety perceptions on organizational blindness occurs through organizational silence and innovative work behavior, and this effect is significant. Accordingly, psychological safety influences organizational blindness both directly and indirectly through organizational silence and innovative work behavior. Thus, Hypothesis H7 is also confirmed. The total, direct, and indirect effects of psychological safety on organizational blindness are shown in Table 3.

Table 3. *Total, Direct, and Indirect Effects of Psychological Safety on Organizational Blindness*

Effects/Paths	β (Standardized)	t-value	p-value	95% CI (LLCI-ULCI)	R^2
Total Effect					
PS → OB	-0.46	-4.623	< .001	(-0.56, -0.36)	
Direct Effects					
PS → OS	-0.47	-9.968	< 0.001	(-0.564, -0.414)	0.22
PS → IWB	0.62	14.864	< 0.001	(0.614, 0.798)	0.39
OS → OB	0.53	11.458	< 0.001	(0.478, 0.632)	
PS → OB	-0.14	-2.537	0.011	(-0.237, -0.059)	
IWB → OB	-0.12	-2.313	0.021	(-0.195, -0.040)	
Indirect Effects					
PS → OS → OB	-0.25	-3.112	< .01	(-0.331, -0.173)	
PS → IWB → OB	-0.07	-1.353	0.012	(-0.133, -0.024)	

Note: PS = Psychological Safety, OS = Organizational Silence, IWB = Innovative Work Behavior, OB = Organizational Blindness, 95% CI (LLCI-ULCI)= 95% Confidence Interval (Lower Limit Confidence Interval - Upper Limit Confidence Interval).

Table 3 summarizes the total, direct, and indirect effects of psychological safety on organizational blindness. Overall, the indirect effects (through the paths PS → OS → OB and PS → IWB → OB combined) are stronger and have a more pronounced impact on organizational blindness. In particular, the mediating role of organizational silence (OS) is more influential in the effect of psychological safety on organizational blindness, indicating that the impact of psychological safety spreads more broadly through organizational silence.

Conclusion and Discussion

This study examined teachers' perceptions of psychological safety, organizational blindness, organizational silence, and innovative work behavior, as well as the relationships among these variables. Additionally, the mediating role of innovative work behavior and organizational silence in the effect of psychological safety on organizational blindness was tested.

The findings indicate that teachers' perceptions of psychological safety, organizational blindness, and organizational silence are at a moderate level, while their perceptions of innovative work behavior are high. These results suggest that teachers are neither completely free nor entirely hesitant in expressing their ideas and suggestions. Similarly, teachers' tendencies to overlook or ignore organizational problems are limited but not absent. The high levels of perceived innovative work behavior demonstrate that, despite moderate psychological safety and organizational silence, teachers show a strong tendency to engage in creative and innovative practices. The literature supports these findings regarding psychological safety. For example, Cemaloğlu and Yaşar (2018) reported moderate levels of psychological safety among teachers, while Yenipınar and Yıldırım (2017) similarly found moderate levels of perceived psychological insecurity. Studies on organizational blindness show mixed results: Avcı (2024) and Soydan (2022) reported low levels, whereas Özateş (2023) found moderate levels. Regarding organizational silence, studies such as Güngör and Gündüz (2021), Sezgin Nartgün and Kartal (2013), and Kıranlı Güngör and Potuk (2018) found moderate levels, while Alemdar and Cemaloğlu (2024) reported low levels. Studies on innovative work behavior are consistent with the current findings, showing high or very high levels of innovative behavior among teachers (Ertürk, 2023; Töre, 2019; Özkan & Akman, 2024; Tura & Akbaşlı, 2021).

Correlation analyses indicated negative relationships between psychological safety and organizational blindness and organizational silence, and positive relationships with innovative work behavior. Additionally, organizational silence was positively correlated with organizational blindness, while innovative work behavior was negatively correlated with organizational blindness. This suggests that higher psychological safety may be associated with less organizational silence and greater innovative behavior, which in turn may

reduce organizational blindness. Conversely, higher organizational silence may increase organizational blindness, while higher innovative behavior may reduce it. These findings indicate significant and theoretically consistent relationships among the variables. Studies examining the relationship between psychological safety and organizational silence support the current findings. For instance, Doğan and Derin (2022) and Üçok and Torun (2016) found negative and significant relationships between psychological safety and organizational silence. Similarly, Tunç and Yılmaz (2024), Baş (2019), Çetin Kılıç (2021), and Kurt (2025) reported positive and significant relationships between psychological safety and employee voice. These findings highlight the critical role of psychological safety in promoting communication and freedom of expression within organizations. Employees who perceive high psychological safety are less hesitant to share their thoughts, concerns, and criticisms, contributing to lower organizational silence and higher voice. Research on psychological safety and innovative work behavior also supports the current study. Babaarslan (2025) and Xu, Wang, and Suntrayuth (2022) found positive and significant relationships between psychological safety and innovative work behavior. Similarly, Çotuk (2025) reported a positive and significant relationship between teachers' psychological safety and individual innovation. These results indicate that psychological safety is a fundamental factor supporting employees' innovative behaviors: when employees feel safe, they are more willing to generate new ideas, take risks, and develop creative solutions. There is a lack of studies directly examining the relationship between psychological safety and organizational blindness. However, the theoretical framework suggests that environments where employees can freely express ideas, share mistakes, and take risks may play a critical role in reducing organizational blindness (Edmondson, 1999; Detert & Burris, 2007). Similarly, studies directly investigating the relationship between innovative work behavior and organizational blindness are scarce. Yet, Uyar Şafak (2025) found a negative and significant relationship between athletes' innovation tendencies and their perceptions of organizational blindness. Research examining organizational silence and organizational blindness supports the current findings. For example, Aydın and Sağır (2021) and Sağır and Aydın (2018) reported that organizational silence is a significant predictor of organizational blindness, indicating that increased silence can adversely affect organizational awareness and problem-solving capacity.

Path analysis results showed that all paths in the research model were significant. Psychological safety negatively and significantly influenced organizational blindness and organizational silence, while positively and significantly affecting innovative work behavior. Organizational silence positively and significantly predicted organizational blindness, whereas innovative work behavior had a negative and significant effect on it. These

results are largely consistent with prior research (Doğan & Derin, 2022; Üçok & Torun, 2016; Tunç & Yılmaz, 2024; Baş, 2019; Çetin Kılıç, 2021; Kurt, 2025; Babaarslan, 2025; Xu, Wang & Suntrayuth, 2022; Çotuk, 2025; Edmondson, 1999; Detert & Burris, 2007; Uyar Şafak, 2025; Aydın & Sağır, 2021; Sağır & Aydın, 2018). Furthermore, psychological safety influences organizational blindness both directly and indirectly. The indirect effect occurs through the reduction of organizational silence and the promotion of innovative work behavior. Notably, the indirect effect through organizational silence is particularly strong. Examination of the explanatory power indicates that psychological safety explains approximately 22% of organizational silence, 39% of innovative work behavior, and, together with the mediators (organizational silence and innovative work behavior), 44% of organizational blindness. These findings highlight the critical role of mediating processes in understanding organizational blindness. The results align with theoretical frameworks in the literature. For example, Edmondson (1999) emphasized that psychological safety provides an environment that allows employees to take risks and express their ideas, which may contribute to reducing organizational blindness. Similarly, Detert and Burris (2007) highlighted the importance of leaders creating psychologically safe environments for employees to voice their opinions, thereby reducing organizational silence. In conclusion, both the direct and indirect effects of psychological safety play a crucial role in understanding and reducing teachers' perceptions of organizational blindness, with indirect effects via organizational silence offering particularly effective management leverage.

Practical Recommendations Based on the Findings

- Schools and educational institutions should create environments where teachers can freely express their ideas and are not afraid of making mistakes.

- School administrators should implement mechanisms that value teachers' opinions and suggestions, such as regular feedback, open communication channels, and participatory meetings. This can reduce organizational silence and lower the likelihood of organizational blindness.

- Teachers should be encouraged to generate creative ideas and experiment with new methods, with recognition and appreciation for their efforts and successes. This approach not only directly reduces organizational blindness but also strengthens the indirect effect of psychological safety.

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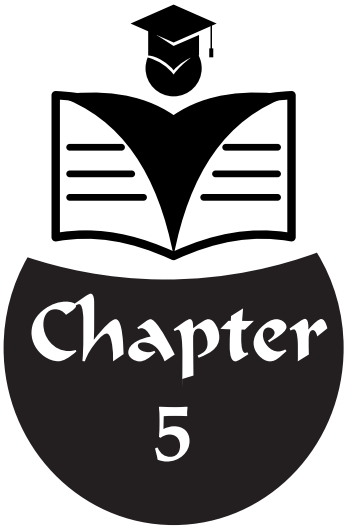

AN INVESTIGATION THROUGH BECOMING INTERCULTURALLY COMPETENT; A SYSTEMATIC REVIEW ON INTERCULTURAL COMPETENCE DEVELOPMENT

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1.Introduction

Globalization has introduced unprecedented forms of contact, communication, and socialization (De Fina & Perrino, 2013), making intercultural competence and mutual understanding essential for addressing many of today's societal challenges (Barret, Huber & Reynolds, 2014). As culturally diverse societies become the norm, education plays a vital role in preparing citizens for effective and respectful intercultural interaction. In this context, the relationship between language teaching and intercultural communication has gained increasing attention (Dasli & Diaz, 2016).

Intercultural competence supports successful communication across cultures, and various models have been developed to foster this ability and reduce communication barriers (Szoke, 2018). To navigate and engage with diversity effectively, what Dervin (2016) calls "communicating through diverse diversities", individuals must develop sustainable intercultural skills. Intercultural education aims to nurture these skills by promoting understanding, dialogue, and coexistence.

Defined as a pedagogical approach that includes goals, content, methods, curriculum, materials, and assessment, intercultural education supports the development of intercultural competence across all educational levels and contexts (Barret et al., 2014). According to the Council of Europe (2009), this education can take three forms: informal, non-formal, and formal, each contributing uniquely to the cultivation of intercultural awareness and capability.

This study focuses on intercultural education within formal education settings, specifically aiming to identify empirical research in higher education. Formal education refers to structured learning systems spanning from primary to tertiary levels. In higher education, the pedagogy of intercultural competence involves clearly defined learning outcomes aligned with key IC components and embedded within an explicit curriculum (Barrett et al., 2014).

Over the past decade, substantial research has addressed intercultural education and the development of learners' intercultural competence. Guided by various theoretical frameworks, higher education institutions have implemented structured courses to prepare students for global engagement. To synthesize this body of work, 27 empirical studies on intercultural education at the university level were systematically reviewed.

2. Background

The concept intercultural competence has had a controversial history, with disagreement on how best to understand culture, how competencies can be characterized and how the competencies can be taught or implemented (Rathje, 2007). Although scholars offer varied definitions of intercultural

competence (Guilherme, 2000; Bennett & Bennett, 2004; Fantini & Tirmizi, 2006; Deardorff, 2009; Draghici, 2015), they commonly emphasize individuals' ability to navigate communication across diverse cultural contexts. Crucially, intercultural competence is not innate but must be deliberately cultivated through education, as Dervin (2016) highlights:

Education is probably one of the best places to learn about, practice, and reflect on interculturality—something we rarely have time to do outside this context. Interculturality is both part of school life (diverse students) and an essential component of teaching- learning (all school subjects contain references to intercultural encounters, explicitly and/or implicitly). In a world where racism, different kinds of discrimination, and injustice are on the rise, time spent at school should contribute effectively to prepare students to be real *interculturalists* who can question these phenomena and act critically, ethically, and responsively. (p. 2)

Since the 1980s, various initiatives have been introduced to train and assess intercultural readiness, with more sophisticated conceptual models emerging in the 1990s. In a comprehensive review, Spitzberg and Changnon (2009) identified 21 intercultural competence (IC) models developed across disciplines. While this review does not detail each model, four have become particularly influential: Bennett's (1986) Developmental Model of Intercultural Sensitivity (DMIS), Byram's (1997) Intercultural Communicative Competence model, and Deardorff's (2006) Pyramid and Process Models of Intercultural Competence. However, Dervin (2016) critiques these traditional models for their essentialist framing of identity based on national culture or language, advocating instead for "liquid" approaches that address non-essentialist perspectives and underlying issues of power, discrimination, and superiority.

Despite differing theoretical foundations, all intercultural competence (IC) models share a common response to the challenges posed by increasing global diversity. Effective IC development requires self- and other-awareness, conflict navigation, cultural knowledge acquisition, perspective-taking, and social responsibility. As Ferri (2016) notes, training should be tailored to individuals' specific needs and contextual challenges to effectively influence behavior. However, IC development is a continuous, lifelong process; it cannot be achieved solely through a single course or study abroad experience. As Deardorff (2009) emphasizes, while no intervention guarantees immediate transformation, well-structured and sustained efforts can foster an intercultural mindset integrated into everyday life.

This study investigates how intercultural competence (IC) development is implemented pedagogically within formal education, focusing on learning outcomes explicitly aligned with IC components. It systematically reviews studies describing courses, workshops, or research projects aimed at fostering

IC. To capture theoretical, practical, and empirical advancements, the review is limited to higher education studies published between 2009 and April 2019. The analysis is guided by specific research questions to ensure a structured and in-depth examination.

1) How is the concept of intercultural competence development operationalized in research examining intercultural education in higher education institutions?

a) Which intercultural competence models are used as a theoretical framework for the implementations?

b) What methods are used during the practical implementations?

c) What type of tools are used to assess the intercultural competence of the participants prior and after the implementations?

3. Methodology

To gain a comprehensive understanding of approaches to developing intercultural competence, a systematic review methodology was employed. Given the lack of consensus across implementations, such a method helps minimize bias by applying transparent criteria for critically appraising individual studies (Crowther, Lim, & Crowther, 2010). The review follows PRISMA guidelines, a 27-item checklist designed to enhance the rigor and clarity of systematic reviews (Liberati et al., 2009).

3.1 Retrieval Procedures

This study targets empirical research published in English-language peer-reviewed journals that examine implementations aimed at developing intercultural competence. Studies employing quantitative, qualitative, or mixed methods were all included. The literature search was conducted using databases such as ERIC, ScienceDirect, Education Full-Text, Taylor & Francis Online, Communication Studies, and SAGE Publications. Additionally, reference lists were reviewed to identify further relevant studies. Key search terms included: intercultural competence development, intercultural education, intercultural learning, intercultural training, intercultural awareness, intercultural sensitivity, and higher education.

While efforts were made to conduct a comprehensive search, some limitations in access may have affected retrieval; thus, only fully accessible studies were included. The initial search yielded 111 records. After excluding non-scholarly sources and studies outside the higher education context, 69 full-text articles were screened. Based on predefined inclusion criteria, 32 articles were reviewed in detail using a researcher-developed data collection form to minimize bias. Ultimately, 27 studies were selected for inclusion.

3.2 Inclusion and Exclusion Criteria

This systematic review includes studies conducted within formal higher education settings, excluding those from non-formal education contexts. Only studies involving planned, structured interventions aimed at developing students' intercultural competence (IC) were considered; research papers solely evaluating IC gains from study abroad experiences without instructional components were excluded. Following Smith's (1993) definition of empirical studies as knowledge derived through formal investigation, only peer-reviewed empirical articles were included. Conference papers, dissertations, unpublished studies, book chapters, reviews, and commentaries were excluded from the analysis.

3.3 Methodological Quality Assessment

The evaluation of study methods and findings, commonly referred to as critical appraisal or study quality assessment (Petticrew & Roberts, 2008), is supported by reporting guidelines that enhance transparency in methodological choices and facilitate quality evaluation (Hannes, Lockwood, & Pearson, 2010). To minimize bias and assess study quality, the researcher developed a customized data collection form, serving as both a reporting and appraisal tool (Higgins & Green, 2008). This form is aligned with the research questions and inclusion criteria, and was informed by established guidelines, including the *Cochrane Handbook for Systematic Reviews* (Higgins & Green, 2008), the COREQ checklist for qualitative research (Tong, Sainsbury, & Craig, 2007), and the STROBE checklist for observational studies (Von Elm et al., 2007).

4. Results

The 27 studies included in the review were published across 11 peer-reviewed journals, with the majority appearing in *Language and Intercultural Education* (n=14) and the *International Journal of Intercultural Relations* (n=4). The remaining studies were published in various educational journals, including the *European Journal of Teacher Education*, *The Internet and Higher Education*, *The International Journal of Management Education*, *Physical Education and Sport Pedagogies*, *Nurse Education Today*, and *System Journal* (each n=1). In terms of research design, 17 studies employed qualitative methods, 9 used mixed methods, and 1 utilized a quantitative approach.

4.1 Theoretical Frameworks Guiding Intercultural Competence Development

To address the first research question, the review examined the theoretical models of Intercultural Competence (IC) underpinning the selected studies. As shown in Table 1, the most frequently used framework was Bennett's (1986) Developmental Model of Intercultural Sensitivity (n=7), followed by Byram's

(1997) Intercultural Communicative Competence model (n=5). Deardorff's models were also commonly applied, including the Process Model (n=4) and the Pyramid Model (n=2), reflecting their longstanding influence in the field. As noted by Dervin (2016), while these widely adopted models remain prevalent, they represent a "solid" approach to IC that has been critiqued for overlooking issues such as othering, power dynamics, hegemony, and hierarchical structures. Other solid models identified include Borghetti's (2013) Intercultural Awareness (n=1), Hofstede's (1991) Cross-Cultural Communication (n=1), Hammer, Bennett, and Wiseman's (2003) Intercultural Development (n=1), and Meyer's (1991) Transcultural Competence (n=1).

Table 1. Intercultural Competence Models Detected in the Studies

IC Model	Studies	F
Bennett 1986 The Developmental Model of Intercultural Sensitivity	S1, S3, S12, S13, S16, S21, **S22**	7
Holliday 2011, non-essentialist liquid idealistic approach	S2, S5, S18	3
Borghetti 2013 Intercultural Awareness	S6	1
Firere 1998 Multiculturalism and Metacognitive Theory, Conscientization	S4	1
Deardroff 2006 The Pyramid Model of Intercultural Competence	S8, S17	2
Bakhtin (1981) Finding the other in oneself	S9	1
Byram 1997 Intercultural Communicative Competence	**S10**, S15, S23, S25, S26	5
Meyer 1991 Transcultural Competence	**S10**	1
Dervin 2012 Liquid non-essentialist, anti-culturalist	S11	1
Deardroff 2006 Process Model of Intercultural Competence	S14, S17, S19, **S22**	4
Hofstede 1991 Cross-cultural Communication	S20	1
Hammer, Bennett, Wiseman 2003 Intercultural Development	S27	1

Traditional IC models have been critiqued for emphasizing the individual rather than the interactions within diverse relational contexts. In response, more recent studies reflect a shift toward "liquid" conceptualizations of interculturality, which focus on relational discourses and fluid cultural identities (Dervin, 2016). Three studies (S2, S5, S18) draw on Holliday's (2011) non-essentialist view of culture, while one study (S11) adopts a constructionist, critical, and anti-culturalist perspective grounded in Dervin (2012).

Two additional studies do not employ a specific IC model but instead draw on theoretical frameworks from other disciplines. Study S4 utilizes Freire's (1998) concept of conscientization, along with critical pedagogy, multiculturalism, and metacognitive theory. Study S9 is informed by Bakhtin's

(1981) dialogic philosophy, emphasizing the concept of 'finding the other in oneself' to frame intercultural learning. Lastly, two studies do not explicitly state their theoretical frameworks, but their comparative approach to cultural differences suggests an implicit reliance on more traditional, solid models.

4.2 Typologies of Intercultural Competence Integration in Practice

Analysis of the implementations reveals three primary approaches to integrating intercultural competence (IC) into the curriculum, following the terminology of İsabelli-García et al. (2018): full articulation, intentional addition, and extra-curricular. *Full articulation* refers to courses where IC is fully embedded as the central learning objective. *Intentional addition* involves incorporating IC elements or modules into existing courses without making IC the primary focus. *Extra-curricular* interventions include workshops and mini-projects conducted outside the formal curriculum.

4.2.1 Full Articulation Attempts

In the first group of studies, intercultural competence, communication, sensitivity, and education are fully integrated into credit-bearing courses, with IC development as the primary learning objective. Among the seven studies in this category, two of them; Holmes and O'Neill (2012) and Wang and Kulich (2015), share notable similarities in course title (*Intercultural Communication*), structure, and methodology. Both implemented ethnographic research projects in which students, acting as researchers, engaged with a previously unfamiliar "cultural other" to explore cultural narratives and produce final research reports. Wang and Kulich (2015) further included reflective elements such as initial cultural narratives, weekly journals, and pre- and post-course assessment using the Intercultural Development Inventory (Hammer, Bennett, & Wiseman, 2003). Findings from both studies suggest that ethnographic dialogue facilitated a shift in student reflection, from evaluating others to critically evaluating the self, supporting their IC development.

Two studies by Jackson (2011, 2015) incorporate study abroad components into intercultural competence (IC) education. In the first, a course titled *Intercultural Transitions: Making Sense of International Experience* includes teaching strategies such as reflective essays, in-class discussions, online forums, interactive lectures, and group presentations. The participant demonstrated increased critical self-awareness, appreciation of cultural diversity without compromising her own identity, and a sense of global responsibility (Jackson, 2011). The second study (Jackson, 2015) presents a more extensive intervention across three phases; pre-, during-, and post-sojourn, within a course titled *Intercultural Communication*. Pre-sojourn activities include lectures, video analysis, and reflective journals. During the five-week study abroad period, students engage in drama workshops and weekly ethnographic surveys. Post-sojourn, students write dissertations based on their field data. Findings

indicate growth in IC, reduced 'us vs. them' perceptions, and heightened awareness of their own roles in intercultural interactions.

Two additional studies present courses explicitly designed to enhance intercultural competence. Dervin (2014) describes a face-to-face *Intercultural Communication* course offered in Finnish and Latvian universities, supplemented by online chat sessions. The course incorporated assigned readings, student-selected articles on Russian cultural components, and discussions aimed at fostering critical reflection. Students began to engage in self-dialogue and recognized the inseparability of self and other in identity construction. Similarly, Arslan, Günçavdı, and Polat (2014) implemented a 14-week *Peace Education Program* focused on developing students' perspectives on individual differences, communication, problem-solving, and peacemaking. The study found significant gains in participants' intercultural sensitivity from pre- to post-test.

Finally, a large-scale initiative, the *Interdisciplinary Teaching and Assessment of Intercultural Competence (ITAIC)* project (Smith & Paracka, 2018), involved collaboration among faculty, researchers, and students. The program included 18 online modules, four workshops, and reflective student activities aimed at fostering interdisciplinary learning and IC assessment across campus. Findings highlight the perceived value of IC for professional development and the need for more experiential and diverse learning activities.

4.2.2 Intentional Addition

This group of studies illustrates how intercultural components are intentionally integrated into standard foreign language courses in forms of modules or units across various departments. Four studies focus specifically on language learning. Helm (2009) presents *Confronti*, a computer-mediated intercultural project embedded in Italian and English language courses. Learners engaged in online questionnaires, intercultural readings, forum discussions, reflective diaries, and produced a final research report. The project enhanced students' awareness of stereotypes and how their culture is perceived by others. In another study, Bektaş-Çetinkaya (2014) compared two English conversation classes for pre-service teachers; one with cultural content and one traditional. While both groups completed the Intercultural Abilities Questionnaire, the cultural content group also engaged with films, cultural lectures, and open-ended IC tasks, leading to significantly greater intercultural development. Kusumaningputri and Widodo (2018) integrated a digital photo-based intercultural project into a critical reading course. Students analyzed self-selected images using observation, comparison, and reflection to explore cultural themes, ultimately recognizing culture as dynamic and interrelated. Finally, Borghetti and Lertola (2014) implemented a two-week intercultural subtitling module within an Italian language course. Learners

created English subtitles for an Italian film clip, supported by culturally focused teaching materials and discussions, which promoted autonomous intercultural awareness.

The following three studies represent collaborative initiatives involving institutions from different cultural contexts, aimed at fostering intercultural competence through dialogue. In the study by Ko, Boswell, and Yoon (2015), 14 American students were paired with Korean peers as part of a *Professional Issues in Physical Education* course. The first five weeks involved individualized online interactions, followed by two weeks of video conferencing and collaborative presentations. Post-activity reflections indicated increased openness to other cultures, expanded cultural understanding, clearer cultural perspectives, and behavioral adaptation. Another study, conducted within a joint master's program across the Netherlands, Spain, and the UK, engaged students in multicultural virtual teams for four weeks to develop a 25-minute group presentation. Students later met in person to deliver their presentations in peer-reviewed sessions. Findings revealed enhanced intercultural competence and appreciation for collaborative, cross-cultural learning. In Dai's (2019) study, an elective course was co-taught synchronously across universities in the U.S., China, and Taiwan via video conferencing. Students presented on university life in their respective contexts, followed by intra-class discussions and reflective presentations analyzing cultural similarities and differences. Results demonstrated a progression from surface-level cultural knowledge to deeper intercultural understanding and critical reflection.

The final study illustrates the use of digital technologies to support intercultural competence development. Jaidev (2014) integrated weekly pedagogical blogging into a *Professional Communication* course, prompting students to reflect on themes such as valuing cultural diversity, suspending judgment, and embracing ambiguity. These reflections were further explored through instructor-led class discussions. Findings indicate that blogging enabled students to express their perspectives more freely and served as a practical tool for enhancing intercultural communication skills relevant to global workplace contexts.

4.2.3 Extra Curricular Practices

The final group of studies focuses on extra-curricular initiatives which are non-credit-bearing workshops, courses, or research projects designed to foster intercultural competence. First three studies report on the *IEREST* project (Intercultural Education Resources for Erasmus Students and Their Teachers), a three-year European initiative that developed teaching modules for Erasmus students at pre-departure, during, and post-sojourn phases. All three studies examined activities from the "while abroad" module.

In the first study, Beaven and Golubeva (2016) implemented the activity *Perceptions of Self and Other*, consisting of four tasks: video-based identity discussion, analysis of an interview with an Italian student in Norway, discourse analysis, and a role-play reenactment. The second study (Borghetti, 2016) involved two groups: Group A (18 international students in Bologna) participated in face-to-face sessions, while Group B (23 students abroad) completed adapted online versions of the *24-hour Erasmus Life* task, which included video viewing, group discussions, reflective journals, and presentations. In the third study, Holmes et al. (2016) applied various IEREST tasks in two different universities: in Bologna, the *24-hour Erasmus Life* activity was delivered face-to-face with 19 students; in Durham, five students engaged in *Intercultural Geography* and *Volunteering* tasks, combining theoretical content, group work, and discussions. Results of the studies showed that across all studies, IEREST activities promoted student reflection on intercultural experiences through metalinguistic and emotional awareness. However, Beaven and Golubeva (2016) noted that some participants found the activities misaligned with their expectations, preferring more practical, problem-solving content.

Other three studies in this group involve collaborative interventions in which learners were paired to engage in intercultural activities. In a cross-cultural project by Fursca (2009), Hungarian and American students were randomly paired to exchange weekly emails over nine weeks. Initial communication focused on personal introductions, followed by discussions of real-life case studies on cultural differences. Students submitted reflective papers at the end, demonstrating gains in language proficiency, cultural awareness, and the ability to engage with differing perspectives. Moreover, Harsch and Poehner (2016) paired 13 undergraduate students to analyze critical incidents (CIs) derived from real student experiences abroad. Guided by open-ended questions and facilitated by moderators, students engaged in reflective dialogue. The findings indicated that most participants employed metacognitive strategies and demonstrated intercultural competence in evaluating complex situations. In the third study, Chan et al. (2018) involved nursing students in an international summer exchange program in China. Prior to a 20-day sojourn, students completed one week of online activities, two weeks of in-person workshops, and an interactive lecture series. During the exchange, they collaborated with local partners to discuss elder care from an intercultural perspective. Pre- and post-program assessments using a cultural intelligence scale showed increased intercultural motivation and cultural intelligence.

The following two studies demonstrate the use of drama-based methods to foster intercultural competence. Frimberger (2016) implemented a four-week workshop incorporating collaborative games, improvisational drama,

and scriptwriting informed by Brechtian research pedagogy. The findings suggest that the activities facilitated a collective, embodied understanding of intercultural experience. Similarly, Harvey, McCormick, and Vanden (2019) employed a *Dramatic Enquiry* (DE) approach, where participants engaged in fictional role-plays, body sculptures, poetry writing, and philosophical reflection. The DE created a safe environment for exploring communication, (mis)understanding, and the learning process.

The final two studies explore alternative approaches to intercultural competence development. Truong and Tran (2014) examined the use of an American film in an eight-week language workshop to explore U.S. cultural norms. Learners viewed the film with English subtitles, analyzed key sociocultural scenes, participated in scripted role-play activities, and maintained reflective journals. The findings highlight the film's effectiveness in promoting critical reflection and deeper engagement with both the target and home cultures. In the second study, Rissanen, Kuusisto, and Kuusisto (2016) implemented a voluntary five-week course for pre-service teachers aimed at enhancing understanding of cultural and religious diversity in schools. The course combined four weeks of theory-based instruction with a panel discussion involving experts. Participants completed reflective diaries and engaged in pre- and post-course reflections on multicultural school case studies. Results indicate increased critical awareness, particularly regarding color blindness and equality, and a greater openness to positively recognizing diversity.

4.3 Assessment Practices for Intercultural Competence Development

To address the final research question, the review examined the assessment tools used to evaluate learners' intercultural competence (IC) development. Findings reveal a wide variety of tools across interventions. The most commonly used were open-ended questionnaires (n=6), student reflection reports (n=6), and reflective journals or diaries (n=6). In-class activities and discussions were also frequently employed as assessment methods (n=4). Digital tools included forum posts (n=1), emails (n=1), online learning diaries (n=1), online chats (n=2), and blogs (n=2). Additional methods involved student presentations (n=1), ongoing interviews during instruction (n=2), and post-intervention interviews (n=1). The final group of assessment tools are the scholarly developed scales and inventories such as the Intercultural Development Inventory (n=3), the Cultural Intelligence Scale (n=2), and the Intercultural Sensitivity Scale (n=1).

5. Discussion

This systematic review examines 27 studies focused on interventions aimed at enhancing learners' intercultural competence within formal higher education settings. It analyzes the theoretical models employed, pedagogical

methods implemented, and assessment tools used to evaluate competence development. The findings highlight critical insights to inform future advancements in the field.

The findings reveal a range of interventions developed by scholars from diverse backgrounds, all aiming to enhance participants' intercultural competence across varying contexts. While each approach has its limitations, they contribute meaningfully to learners' intercultural awareness. As Nynäs (2001, cited in Dervin, 2016) notes, there is no singular technique or causal model for successful intercultural communication. Consequently, the first key insight is that no universal method can be applied across all settings. Stakeholders, including researchers, educators, and policymakers, must acknowledge that interculturality is conceptualized differently across contexts, and no model, method, or technique holds universal superiority. Formal practices should be tailored to local needs, preferences, and contextual realities.

As Dervin (2016, p. 81) highlights, researchers and practitioners can only achieve a practical simplification of intercultural phenomena; ultimately, individuals must construct their own understanding of interculturality. Nevertheless, pedagogical practices can play a vital role in fostering awareness around key concepts such as communication, identity, discrimination, negotiation, and tolerance. Similar interventions are evident in the literature, including from early childhood education (Kimzan & Acer, 2025). A core aspect of interculturality is its emergence through interaction since others influence how individuals think, act, and present themselves. Thus, incorporating collaborative elements into pedagogical design can enhance the development of intercultural competence.

The review shows that although some activities are individual, most interventions emphasize pair or group work. This collaborative approach has been shown to help learners become more attuned to cultural differences, negotiate diverse perspectives, and transform conflict into mutual understanding (Dai, 2019). Notably, studies involving participants from differing cultural, national, or contextual backgrounds report significant benefits. As Gallagher (2011) argues, the self is shaped through social interaction; the "self-in-the-other" and the "other-in-the-self" evolve through dialogue. Participants frequently noted that cross-cultural encounters enabled them to critically reflect on their own culture, confront stereotypes, adopt alternative viewpoints, and shift from evaluating others to evaluating themselves.

Intercultural learning is inherently shared; the collective experience of learning matters. As Paracka (2010) observes, in today's interconnected world, complex global issues demand shared, cross-cultural solutions. Future

practices should thus embrace collaborative projects that bring together diverse learners to engage cooperatively. This approach aligns with Fouché's (2024) emphasis on inclusive, community-based learning environments as essential for fostering intercultural awareness, equity, and global citizenship, particularly in higher education.

Recent studies highlight the growing importance of cross-border virtual learning environments in fostering intercultural collaboration and empathy. Lee and Eronen (2025), for example, illustrate how student-led digital storytelling projects between Korean and Finnish undergraduates created dialogic spaces for negotiating cultural meaning and identity. While access to multicultural or multilingual participants may be limited in some contexts, online tools offer the opportunity to virtually connect learners across diverse geographies, cultures, and languages.

Emerging research underscores the value of post digital, multimodal learning environments enhanced by AI and evolving communication technologies, in promoting intercultural dialogue and competence in higher education (Abdul-Jabbar & Bhatt, 2025). As evidenced in the review, educators and researchers increasingly collaborate across borders to engage students in virtual intercultural exchanges. These online interactions can meaningfully support intercultural learning when guided by skilled facilitation that helps learners creatively utilize their local cultural resources (Wang & Kulich, 2015). This suggests that international mobility is not essential for intercultural development; embedding intercultural dimensions into everyday educational practice can cultivate diverse perspectives even within domestic settings.

Another key consideration is the diversity of methods, techniques, and materials used across various implementations, underscoring that a one-size-fits-all approach is ineffective. Researchers and practitioners must engage in thorough planning when designing courses, modules, projects, or workshops, accounting for both contextual and individual differences. Learners should be offered a range of options to choose from, reflecting varied needs and preferences. Studies employing multiple techniques demonstrate how thoughtful task design significantly enhances learners' critical awareness of sociocultural issues (Kusumaningputri & Widodo, 2018).

Rather than focusing solely on abstract theoretical models, formal interventions could benefit from more practical, task-based approaches that encourage learners to actively engage with real-world social challenges and diverse perspectives. The review also highlights innovative and creative practices, such as the use of drama in the work of Harveya, McCormick and Vanden (2019), and Frimberger (2016), which create safe, reflective spaces for exploring communication and identity. These practices emphasize the process of becoming rather than fixed outcomes, supporting deeper intercultural

engagement. Such findings encourage openness to nontraditional and dynamic methods. This perspective is reinforced by Yunianto, Prodromou, Lavicza, and Sabitzer (2025), who advocate for interdisciplinary competence development through enhanced-technology lessons that integrate multiple skills and respond to diverse learner needs.

Investigating how the researchers and practitioners assess learners' intercultural competence development is crucial since without effective assessment and evaluation it is impossible to know whether the teaching/learning process has been effective. Moreover, the quality of the assessment and evaluation in the educational process has a profound and well-established link to student performance (Foundation for the Atlantic Canada English Language Arts Curriculum, 2006).

The studies reviewed reveal diverse approaches to assessing intercultural competence. While some employed standardized tools such as questionnaires and scales, others used open-ended instruments tailored to their specific contexts; often serving both as assessment and data collection tools for the study. In many cases, learning materials themselves (e.g., reflective journals, diaries, class activities, online posts, emails, and discussions) functioned as formative assessment tools, supporting ongoing feedback rather than final evaluations (Black & Wiliam, 1998).

Given the abstract and individualized nature of intercultural competence, it cannot be effectively measured through a single, universal tool. Instead, it should be viewed as a continuous, personal process of development. Self-assessment, involving both learners and instructors in reflective judgment, is particularly valuable (Hancock, 1994). Since no single method can fully capture learners' progress, a multi-method assessment approach allowing learners to select tools aligned with their goals, contexts, and learning styles is recommended (Chan, 2007). Multiple assessment approach can be introduced to the learners so they can choose the strategy that fits to their own context, personality, and goal.

Assessing learners' intercultural competence development is essential, as effective evaluation is key to determining the success of instructional efforts. The quality of assessment has a direct and well-documented impact on student performance (Foundation for the Atlantic Canada English Language Arts Curriculum, 2006). In reviewing the selected studies, it is evident that assessment methods vary widely. While some employed standardized tools such as questionnaires and scales, others utilized open-ended instruments tailored to their specific research contexts. These tools often served dual purposes; both as assessments and as means of gathering data on learners' perceptions of the instructional process.

In many cases, the materials used during the learning process such as reflective journals, diaries, class activities, online posts, emails, and discussions, functioned as assessment tools. Rather than relying on summative evaluations, most studies adopted formative assessment approaches, which provide feedback throughout the learning process and support continuous development of both students and instructional practices (Black & Wiliam, 1998).

Given that intercultural competence is complex, evolving, and difficult to measure directly, a single, universal tool is insufficient. It is more accurately understood as a mindset or ongoing process, unique to each individual. Therefore, self-assessment strategies, which engage both learners and educators in evaluating progress through non-traditional means, are particularly valuable (Hancock, 1994). Many studies also advocate for the use of diverse assessment methods, recognizing that no single tool can comprehensively capture learners' development (Chan, 2007). Offering multiple assessment options allows learners to select approaches that align with their context, goals, and personal learning styles.

6. Conclusion

Developing intercultural competence is a complex, lifelong process. This systematic review highlights a range of practices implemented in formal higher education, grounded in diverse theoretical models. The findings emphasize that there is no single best approach; instead, interventions should be co-developed by practitioners and learners, tailored to specific contexts. Assessment should prioritize formative, process-oriented strategies, including self-assessment, rather than focusing solely on outcomes.

The review offers practical guidance for designing intercultural competence courses, workshops, or modules and provides insight into effective pedagogical and assessment methods. While the study focuses exclusively on higher education, future research could explore practices in K–12 settings, where early interventions may support long-term development. Limitations include the exclusive focus on peer-reviewed journal articles and a restricted range of databases. Future reviews could expand sources to include book chapters, dissertations, and conference proceedings, and draw from a broader set of academic platforms.

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Chapter 6

DIGITAL MATURITY AND ORGANIZATIONAL AGILITY IN EDUCATION[1]

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1 This study was produced from the doctoral dissertation titled "Digital Maturity Levels of Higher Education Institutions in Turkey: The Case of Trakya Universities Union" by Gökhan ÇALIŞKAN, conducted under the supervision of Prof. Dr. İlknur MAYA.

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Introduction

Today, rapidly developing digital technologies are transforming the daily lives and learning needs of individuals and societies. People now extensively use technology to acquire new knowledge and skills, making transformation inevitable in education as in every other field. Educational institutions are therefore compelled to move away from traditional approaches and develop new, technology-based strategies to equip individuals with the competencies required in the modern era. In other words, educational institutions must have the capacity to integrate and effectively utilize digital technologies within learning environments to meet learners' expectations and support their learning processes.

This process, known as digital transformation, can be described as a multidimensional and holistic approach. In addition to integrating digital technologies into their fields of activity, educational institutions must also internalize digitalization by embedding it within their institutional structures, cultures, visions, and strategies. Carrying out transformation activities according to a plan (Balyer and Öz, 2018) and ensuring their sustainability (Ateş Khan, 2023) are crucial for overall success. To achieve a planned and sustainable digital transformation, educational institutions need to systematically monitor the impact of their digitalization initiatives. In this regard, the concept of digital maturity, which offers a conceptual framework for understanding organizations' digital transformation capacities, provides a functional model for educational institutions to evaluate their progress. Digital maturity indicates the extent to which institutions have integrated digital technologies into their operations, how effectively they utilize these technologies, and what aspects require improvement to achieve sustainable integration (VanBoskirk et al., 2025). The data obtained from such assessments can be used to develop strategic roadmaps guiding institutions' digital transformation efforts. Therefore, assessing and enhancing digital maturity is essential to increasing the effectiveness and sustainability of digital transformation in education.

The dynamic and uncertain nature of the digital age requires educational institutions not only to complete their digital transformation and achieve digital maturity but also to develop organizational agility capabilities that can respond quickly to environmental changes. Through such agility, educational institutions can act flexibly, quickly, and proactively when confronted with unexpected situations. Organizations with agile structures can adapt more quickly to the dynamic and changing conditions of the digital age, which significantly contributes to the development of digital maturity levels (Tutar and Erdem, 2024). In this respect, digital maturity and organizational agility are two strategic elements that complement and nourish each other in the digital transformation process of educational institutions and offer significant opportunities for institutions. Understanding the relationship between the

digital maturity level of educational institutions and their organizational agility capabilities is critical for developing holistic strategies that will increase the effectiveness of digital transformation in education. A review of the literature reveals limited studies that address the relationship between digitalization and agility holistically and comprehensively (Ciampi et al., 2022). An in-depth examination of the interaction between digital maturity and organizational agility is expected to contribute substantially to both the advancement of theoretical knowledge and the formulation of evidence-based policies and strategies guiding the digital transformation of educational institutions. Accordingly, this study aims to conceptually analyze digital maturity and organizational agility and to theoretically reveal the implications of the interaction between these concepts in education. The study seeks to (1) explain the conceptual foundations of digital transformation, digital maturity, and organizational agility, (2) evaluate the relevant concepts within the context of education, and (3) discuss the interaction between these concepts and their implications for education.

1. Digital Transformation and Digital Maturity at the Conceptual Dimension

1.1. Digital Transformation

In today's rapidly changing and uncertain global environment, organizations must structure themselves in accordance with stakeholder expectations to maintain their existence and gain a competitive advantage. Digital technologies can be said to be one of the most significant drivers of change and uncertainty today, necessitating the need for organizations to renew themselves. Technological advancements inevitably necessitate radical changes in organizations' business processes, management approaches, and corporate cultures. This technologically driven change has led to the emergence of the widely used concept of "Digital Transformation."

The foundations of digital transformation date back to the Industry 3.0 era, which focused on converting analog data into digital formats and transferring them to electronic media (digitization) and effectively using this digitized data through developing technology (digitalization). With Industry 4.0, the broader concept of "digital transformation," which encompasses both digitization and digitalization, has gained prominence (Yavuz, 2022). The digital transformation is defined in different ways in the literature, and there is no definitive, agreed-upon definition (Poletaikin et al., 2021). Some definitions related to the concept are presented in Table 1.

Table 1

Definitions of the Concept of Digital Transformation

Author	Definition
Demirkan et al., 2016	The process of radically and rapidly transforming business activities, processes, capabilities, and business models to strategically prioritize the changes and opportunities offered by digital technologies.
Hess et al., 2016	The process of transforming or automating companies' business models, structures, and products through digital technologies.
Ismail et al., 2017	The process of transforming business models, operations, and customer experiences through the holistic use of digital technologies to achieve high performance and sustainable competitive advantage.
Vial, 2019	The process of transforming an asset's characteristics by triggering them through information, informatics, communication, and connectivity technologies to enhance its development.
Aras and Büyüközkan, 2023	A journey in which organizations develop digital solutions related to their corporate vision to achieve their goals.
iSCOOP, 2025	The process of radically changing the organization's culture, operations, and structure by consciously and strategically integrating digital technologies and capabilities into all organizational processes.

Digital transformation is currently considered a holistic change process that enables organizations to achieve their strategic goals. A detailed examination of the definitions in Table 1 reveals that digital transformation fundamentally focuses on integrating technology into organizations' business processes and structuring corporate culture and strategies in a technology-focused manner. Digital transformation is not a short-term change process; it is a multilayered process that requires long-term planning and continuous evaluation/feedback mechanisms (Balyer and Öz, 2018). To achieve success in the digital transformation process, organizations must sustainably integrate technologies into their fields of activity (Ateş Khan, 2023). "Digital Maturity" is an important cornerstone for organizations to assess and enhance in ensuring sustainability in this process.

1.2. Digital Maturity

The concept of "digital maturity" plays a critical role in identifying organizations' current state of technology integration and identifying areas of activity that need improvement (Ilin et al., 2022). Digital maturity facilitates the identification of the competencies needed to manage and direct digital transformation within an organizational context (Teichert, 2019). A review of the relevant literature reveals that, like the concept of digital transformation, digital maturity has various definitions. Some of the definitions related to the concept are presented in Table 2.

Table 2

Definitions of the Concept of Digital Maturity

Author	Definition
Rader, 2019	A continuously evolving and transforming level of operational capability, in which digital technologies are employed through an approach extending from productivity enhancement to the development of innovative business models.
Goumeh and Barforoush, 2021	A developmental stage that reflects, from a managerial perspective, the organization's capacity to integrate and manage information technologies within its organizational processes.
Poletaikin et al., 2021	The level at which organizations demonstrate the digital competence of their workforce, the extent of utilization of digital resources and applications, and the degree of digital influence exerted by the external environment.
Brodny and Tutak, 2023	The extent to which organizations employ digital technologies developed within the framework of Industry 4.0.
Hentati and Boulila, 2023	The level of digital transformation progress represented by sustainable efforts undertaken to integrate digital technologies into organizational processes.
Nazarova and Rudenko, 2023	The degree of technological utilization and organizational digital capability achieved in alignment with the organization's strategic objectives.
Abdullah, 2024	The level of managerial advancement achieved by the organization in the domains of products, processes, and competencies, alongside its utilization of digital technologies within the context of digital transformation processes.

When the definitions in Table 2 are examined, the concept of digital maturity seeks to explain the extent to which organizations integrate and utilize digital technologies in their activities. Digital maturity can be used to assess an organization's current status in the digital transformation process, its successes and shortcomings, and its position relative to competitors (South Australian Government, 2025; Kane et al., 2025). It enables organizations to directly identify areas for improvement in terms of digital transformation (Wahdaniyah et al., 2025). The digital maturity level can be considered a "report card" for organizations undergoing digital transformation. By analyzing these report cards, organizations can develop appropriate and innovative practices to enhance the transformation process (Pucihar and Borštnar, 2022).

Organizations aiming for a high level of digital maturity must not only possess a robust digital infrastructure but also demonstrate the ability to effectively leverage existing resources to create strategic advantages (Abdullah, 2024). In other words, organizations reach the highest level of digital maturity when they holistically integrate digital technologies across all processes and areas, including culture, vision, strategy, and infrastructure. Highly digitally mature organizations align technology use with their strategic vision and objectives, whereas those with lower maturity levels employ technology only in limited, functional areas. Furthermore, digitally mature organizations

are capable of transforming business processes and management structures and repurposing resources within the digital economy (Movsesyan, 2025). Consequently, organizations with high digital maturity achieve a greater competitive advantage and are more successful in their digital transformation efforts compared to their peers.

1.3. Digital Transformation and Digital Maturity in Education

Education is a crucial building block in developing individuals and societies with the competencies required by the current era. In the competitive environment brought about by technology, digital transformation has become essential in education, as in all other fields, to ensure that individuals and societies do not fall behind and can quickly adapt to the requirements of the age (Rahmadi, 2024). In today's globalization race, fueled by technological advancements, the importance of technology integration has increased in education, as in all other fields (Bećirović et al., 2022).

Digital transformation in education is a process that aims to make teaching and learning processes more effective by utilizing current technologies, facilitating access to information, and strengthening communication in the learning environment (Klopov et al., 2023). It is generally defined as the process of transforming traditional educational approaches and developing new teaching and learning methods by integrating digital technologies into learning environments (Oliveira and De Souza, 2022). With digital transformation, education and training processes make students an active part of the process, independent of time and space, and facilitate the establishment of a common learning culture (Birhanlı, 2025).

To adapt to the transformation process, educational institutions must develop and effectively utilize their technological infrastructure in line with contemporary expectations (Yurtsever and Yurtsever, 2024). For a successful digital transformation, educational institutions are expected to invest in infrastructure and the professional development of staff, update their curriculum and assessment systems, and restructure their institutional strategies (Doneva et al., 2019). It is also important for teachers and educational administrators to develop their competencies in using current technologies to increase the effectiveness of the transformation process (Karakaya Cırıt, 2022). Gaftandzhieva et al. (2021) state that implementing an effective digital transformation process in educational institutions requires a holistic integration approach, which involves prioritizing infrastructure investments and expanding e-services across all processes, including administrative activities. It also involves utilizing data analytics-based technological tools in monitoring and evaluation, developing technology-focused collaborations, and encouraging teachers to enhance their digital competencies and adopt technology. This shows that digital transformation is a holistic process,

encompassing both educational activities and the development of digital competencies in human resources and administration (Qayyum, 2023).

Digital transformation in education is a long, complex, and important process that requires planning. Holistic strategies and policies are being developed at national and international levels to systematically integrate digital technologies into the educational process (Timotheou et al., 2023). The "Movement to Increase Opportunities and Technology (FATİH) Project," launched by the Ministry of National Education in Turkey in 2012, is cited as a significant example of these strategies and policies. Despite national and international policies and practices aimed at ensuring digital transformation in education, it appears that technology integration has not yet been fully implemented in many educational institutions. Research in the literature attributes this to educational institutions' lack of vision and strategy for digitalization, as well as the lack of a clear roadmap for the use and development of existing digital infrastructure and skills (Kupres et al., 2022).

To effectively implement a digital transformation process, it is crucial for educational institutions to both strive for digital transformation and identify and understand the factors that influence the success of the integration process (Nielsen et al., 2024). At this point, digital maturity stands out as a critical guide for assessing and understanding the effectiveness and sustainability of educational institutions' digital transformation processes. While digital transformation is a dynamic process that enables educational institutions to achieve digital maturity, digital maturity is a key indicator of the extent to which this transformation process has been successfully implemented and the stage at the institutional level (Poletaikin et al., 2021). Digital maturity is a key indicator of both the foundation and the target completion point of an organization's digital transformation process (Yurtsever and Yurtsever, 2024). In this context, digital transformation and digital maturity are two complementary elements that define the success and sustainability of the process.

By assessing the digital maturity levels of educational institutions, policymakers and educational administrators can obtain important insights into their digital transformation processes. With the increasing importance of technology, the concept of digital maturity is also gaining increasing importance in education systems (Balaban et al., 2018; Milić and Divjak, 2022; Nielsen et al., 2024; Ristić, 2017). Digital maturity is seen as a comprehensive opportunity that enables long-term evaluation of the digital transformation process of educational institutions from a multidimensional (transformation of organizational structure, infrastructure, teaching-learning processes, etc.) and holistic perspective (Kupres et al., 2022). Furthermore, digital maturity concerns not only the integration of technology into the infrastructure of educational institutions but also its inclusion in educational processes in dimensions such as strategy and competence (Yurtsever and Yurtsever, 2024).

It is also a key indicator in determining educational institutions' readiness for digital transformation, their motivation, and the level of progress they have achieved during the transformation process (Milić and Divjak, 2022). In other words, determining their digital maturity levels is crucial for assessing the success of educational institutions in the digital transformation process and identifying areas open to improvement.

Today, the most important questions that policymakers and educational administrators need to answer in the digital transformation process are which technologies will be used, how suitable these technologies are for students, and how they will be financed in the long term (Kupres et al., 2022). By utilizing digital maturity models developed by researchers, institutions' digital maturity levels can be determined, and data can be obtained to answer these questions. Assessing digital maturity can reveal the current digitalization levels of educational institutions, thereby determining the extent to which institutions utilize technology in areas such as education and governance. Furthermore, by determining the level of digital maturity, it is possible to determine what was done well (strategy and skill development, etc.) during the transformation process throughout the institution, what was not sufficiently implemented, and which technologies are more appropriate to use. For example, the effectiveness of a technology used in teaching processes can be evaluated; this evaluation reveals the reasons for technologies found to be ineffectively used (e.g., incorrect technology selection, users' lack of technological proficiency, etc.). Furthermore, the level of digital maturity can be used to assess the effectiveness of digital transformation expenditures for educational institutions (Kupres et al., 2022). This allows policymakers and education administrators to use financial resources more efficiently by considering the areas of improvement identified in the evaluation.

The digital transformation process in education generally aims to create digitally mature educational institutions that utilize current technologies most effectively and accurately in line with the expectations of their stakeholders (students, teachers, etc.). Every educational institution that has initiated its digital transformation process reaches a certain level of digital maturity. Educational institutions that want to achieve success in the transformation process by increasing their digital maturity must make digitalization a part of their institutional culture and systematically monitor the process. Areas identified as having low digital maturity levels should be addressed through monitoring activities, improvement initiatives should be implemented, and institutional plans and strategies should be updated if necessary. Educational institutions with a high level of digital maturity are one step ahead of their competitors in today's competitive environment and can integrate current technologies more quickly into their fields of activity. These institutions provide the necessary financial and technological support to their classrooms,

laboratories, teachers, and students (Ristić, 2017). Furthermore, institutions with a high level of digital maturity can improve the quality of education and equal opportunities they provide to their students by integrating technology-supported learning into their processes compared to their competitors (Yurtsever and Yurtsever, 2024).

2. The Conceptual Dimension of Organizational Agility

2.1. Agility

Technological advances, which have accelerated since the 1960s, have profoundly impacted organizations' market and competitive conditions, as well as customer demands, leading to increasing uncertainty and intensified unpredictability in the business world. To address these changes and uncertainties, researchers focused on adaptability in the 1960s and 1970s, flexibility in the 1980s, and agility in the 1990s (Öksüz Gül, 2020; Sherehiy et al., 2007).

The concept of agility was first emphasized in 1991 in the Twenty-First Century Manufacturing Business Strategy Report prepared by the Iacocca Institute at Lehigh University. In the relevant report, the concept of "agile manufacturing" was comprehensively discussed as a solution for revitalizing the manufacturing industry of the United States, which is lagging compared to Western Europe and Japan, and increasing its competitiveness (Sharifi and Zhang, 1999; Yusuf et al., 1999; Zorlu, 2023). With the VUCA Prime model developed by Johansen (2007) (V-Vision, U-Understanding, C-Clarity, and A-Agility), the concept of agility began to receive more attention in the literature. With the final dimension of this model, "Agility," Johansen emphasized organizations' ability to adapt and act quickly in the face of ambiguity (Önalan, 2023).

The linguistic origin of the concept of agility is the Latin word "agilitas/agilitatis," meaning "mobility, mental and physical speed, agility, and ease of movement" (LDGR, 2025). Sharifi and Zhang (1999) define agility as a set of strategies and abilities aimed at perceiving changes in the work environment, responding to these changes by developing appropriate competencies, and achieving success in new conditions. Ghasemi et al. (2017) explain the concept as the ability to evaluate opportunities arising from change and adapt to changes.

2.2. Organizational Agility

In today's uncertain and dynamic work environments, organizations must be able to anticipate environmental changes, develop responses to these changes, and achieve a competitive advantage to survive (Felipe et al., 2017). In today's world of intensified globalization, digitalization, and competition, organizations need not only productivity and quality but also the ability to

be agile. Initially associated with flexibility in production processes, agility has evolved into a multidimensional construct encompassing management, leadership, culture, and organizational structure, and has come to be expressed at the organizational level as the concept of "Organizational Agility."

A review of the literature reveals a wide variety of definitions of organizational agility. Harraf et al. (2015) define organizational agility as a competency encompassing elements such as being proactive, taking advantage of change, adapting, thinking strategically, and acting with an innovative perspective. Asghar et al. (2025) emphasize organizational agility as a key competency that enables organizations to achieve sustainable competitive advantage by reshaping their structures and operations to adapt to environmental conditions. Furthermore, organizational agility also refers to the ability of organizations to quickly respond to changing customer expectations, maintain their existence, and develop (Hussein et al., 2021).

2.3. The Model and Dimensions of Organizational Agility

Organizational agility is a multidimensional approach that enables organizations to adapt to changing environmental conditions and respond effectively and flexibly to these changes. Transforming into agile structures is crucial for all organizations seeking to maintain their existence and maintain their competitive advantage in today's environment. A review of the literature reveals that various models have been developed to guide organizations in creating agile structures and making strategic decisions. Among these models, the organizational agility model developed by Sharifi and Zhang (1999) stands out as a holistic model that addresses organizational agility, as do other widely used models in the literature (e.g., Akkaya and Tabak (2018), Hussein et al. (2021), Salama and Said (2025), and others. The model presented in Figure 1 consists of three main sections: agility drivers, agility capabilities, and agility providers.

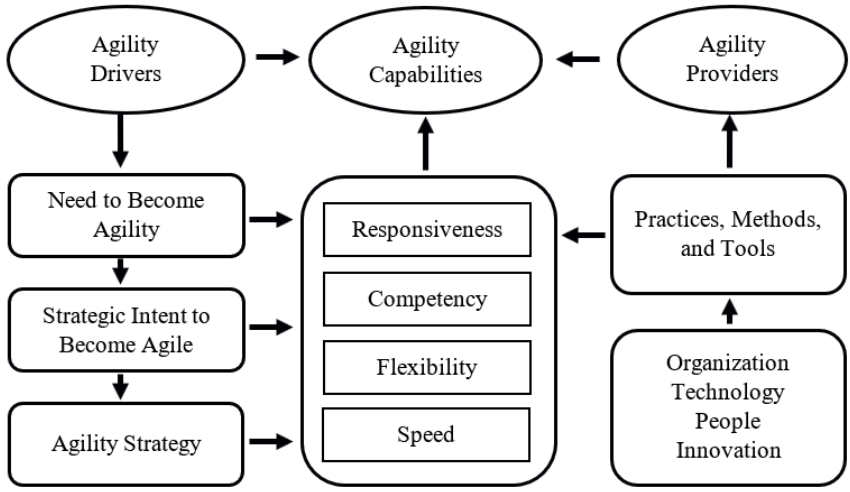

Figure 1. *The organizational agility model developed by Sharifi and Zhang (Sharifi and Zhang, 1999:11; Sharifi and Zhang, 2001:775).*

Agility drivers are the desires and strategies that emerge from an organization's need to respond to environmental changes, leading them to restructure their business and competitive processes. Factors such as market dynamics, competitive conditions, customer expectations, technological advancements, and societal transformations threaten the very existence of organizations, increasing their intentions and strategies to become agile. Agility competencies encompass the core capabilities that enable organizations to adapt to environmental conditions and respond to change. Organizations must possess sufficient agility competencies to react timely manner to changing environmental conditions and expectations, act flexibly, and develop effective responses. Agility providers, on the other hand, refer to the practices, methods, and tools that enable organizations to implement and develop agility capabilities, as well as elements such as the organization's structural characteristics, the quality of its human resources, and the level of technological competence. Having appropriate agility providers is crucial for organizations to demonstrate and develop agility capabilities (Sharifi and Zhang, 1999).

Organizational agility consists of four basic dimensions: responsiveness, speed, flexibility, and competence, which are also considered organizational agility competencies:

· **Responsiveness:** It is a fundamental component of organizational agility, plays a vital role in the success of organizations. It is the ability of organizations to perceive environmental changes promptly and respond to

these changes proactively, quickly, and effectively (E. Yılmaz, 2024; Nafei, 2016; Öksüz Gül, 2020; Özkurt Balcı, 2023; Sharifi and Zhang, 1999; Zorlu, 2023). It also includes elements such as managing processes with competent employees, ensuring operational efficiency, and achieving collaboration and integration (Sharifi and Zhang, 1999). Responsiveness is a critical competency that enables agile organizations to view change as an opportunity rather than a threat and shapes their strategic orientation.

- **Speed:** Organizations must act quickly to adapt to environmental conditions and produce timely responses (Burhan, 2023). Speed is a critical competency encompassing not only the ability to adapt to change on time but also the capacity to respond quickly to changing conditions and expectations. It also encompasses the ability to complete tasks and operations as quickly as possible (Öksüz Gül, 2020; Özkurt Balcı, 2023; Sharifi and Zhang, 1999). Speed is also associated with the speed with which organizations solve problems, develop new knowledge, and seize opportunities (Çakal, 2024).

- **Flexibility:** It is a competency directly related to the capacity of organizations to effectively manage/transform their internal structures, business processes, and resources in the process of adapting to environmental changes. In order for organizations to maintain their effectiveness and demonstrate agility in today's competitive environment, they must exhibit a flexible structure (Koçyiğit and Akkaya, 2020; Özkurt Balcı, 2023). Organizational flexibility facilitates keeping resources ready for use and their rapid mobilization in accordance with changing conditions (Nafei, 2016). It also supports cooperation, coordination, and adaptation processes among employees in organizations (Çakmak, 2024). Thanks to flexibility competency, organizations can adapt their strategies and business processes in line with changing needs and develop alternative solutions (Çakal, 2024; E. Yılmaz, 2024; Nafei, 2016; Zorlu, 2023).

- **Competence:** It is associated with the ability of organizations to effectively utilize core agility capabilities such as speed, flexibility, and responsiveness and to ensure the continuity of these capabilities (Akkaya and Tabak, 2018). Its focus is on the capacity to develop and utilize the knowledge, skills, and expertise necessary to effectively respond to current and future needs (Çakmak, 2024). Change management also encompasses the skills of creating a strategic vision, achieving cost efficiency, developing technological capacity, and improving product and service quality (Sharifi and Zhang, 1999). Agile organizations that develop and utilize their competencies not only adapt to change but also achieve the capacity to transform these changes into opportunities.

1.4. Characteristics and Advantages of Agile Organizations

With the adoption of the agile approach in the organizational field, organizations began to acquire new characteristics. Chief among these characteristics are flexibility and adaptability, responsiveness, speed, integration, and low complexity, the activation of core competencies, high-quality and customized products, and a culture of change (Sherehiy et al., 2007). Sekman and Utku (2009) emphasized that the key characteristics that distinguish agile organizations from traditional organizations are speed, flexibility, customer focus, observational skills, rapid decision-making, a predisposition to change and experimentation, the ability to leverage technology, monitoring process and human performance, application orientation, and results orientation. Yusuf et al. (1999) also stated that agile organizations stand out for their integration, competence, team building, technology awareness and use, quality focus, a culture of change, collaboration, market orientation, continuous improvement, and employee well-being. When the characteristics of agile organizations emphasized by researchers are examined, organizations with agile structures can show flexibility both in internal organizational functioning and in the face of environmental conditions, can react quickly in all processes, are open to change, and are quality-focused.

Organizations that adopt an agile management approach can gain various advantages in terms of structure and process (Biçer, 2021; Çakmak, 2023). Agile organizations can evaluate the opportunities they encounter more effectively and strategically compared to organizations that adopt a traditional management approach (Darvishmotevali and Tajeddini, 2020). Organizations with an agile structure can analyze their current situations well and develop effective strategies and resources appropriate to the situation (E. Yılmaz, 2024). Agile organizations can, on the one hand, effectively manage moments of crisis (Biçer, 2021; Özcan, 2024), and, on the other hand, act more flexibly and resiliently in the face of uncertainties and risks (L. Yılmaz, 2024). Managers in agile organizations can react quickly and effectively to environmental conditions (Doğan and Baloğlu, 2018). With agile, organizations have a less hierarchical work environment and strengthen their organizational commitment by supporting the development of their employees (Biçer, 2021; E. Yılmaz, 2024). This increases the job satisfaction of employees in organizations with an agile structure (Karamolla, 2024). With agile, organizations can increase customer satisfaction by developing fast and appropriate applications tailored to their customers' expectations (Aghina et al., 2025; Çakmak, 2023; Feyzi et al., 2022; Karamolla, 2024). Organizational agility has a significant and positive impact on the digital transformation processes of organizations with its features such as understanding change, responding quickly, and acting flexibly (Alakaş, 2024; Ciampi et al., 2022; Çakal, 2024; Fachridian et al., 2024; Oyekola, 2023; Salem and Atheeb, 2024; Xu et al., 2024; Zhang et al., 2023). In

addition, organizational performance increases with the adoption of the agile management approach (Aghina et al., 2025; Çallı and Çallı, 2021; Wang et al., 2024). Organizations that effectively utilize all the advantages of organizational agility can achieve success by gaining an advantage over other organizations in today's competitive environment (Çakmak, 2023; Çetinkaya and Akkoca, 2021; Karamolla, 2024; Kwasek et al., 2024).

1.5. Implications of Organizational Agility in Education

The concept of organizational agility is associated not only with business, management, and many other fields, but also with education. The rapid changes experienced in our age necessitate that institutions operating in the education sector adapt to new developments in their environment (Aal, 2023; Awais et al., 2023). This situation leads to the increasing importance of the agile organizational approach in education, as in every field. To be successful in the competitive and evolving education sector, educational institutions are expected to have an agile, flexible, and responsive structure (Önalan, 2023). With the increasing importance of agility in the education sector, the concept of "Agile School," based on the transformation of educational institutions into agile structures, has emerged (Çakal, 2024).

Schools that have acquired agility capabilities effectively adapt to changing conditions and market expectations, providing their students with the knowledge, skills, and competencies they need (Zorlu, 2023). Schools that anticipate change, develop appropriate strategies, and integrate innovations into their educational activities are more effective and competitive than traditional schools thanks to their agile structures (Burhan, 2023). Agility can also serve as an important strategic tool that contributes to the development of the management and teaching capacities of educational institutions. Educational institutions that have acquired agility capabilities improve their institutional management capacity by effectively analyzing their core competencies and current circumstances (Awais et al., 2023). Furthermore, educational institutions that adopt an agile approach can quickly update their existing curricula and teaching methods while supporting stakeholder satisfaction and institutional sustainability (Zorlu, 2023).

An agile management approach can enable educational administrators and policymakers to anticipate environmental changes, make faster decisions accordingly, and act more flexibly in their strategic planning. Furthermore, agility can enable faster curriculum updates, refine course content to meet current needs, and strengthen student-centered approaches. Especially in unexpected crises such as pandemics, educational institutions that adopt an agile management approach can make rapid and effective decisions, adapt to online or hybrid learning models more quickly, and continue their education and training activities without interruption. Considering all these positive

effects of agility in the field of education, it is now considered an inevitable necessity for educational institutions (especially higher education institutions) to maintain their existence and adapt to the requirements of the age in today's rapidly changing conditions. The concept of organizational agility offers a powerful paradigm for educational institutions to build innovative and sustainable structures that are compatible with changing social and economic conditions.

2. The Interaction Between Digital Maturity and Agility and Its Implications for Education

In today's world of increasing change and uncertainty, organizations' ability to survive and gain a competitive advantage over their peers depends on both their speed in adapting to digital technologies and their ability to effectively utilize these technologies in their processes. Considered in this context, the digital transformation process and agile structure constitute two indispensable elements for organizations in today's environment. These two elements are vital because they enable organizations to effectively cope with the challenges they face in an environment of uncertainty (Ciampi et al., 2022).

The changes brought about by the digital transformation process necessitate organizations to transform into agile structures capable of rapid, flexible, and responsive development (Yıkılmaz, 2021). Furthermore, the use of digital technologies in organizational processes can also provide organizations with flexibility and efficiency, facilitating the transformation process. The agility management approach stands out as a strategic competence that increases organizations' capacity to adapt to changes in digital technologies and supports their digital competencies (Çallı and Çallı, 2021). Indeed, while Oyekola (2023) states that organizational agility is vital to the implementation of digital transformation, Zhang et al. (2023) demonstrate that agility is a precursor to the digital transformation performance of public institutions. Furthermore, Fachridian et al. (2024) and Salem and Atheeb (2024) also emphasize that agility significantly and positively impacts digital transformation processes.

When both concepts are considered together, digital transformation and organizational agility emerge as two fundamental elements that interact and complement each other in organizations' adaptation to environmental conditions. This is further supported by the study conducted by Gao et al. (2020), which revealed a significant and positive relationship between information and communication technologies and organizational agility. Ciampi et al. (2022) explain the interaction between these two elements within the framework of dynamic capabilities. While organizational agility facilitates digital transformation by enabling rapid adaptation to digital technologies and timely sensing of change, digital transformation, in turn, supports the sustainability of agility through enhanced digital capabilities. This interplay,

occurring in the context of digital capabilities, provides organizations with strategic flexibility, the ability to restructure resources, and contributes to achieving competitive advantage by facilitating the adoption of digital technologies. The relevant interaction is illustrated as a conceptual framework in Figure 2.

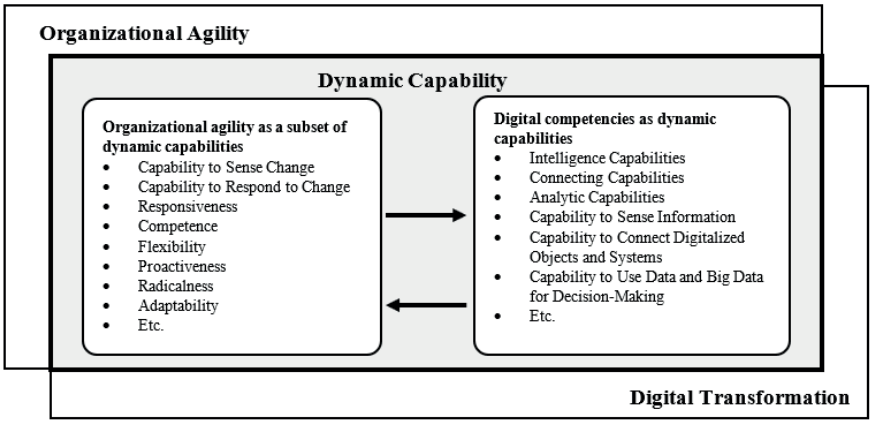

Figure 2. *The relationship between digital transformation and organizational agility in the context of dynamic capabilities (Ciampi vd., 2022:4).*

Considering that digital maturity is an assessment model that reflects the digital transformation level of organizations and reveals the areas in need of improvement related to the process, this concept, like digital transformation, is in direct interaction with organizational agility. Yeganegi and Azar (2012) emphasize that using technological elements provides organizations with capabilities such as understanding the environment, perceiving change, acting flexibly, gaining organizational information, making rapid decisions, etc., and directly affects organizational agility. Considering that organizations using technology have reached a certain level of digital maturity, digital maturity makes it easier for organizations to gain agility features. In fact, this assumption is supported by the studies in the literature. Atobishi et al. (2024), Ravichandran (2018), and Şen and Torlak (2025) explored that digital maturity positively and significantly affects organizational agility; Alakaş (2024), Çalışkan (2025), Fachridian et al. (2024), Ly (2024), Salem and Atheeb (2024), and Zhang et al. (2023) emphasized that agility positively impacts the digital maturity of organizations. Furthermore, studies by Ciampi et al. (2022), Çalışkan (2025), and Özdemir (2023) reveal a significant relationship between the two concepts. Çallı and Çallı (2021) emphasize that digital maturity and organizational agility have a positive impact on firm performance.

Organizations with an agile structure adapt more easily to the rapidly

changing conditions of the digital age, which significantly contributes to the development of corporate digital maturity (Tutar and Erdem, 2024). Furthermore, the majority of organizations engaged in the digital maturation process prioritize initiatives aimed at enhancing their organizational agility (Kane et al., 2025). It has also been observed that organizations with high digital maturity tend to exhibit more agile, experimental, collaborative, and learning-oriented structures (Rader, 2019). In this context, organizations with high digital maturity can leverage their digital competencies to establish more agile structures, and through enhanced agility, they can adopt innovative management approaches that further increase their digital maturity.

The interplay between digital maturity and organizational agility is critical not only for businesses but also for the field of education. Educational institutions must integrate contemporary technologies into their processes to meet the expectations of their stakeholders and to restructure themselves to address these changes. In this regard, educational institutions must accurately understand their current levels of digitalization and areas of activity requiring improvement, anticipate technological changes in their environment, and respond quickly and flexibly to address these challenges. Therefore, implementing the concepts of digital maturity and organizational agility with a holistic approach plays a critical role in ensuring that educational institutions can effectively execute these processes.

Digital maturity serves as a guide by revealing the extent to which educational institutions have embraced technology, how they have transformed their areas of activity (governance, teaching, etc.), and areas requiring improvement. Agility, on the other hand, stands out as a strategic competency that enables educational institutions to adapt their technological and institutional expertise to changing conditions, stakeholder expectations, and global education trends. As educational institutions, from primary to higher education, increase their digital maturity, they can develop more flexible and interactive learning processes and adapt teaching in a more student-centered manner. By adopting a more agile management approach, these institutions can adapt more quickly to technological change and develop more flexible and effective learning models to respond to crises in an educational environment fraught with uncertainty.

When evaluated from these perspectives, the combined and interactive application of digital maturity and organizational agility significantly contributes to educational institutions' sustainability goals and competitive advantage. For example, schools with high digital maturity and agile management not only respond more quickly to students' individual learning needs but also support regional and national development by equipping students with skills aligned with labor market demands. At the higher education level, this interaction fosters the acceleration of research and development activities, strengthens

university-industry collaborations, and promotes the development of innovation-focused entrepreneurial ecosystems. In basic education, it is seen in more flexible curricula, student-centered teaching practices, and digitally supported assessment systems.

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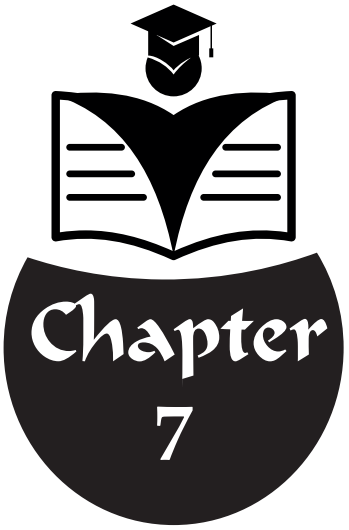

THE DEVELOPMENT OF COGNITIVE AND EDUCATIONAL SUCCESS IN THE EARLY YEARS AND SOCIAL CLASS-BASED DIFFERENCES, INEQUALITIES AND GAPS IN CHILDREN'S READING ABILITY

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Introduction

Research has confirmed and documented differences, inequalities and gaps that exist in cognitive and educational consequences, especially in reading literacy, among children from diverse socioeconomic origins (Cooper and Stewart, 2020; Duncan, Ludwig and Magnuson, 2007; Schubert and Becker, 2010). Over the past few decades, higher levels of educational acquisition have been observed among women compared to men in most Western countries (DiPrete and Buchmann, 2013). Little research has investigated the interplay between gender and social origin in shaping educational consequences, and there has recently been increased consideration regarding the disadvantaged boys' academic performance and lagging behind in learning (OECD, 2015). It has been asserted that the degree to which inequalities accumulate across the life course – for instance, in cognitive and educational success, experiences in the early years, and the different levels of parents' investing time and money in education – plays an especially significant role in comprehending and accounting for differences, inequalities and gaps in adult life chances (Smeeding, Erikson and Jantti, 2011; Erola, Jalonen, and Lehti, 2016). It has been indicated that the degree to which children are exposed to educationally-increasing activities at an early age, not only at home but also outside the home, during the early years and elemantary school education, is of great significance for comprehending and accounting for the cognitive differences, inequalities and gaps that emerge among children.

Utilizing an explicit intersectional approach, the current research made use of data from a longitudinal study on a representative sample of children as well as their families to investigate social class-based differences, inequalities and gaps in cognitive consequences at age 9 and in cognitive development between ages 3 and 9. The research considered learning environment in home of children and their exposure to preschool and elemantary school education as key mechanisms for reproducing cognitive and educational inequalities. The analysis concentrated on children's cognitive outcomes as educational attainment plays a long-standing, predetermined role in reproducing inequality through generations (Bukodi and Goldthorpe, 2013). It was also claimed that there was a swift growth in the rate of individuals' attainment of academic qualifications in societies (Fahey and Curran, 2016).

Inequality Based on Social Class or Socioeconomic Status

It has been indicated that individuals' cognitive and educational skills are favored and poor education is undesirable in today's societies and labor markets. It has been asserted that differences, inequalities and gaps in early cognitive skills in childhood can have deep and long-standing outcomes for individuals, their labor market consequences, as well as life chances (Ermisch, Jantti and Smeeding, 2012). In the past, research on the relationship between

social class or socioeconomic strata and educational inequality had a tendency to concentrate mostly on later stages of young individuals' educational careers, whereas it has been demonstrated that differences, inequalities and gaps in cognitive development by social class or socioeconomic status emerge starting from an early age, even before children enter school (Sylva, Melhuish, Sammons, Siraj and Taggart, 2010). Passaretta and colleagues (2022) discovered that a significant 50–80% of the positive influence of parental education, as an indicator of social class or socioeconomic status, on language skills measured at the end of elemantary school was already determined before school entry. Likewise, research on gender differences in educational consequences tended to concentrate on older age groups (DiPrete and Buchmann, 2013), although gender diverses in skill development were clear and obvious even prior to school entry (DiPrete and Jennings, 2012; Hanse and Jones, 2010). However, cognitive inequalities in children in the early years have been investigated through the perspective of social class or socioeconomic status (Blossfeld et al., 2017).

It has been asserted that social origin is a multidimensional concept comprising the independent impacts of family social class or socioeconomic status and education of parents (Erola, Jalonen, and Lehti, 2016; McMullin, McGinnity, Murray and Russell, 2020). Thereby, mothers' education has been regarded as a significant variable for comprehending and explaining children's cognitive and behavioral outcomes. Maternal education potentially reflects a broader perspective on the conditions and context in which children develop, and it has been considered to be an indicator of family social class as a measure of social capital or social background. Maternal education has been regarded as a core element within the family microsystem and a crucial aspect of early childcare.

The Role of the Learning Environment in Home in Cognitive Success of Children

Research on social inequality has concentrated on a significant area of interest, examining how and to what extent parents transmit advantage or disadvantage to their children (Smeeding, Erikson and Jantti, 2011). The social class of parents reflects the social background of their children. Children are born, raised, socialized and educated in families from different social classes or socioeconomic strata. Children reach a certain educational and occupational position thanks to the educational opportunities provided by their parents. Research has compared and studied the educational and occupational positions children reach and attain through educational opportunities with the help of their parents' social class or socioeconomic stratum. Karlson and Birkelund (2019) dealt with the framework that displayed the educational and occupational positions and locations reached and achieved by children born and raised in different social backgrounds

and social classes or socioeconomic strata. It was demonstrated that parents' social class has affected children's early skill formation processes, providing a better comprehension and explanation of the mechanisms through which education becomes a pathway of social reproduction. Socioeconomic factors are considered and identified as a pathway affecting children's cognitive abilities. Varying levels of parental interest and investment in children's education and learning have played a significant role in cognitive development of children (Erola, Jalonen and Lehti, 2016; Foster et al., 2005). Research has referred to the direct role of financial resources in inequalities in children's educational acquisition by highlighting diversities in family resources usable and available to allocate and spend financial resources to reach and access educationally useful materials, experiences and services (Cooper and Stewart, 2020; Duncan, Yeung, Brooks-Gunn and Smith, 1998). On the other hand, the impact of poverty-related psychological distress, anxiety, as well as marital conflict on cognitive, intellectual, social, and behavioral development of children, has been highlighted, addressing the direct role of financial resources in inequalities in children's educational acquisition (Conger and Donnellan, 2007).

To examine the influences of social class on children's early and primary cognitive development, studies have concentrated on parents' attitudes, behaviors, practices and activities - for instance, their beliefs and expectations with respect to child development - in socializing, educating and raising children. Lareau (2002) discussed the existence of differences based on social class in the socialization and education of children and the logic of child-rearing. She observed a pattern of "concerted cultivation" in middle-class or middle-socioeconomic status families. Lareau emphasized that this cultural orientation in middle-class or middle-socioeconomic status families called for the active involvement and role of parents in developing, boosting and increasing cognitive skills and abilities of children. She also stated that working-class parents, on the other hand, adopted a style of socializing, educating and child-rearing that focused on safeguarding and preserving their children's safety and values as a means of "accomplishing natural growth." In line with these arguments, parents with higher education have been found to invest more time in providing active care and developmentally suitable activities to improve and enhance cognitive skills in their children compared to their less educated peers (Kalil, Ryan and Corey, 2012). Parental time allocation and spending, measured in hours of care, has been connected with children's placement, participation and continuation in more prestigious educational and academic pathways, which are linked to higher cognitive scores. Highly educated parents' prolonged time allocation and spending on their children seems to be particularly effective when it happens in early childhood (Cordero-Coma and Esping-Andersen, 2018).

A longitudinal study on child development found that the quality of the learning environment at home is more critical for cognitive development of children than parental income, social class and socioeconomic status or even parental education, implying that what parents do for their children is more important than who they are (Sylva, Melhuish, Sammons, Siraj-Blatchford and Taggart, 2004). Mikus and colleagues (2021) argued that parents' concerted cultivation efforts for their children are already evident and effective in early childhood. Utilizing data from the national educational panel survey, they examined diversities in parents' concerted cultivation efforts for their children by social class and the impact of these diversities on 5-year-old children's math and reasoning skills. Mikus and colleagues (2021) discovered that parents from higher social classes or socioeconomic status were more likely to record their children in regulated leisure activities and read to them more on a daily basis. Nevertheless, they reported that parental concerted cultivation efforts for their children provided a moderate contribution to cognitive development of children, and emphasized that only participation in musical activities accounted for some of the differences in children's math and reasoning skills specific to social class.

Researchers deliberated on whether the impact of social class or socioeconomic status origin was fully explained by the nature of the learning setting at home and concluded that structural inequalities were clear and obvious even when parental practices were taken into consideration (Sullivan, Ketende and Joshi, 2013; Washbrook, Gregg and Propper, 2014). Moreover, some researchers have criticized approaches that concentrates on what parents do, and argued that it turns attention to 'blaming' parents by emphasizing what parents do rather than narrowing greater inequalities in society (Gillies, Edwards and Horsley, 2017; Hartas, 2014). Experimental studies have revealed that the quantity and quality of the environment that provides children with language and speech skills, such as the number of words or sentences heard per hour or day, sentence complexity and vocabulary diversity, are closely associated with the social class or socioeconomic status of the parents as well as the verbal abilities of the children (Hart and Risley, 1995; Hoff, 2003). This underlined the significance of checking for not only the social class origin in which children are born and grow up (parents' social class) but also their learning activities at home.

McMullin et al. (2020) discovered that the effects of a variety of parental activities with 3-year-old children on children's vocabulary scores at age 5 displayed differences across social class backgrounds. When compared with family income or social class, parental education moderated the relationship between social class background and children's vocabulary scores to a certain extent. The influences of social class and family income varied across levels of learning activities at home. Higher levels of learning activities at home offset

and relieve the influences of social class and family income for those with lower levels of family income or lower social class and socioeconomic status categories.

Parents' activities with their children may display differences based on the child's gender from an early age (Smyth, 2016). It has been determined that, other things being equal, girls engage in more concerted cultivation than boys, including parental interest in their children's schoolwork and participation in extracurricular activities (Cheadle and Amato, 2011). These early differences have at least to some extent accounted for adult differences based on gender in intellectual cultural engagement (Christin, 2012). Researchers have alleged that gender differences in child-rearing, socialization and education may differ by social class or socioeconomic status background, with larger gender differences observed at higher socioeconomic levels (Warner and Milkie, 2013).

It has been asserted that exposing children to activities involving high levels of language and speech input in both home and outdoor settings is particularly influential in enhancing early literacy skills in children. The present research concentrated on parents' reading to children as a key aspect of the learning environment at home. It was claimed that specific mechanisms existed for improving and expanding children's vocabulary through parental reading (Klein and Kogan, 2013). Firstly, by means of reading stories, children were able to learn new words not employed in everyday interplays. Secondly, by reading stories to children, their knowledge of story structures and their listening comprehension skills are improved. Thirdly, reading aloud to children is regarded as a form of print exposure. Thereby, other elements of literacy skills, including children's letter recognition, can be promoted by reading storybooks to children. Apart from the direct impact on literacy skills of children, it has been alleged that when parents read to their children frequently and repeatedly in early childhood, children exposed to reading activities are more likely to become more zealous, enthusiastic and curious readers themselves, and their literacy skills improve as much as they read. Klein and Kogan (2013) have also discovered that parents' frequent reading to their children in early childhood positively impacts children's own reading behavior by the end of elemantary school.

Early Childcare and Education

From a policy standpoint, not only early education and childcare, but also formal education are considered potential tools for narrowing inequalities in society. Kulic and colleagues (2019) have constantly revealed that high-quality early education and childcare for children between the ages of 3 and 5 in the community improves academic, cognitive and educational consequences of children (Kulic, Skopek, Triventi and Blossfeld, 2019). Another study has

alleged that when children from disadvantaged social class or socioeconomic status origins receive high-quality early education and childcare, it creates a positive impact on cognitive outcomes, despite a relationship of moderate magnitude (Blossfeld, Kulic, Skopek, Triventi, 2017), and it emerges as a balancing and equalizing impact on cognitive outcomes across children from diverse social class origins (Burger, 2010).

Research has revealed that early childhood education and childcare programs are influential in developing and upgrading the cognitive and noncognitive skills of children exposed to disadvantaged environments and circumstances in their homes (Heckman, 2006). Nevertheless, from a life course perspective, sociologists have not only considered the long-term outcomes of early investments but have also focused on how experiences of children brought about by early education are inserted and integrated into larger systems of social stratification (Mayer, 2004).

Over the past years, demands for early childhood education and childcare services, including formal childcare as well as preschooling, have suddenly burst into the scene in industrial societies as both a form of social investment and a social policy tool to develop and advance women's job (Esping-Andersen, Gallie, Hemerijck and Myles, 2002). The following five research questions guided the review: (1) What are the theoretical mechanisms reinforcing the effects of parents' social class on cognitive development of children? (2) Does early childhood education and child care balance or equalize the effects of social class or socioeconomic status on children's cognitive skills in families from diverse social classes or socioeconomic status? (3) Is early childhood education and child care beneficial for cognitive skills of children? And, are there children who get more profit from education in early childhood and child care compared to others? (4) Who has the opportunity to receive early childhood education and childcare? (5) To what extent does the context of receiving education in early childhood and childcare shape social inequalities in participation in early childhood and childcare and in early educational success?

Research on Differences, Inequalities and Gaps in Cognitive and Educational Success in Kindergarten and School Age

In past decades, social science research has revealed a strong connection between academic achievement of children and their families' social class or socioeconomic status. Moreover, meta-analytical studies describing a large body of previous literature have determined that the average correlation between social class or socioeconomic status and students' academic success from preschool through Grade 12 is approximately 0.30 (Şirin, 2005). Recent trend research has shown that social class -based differences, inequalities and gaps in students' academic success have been on the increase over the past

50 years (Chmielewski 2017, Reardon 2011). Various large-scale international student assessment surveys, including the Programme for International Student Assessment (PISA), the Progress in International Reading Literature Survey (PIRLS) or the Trends in International Mathematics and Science Survey (TIMSS), have documented and confirmed the existence of social class-based differences, inequalities and gaps in students' academic achievement in elementary school education and secondary school education (Van de Werfhorst and Mijs, 2010).

Recent longitudinal research has presented proof that social class-based differences, disparities and gaps in students' academic success are rooted very early in lives of children. While cognitive differences, disparities and gaps in postnatal abilities among infants born into families from diverse social class or socioeconomic status appear very small in magnitude (Fryer and Levitt, 2013), these cognitive differences, disparities and gaps clearly become apparent and expand rapidly as infants become toddlers and toddlers reach preschool age (Feinstein, 2003; Fernald, Marchman and Weisleder, 2013; Skopek and Passaretta, 2018). At kindergarten entry, social class or socioeconomic status-based differences, disparities and gaps in early reading and math skills have been proposed to be wide and significant and they can predict pretty well later educational and academic achievement differences, disparities and gaps in school (Bodovski and Youn, 2012; Lee and Burkam, 2002). It has also been determined that while skill differences, disparities and gaps in language, speech and reading emerge during the preschool years, social class or socioeconomic status-based differences, disparities and gaps in cognitive skills narrow and decrease, or widen and grow as children progress through the educational stages of elementary and middle school (Bradbury, Corak, Waldfogel and Washbrook, 2015; Farkas and Beron, 2004; Skopek and Passaretta, 2018). Comparative research has informed that social class-based differences, inequalities and gaps in reading and math skills remain stable from the end of elementary school to the end of whole education and training (Dämmrich and Triventi, 2018; Rözer and Van de Werfhorst, 2017).

It has been asserted that social class or socioeconomic status-based differences, disparities and gaps in students' cognitive and academic success are wide and likely to increase in communities of origin. It has been indicated that these cognitive differences, disparities and gaps first appear to develop early in infancy and toddlerhood, thus being profound and large before school entry and not likely to diminish throughout the school years. Hence, it has been alleged that social class-based differences, disparities and gaps in children's early cognitive skill development across families in society lay the groundwork for and give rise to later achievement gaps in children's schooling and later life.

Social Class and Child Development: From Child Socialization, Education and Raising Practices to Educational and Teaching Opportunities

Researchers, thinkers and writers dealing with child development have theorized about the causal processes linking parents' social class to academic success of children (Bradley and Corwyn 2002; Duncan and Magnuson 2003; Duncan, Magnuson and Votruba-Drzal, 2015). In general, the concepts of social class pertain to the position and status of parents within a society's stratification system regarding education and occupation as well as income. Parents' social class impacts and determines whether parents have access to and benefit from the monetary and material sources of income, the knowledge and skills obtained through education and the social capital and prestige gained through occupational status (Bollen, Glanville and Stecklov, 2001; Duncan, Magnuson and Votruba-Drzal, 2015). Four major theoretical perspectives have tried to account for the connection between parents' social class and children's cognitive and academic success. These four factors that play a crucial role in children's educational, cognitive development and achievement include: (1) the resources parents allocate to and invest in education and cognitive development of their children, (2) stress and tension stemming from low family income or poverty, (3) cultural practices and activities for children within the family (Bradley and Corwyn 2002; Conger and Donnellan 2007; Duncan, Magnuson and Votruba-Drzal, 2015), and (4) stratification, differentiation and inequality in educational opportunities on the basis of social class of parents (Boudon, 1974; Jackson, 2013).

Family investment models have underlined the importance of social class-based differences, inequalities and gaps in parents' power and capacity to allocate and spend both time and money, as well as useful resources, to stimulate, nurture, and enhance educational and cognitive development and achievement of children (Conger and Donnellan 2007). (1) Resources, such as money, accomodation, household furnishings, social norms, or parental skills, and (2) behaviors, such as allocating and spending time with children, getting involved and engaged in lives of children, encouraging and guiding children, as well as demonstrating warmth and affection, have been regarded as the two basic forms of parental investment in children (Longo, Lombardi and Dearing, 2017). Parents from higher social class were able to furnish their children with better educational materials and higher-quality care, or to send them to better institutions such as daycare centers, preschool institutions and kindergartens in early childhood. Research revealed that parental investment in children's education, as well as the amount of money they alloted and spent, increased from the 1970s to the 2000s; at the same time, social class-based or socioeconomic status-based inequalities in investment in children's education, allocation and spending have grown significantly (Kornrich and Furstenberg, 2013). Higher-educated parents were able to attain more knowledge and skills

and pass down such knowledge and skills to their children through sufficient and proper socialization, education and upbringing (Ermisch, 2008). They were more deeply concerned with and engaged in school and preschool lives of their children

(Fan and Chen, 2001). Parents from higher social classes or socioeconomic status were more likely to have better working conditions and spend longer and higher-quality time with their children (Gracia 2015). Taking into consideration costs and benefits, parental choices and preferences related to the quantity and quality of education and training during children's school and preschool years could be affected by their social class or socioeconomic status (Breen and Goldthorpe, 1997). Investing in children's educational perspectives highlights the importance of the effective and dynamic nature of talent development in children and argues that skills promote and bring about other skills. This perspective asserts that the effective and dynamic nature of talent development can promote cognitive skills in children by allocating, spending, and investing time and money in their education at an early stage. Investing in children's educational perspective demonstrates that investment in children is at least as effective as a function of these cognitive skills (Heckman and Cunha, 2007).

Genetic research has suggested that there exists an association and interaction between socioeconomic status and genes, and that higher parental socioeconomic status expands the genetic influence on children's academic success. This is defined by the fact that children from families with higher socioeconomic status enjoy more opportunities to experience and go through quality learning and have a genetically impacted predisposition to learn (Tucker-Drob and Harden 2012). Hence, it has been asserted that investing in children's education at an early stage, especially in their early childhood, is more influential and efficient, and that investing both time and money in their education proves to be more promising in the long term, and yields greater returns, gains and outcomes (Heckman, 2006). It has been alleged that, at the level of social class, the learning pathways and processes reveal a strong mechanism of accumulative advantage, and that even minor initial differences and inequalities in early skills can bring about large gaps across the course of life (DiPrete and Eirich, 2006).

Family stress theory posits that when experiencing economic difficulty, hardship, deprivation, or poverty, parents come under pressure and feel emotionally distressed. This pressure and emotional distress lead to negative consequences for family life and positive socialization, education and parenting practices (Conger and Donnellan, 2007). Parents' negative attitudes and behaviors toward children during socialization, education and parenting processes, including inconsistent behavior, lack of support, as well as corrective or severe practices, can undermine cognitive development through

psychological noncomformity in children (McLoyd, 1998). Unemployment and instability in professional life can lead to stress and tension and thus endanger cognitive development of children by obstructing family relationships, undermining the quality of socialization, education and child-rearing, as well as parents' relationships and interactions with their children (McLoyd et al., 1994). The theory postulates that the weakening of psychological, neurological and biological foundations and supporting elements through exposure to violence, environmental threats and other difficulties in early childhood can damage and impair cognitive and psychological development of children (McEwen and McEwen, 2017).

The cultural explanation based on social class highlights the role of socialization, education and child-rearing practices as a set of beliefs, values, rules and norms that provide guidance to parents in their endeavours to raise, nurture, socialize and educate their children. It has been alleged that families raise, nurture, socialize and educate children through culturally distinct and diverse belief systems, knowledge, language and speech skills, attitudes, behaviors and activities; consequently, leading to the reproduction of cultural capital specific to social class in the form of belief systems, knowledge, language and speech skills, attitudes, behaviors and activities (Bourdieu 1977; De Graaf et al., 2000; Lareau 2003). It has been asserted that cultural capital offers advantages to children from families of higher social class, and consequently, children from families of higher social class are more likely to be successful (Lareau, 2003). Early socialization and education research during childhood has revealed that parents' occupational and work positions can affect how they socialize, educate and raise children through their experiences of self-direction and autonomy in professional life (Kohn, Slomczynski and Schoenbach, 1986). It has been proposed that in child socialization and education, considerations and motivations particular to social class or socioeconomic stratum are likely to influence and moderate educational aspirations and decision-making of parents (Breen and Goldthorpe 1997).

It has been emphasized that socialization, education and child-rearing practices, as a set of beliefs, as well as values, rules and norms that provide guidance to parents in their efforts to raise, nurture, socialize and educate children, and parents' educational aspirations, thoughts and motivations, have varying impacts on children and shape their educational and academic performance before and after entering the school system. While the general impacts of schools can be operated to compensate for, offset and eliminate differences, inequalities and gaps in children's cognitive skills, which may be greater and develop in the absence of formal education in society (Downey and Condron, 2016; Raudenbush and Eschmann, 2015), it has been asserted that the fact that children are initially born, live and grow up in educationally different environments on the basis of ability has severe outcomes for later

social inequality in society (Domina, Penner and Penner, 2017). It has also been noted that listing and classifying different and heterogeneous schools and classrooms consolidates and enhances not only the experiences of teachers in terms of educational programs, resources in school, the quality and pace of teaching, but also the predictions of peer influence (van Ewijk and Sleegers, 2010) or self-actualization (Eder, 1981) through their expectations, labeling of students, and their relationships and interactions with students. Sorting students into groups by ability in elementary school (Condron, 2008), and selecting and placing students in secondary school based on their cognitive ability scores are given as examples of these processes (Blossfeld et al., 2016). Nevertheless, it has been stated that parental social class or socioeconomic status can shape educational experiences of students through differences in the educational selection and placement of equally performing students, often described as secondary influences of social origin (Boudon, 1974; Breen and Goldthorpe, 1997; Jackson, 2013). Thus, it has been stressed that when children start formal education and training, the family's social class or socioeconomic status interacts with educational differentiation and institutional stratification, which leads to the emergence of accumulative advantage processes in learning. While accumulative advantage processes in learning suggest that children from families of lower social class are disadvantaged, their peers from families of higher social class are much more advantaged.

To sum up, family investment theory, the family stress model and culture provide complementary and partly overlapping perspectives to account for how and to what extent differences, inequalities and gaps across social class within a society shape distinct and varied cognitive consequences among children. These theories touch upon the nature of relationships and interactions between adults and children, and the type of socialization, education and childcare. The theories determine the quality of the environment as a basic condition for children's cognitive, intellectual, educational and academic development, and the significance of variables mediating the connection between parental social class and children's academic success. Nonetheless, it has been asserted that parental social class or socioeconomic status continues to shape educational consequences as it steers children's academic life through various interactions with school stratification mechanisms.

Discusson

The present study utilized a longitudinal research on a representative sample of children to examine differences, inequalities and gaps in cognitive outcomes among children. The study handled differences, inequalities and gaps in literacy skills of children on the basis of both social class and gender, and how and to what extent these changed over the years. The research focused on the role played by home learning environments, the quality of formal preschool care and education, as well as formal learning environments

in primary school, in shaping differences, inequalities and gaps in cognitive outcomes of children. Reading skills at age 9 varied according to both gender and social class, with particularly large differences, inequalities and gaps between children from families in professional social class positions and their peers from backgrounds where neither parent held a job. Girls obtained moderately higher reading scores than boys across all social classes. Gender differences, inequalities and gaps appeared similar across groups in social class poistions, although they were larger for the small, most marginalized groups. Thus, boys from unemployed families emerged as a particularly at-risk group for poor educational performance in middle childhood.

Research has discovered diversities in parental reading to children based on social class or socioeconomic status. When compared with parents from other social classes backgrounds, parents from professional backgrounds or higher social classes backgrounds read to or read with their children more frequently. Rather astonishingly, it has been reported that social class diversities in parental reading practices are often much smaller at age 5, when children generally begin school. Variances in children's reading points at age 9 were explained only to some degree by diversities in children's exposure to parental reading practices at age 3 and age 5. Research has also revealed that parental reading to children at age 3 led to better reading ability at age 9. The presence of a larger number of books of children at home at age 3 also appeared to be related to higher vocabulary points at age 9. Parents' reading to or reading with children influenced cognitive development of children as well as their reading abilities and vocabulary.

Children's longer exposure to school was connected to higher reading test points, while children's attendance at a care-based center at age 3 had a positive impact when school exposure was taken into consideration. Boys seemed to benefit more from the "formal" learning activities offered by elementary school compared to girls. A previous study has discovered that parents' socioeconomic status shapes the function and proficiency of the language spoken, the complexity of speech, and the wideness and depth of the vocabulary employed. The study has also found that parents' verbal interactions with children are likely to be more complex for children from families in more advantaged social class (Hoff, 2003). The findings displayed a strong direct impact of social class or socioeconomic status on reading test points, even after accounting for the learning environment at home, formal early care and education, and taking into consideration vocabulary test points at age 3. Hence, children from families with higher social class or socioeconomic status, as more advantaged groups, achieved greater advance between ages 3 and 9 and obtained higher absolute scores. These results underline the importance of what parents do, rather than who they are, and seem in line with the findings of researchers who emphasize what they do

for their children to explain educational differences, inequalities, and gaps (Sullivan, Ketende and Joshi, 2013; Hartas, 2015).

Inclusion of maternal education into the models narrowed the observed diversities in language points by family social class or socioeconomic status, but did not fully explain these observed diversities. Things like spousal attitudes, work obligations and commitments can be affected to the extent that mothers transfrom beliefs stemming from their educational attainment into parenting practices, A recently conducted analysis on cognitive differences, disparities and gaps in early childhood utilized a decomposition analysis to investigate the relative contributions of diverse environmental factors and also genetic endowment to cognitive development of children at age 3 (Cattan, Fitzsimons, Goodman, Phimister, Ploubidis and Wertz, 2022). The present study accounted for just over 20% of the variance in cognitive development of children. It found that genetic endowment contributed less than 2% and that educational environment was by far the largest explanatory factor (9%). This analysis utilized variables such as maternal education, maternal language and speech skills, learning activities at home and formal childcare in the early years to measure educational environment. Curiously, emotional and behavioral difficulties at age 3 demonstrated that both the educational setting and child characteristics such as gender, ethnicity and first-born status elucidated proportionally more variance in cognitive development, in contrast to a similar decomposition analysis conducted on such difficulties (Cattan et al., 2022).

Coming back to the outcomes of the present study, the findings demonstrate that reading to children provides obviously distinct benefits for cognitive consequences, and that social class diversities in parental reading to children account for just a small portion of the social class differences and gaps. Besides, more disadvantaged families seem to be particularly aware of reading behavior as children enter school. Such behavior may be promoted, inspired and culturally responsive to schools themselves, which means that parents should support reading behavior as formal learning begins. Schools, and in fact preschools, could play a significant role in stimulating parents to be involved and engaged in their children's learning at home. It was highlighted that plans and schemes should be developed to improve children's access to and use of books, and to give parents advice on the significance and purpose of reading to their children. It has been indicated that it is important to consider ways to encourage and educate all parents to determine how and to what extent they can enhance and enrich the educational potential of individuals at home. The learning environment at home is regarded as just one element of a complex variety of factors influencing the connection between social class background, gender and cognitive consequences. Depending on their social class or socioeconomic status, parents' financial resources, the quality

of housing, their physical and mental health, as well as their support networks and perseverance, can affect their ability to ensure a supportive learning environment at home. In this regard, it has been alleged that measures implemented to narrow social disparity more largely through the tax/benefit system can ultimately create a greater effect on reducing differences, inequalities and gaps in children's reading abilities at age 9 based on social class than efforts to develop, enhance and reinforce parental involvement and engagement.

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