

The effect of Philosophy for Children (P4C) activities on the development of moral perception and social rules of preschool children

Ummuhan Unal¹, Gokhan Gunes²

Abstract: The purpose of the study was to examine the effects of P4C implementations on children's perceptions of moral and social rules. The study was carried out with a total of 48 children aged five years old, 23 of them in the experimental group and 25 of them in the control group, attending a public school in the 2023–2024 academic years. A quasi-experimental design was used in the research, and the fully mixed sequential equal status design, one of the mixed research typologies, was applied. The Preschool Children's Conceptions of Moral and Social Rules Scale was applied in the quantitative dimension of the research, and observation, interviews, and anecdotal records constituted the qualitative data collection dimension. Briefly, after the implementation process, the experimental group's perception of moral and social norms improved. In the current study, a substantial difference between the children's moral rule and social rule perceptions after the P4C sessions was discovered when the experimental group's moral rule and social rule perception scale scores were analyzed before and after the implementation. A noticeable improvement in cognitive and social-emotional development was seen. It was determined that positive behaviors improved, particularly in moral situations requiring tolerance, in the experimental group. The study came to the conclusion that teaching children philosophy helps them enhance their critical thinking skills.

Article History

Received: 02 February 2024

Accepted: 22 May 2024

Keywords

P4C; P4C activity set; Moral perception; Social rules development

Introduction

Moral development progresses alongside cognitive development, with distinct stages of formation. As children's reasoning skills improve, they become better equipped to make moral judgments (Piaget, 1932, 1965). According to Baker et al. (2021), especially in childhood, the capacity of social reasoning is dynamic. Although this capacity is sensitive to task demands, task performance may suffer under new conditions (Sodian et al., 2016). While Piaget's work (1932, 1965) suggested children primarily focus on the consequences of actions, recent studies reveal that even eight-month-old infants can make judgments about the underlying intentions behind those actions (Hamlin, 2013; Lee et al., 2015; Margoni & Surian, 2016). Piaget's theories of moral development (Piaget, 1932, 1965) and cognitive development (Piaget, 1952) emphasized children's ability to understand abstract principles in later stages (formal operational stage). This concept has been the subject of long-standing debate. Recent studies (Dumontheil, 2014; Gunes & Sahin, 2020; Woolley & McInnis, 2015) have shown that children as young as five years old can demonstrate an understanding of abstract concepts. Groundbreaking research on the moral development of babies, conducted nearly two decades ago, revealed that toddlers possess a moral core (Hamlin et al., 2007; Kuhlmeier et al., 2003; Wynn, 2008; Wynn & Bloom, 2014). To briefly summarize, the results of these experiments were carried out with toddlers (you can also watch these experiments from Pressbooks, n.d.); choosing the one that helps the object trying to climb, not the one that hinders it (Hamlin et al., 2007), choosing the puppet that helps the puppet trying to open the box (Hamlin & Wynn, 2011) and asking to punish the puppet which escaped by picking up the ball (Hamlin & Wynn, 2011), demonstrates that babies

¹ Mersin University, Institute of Education Sciences, Primary Education Department, Mersin, Türkiye, e-mail: ummuhankaya33@icloud.com, ORCID: <https://orcid.org/0000-0003-2892-243X>

² Mersin University, Faculty of Education, Department of Early Childhood Education, Mersin, Türkiye, e-mail: gokgunes@mersin.edu.tr, ORCID: <https://orcid.org/0000-0002-8923-3315>

have moral judgments towards the helpful/good one, and also they have sense of justice towards the harmful/wrongdoer, who should be punished. These results are opened to question not only Piaget's (1932, 1965) approach to moral development of children but also Kohlberg's (1958) thoughts about children up to nine years of age are primarily motivated to avoid punishment and seek rewards.

Toddlers, who can exhibit positive choices towards abstract concepts such as good, bad, helpful, punishment and justice, continue to develop their moral development and their ability to follow social rules which serve social harmony by the help of improving their conceptual development and critical thinking skills at the early childhood period. One of the educational approaches used to improve children's thinking ability is Philosophy for Children (P4C) (Lam, 2021; Lipman, 2003). At this point, Lipman et al., (1980) listed the benefits of philosophy for children on children's moral development as follows:

- Philosophy for children enables the child to recognize the emotions of others and develop empathy skills through dialogue.
- Philosophy for children contributes to children's moral development by directing them to discuss moral concepts.
- Ethical inquiries are carried out with children by discussing concepts such as truth and justice in philosophy.
- With ethical questions, children can evaluate their own value judgments and their impact on themselves.

The approach to philosophy with children is based on the understanding that a philosophical perspective can be acquired by individuals through appropriate education from an early age. The prerequisite for raising children who think, want to acquire knowledge, are curious and act rationally is to integrate pre-school education with thinking skills (Lipman et al., 1980). Philosophy for children, which is a thinking education program that gives children different perspectives; It also guides children to learn and think better (Lam, 2021). The program helps children make meaning from their experiences, giving them 'tools' to think and be aware of their own thoughts and the thoughts of others (Fisher, 1999). Philosophy for Children is a cognitive program that uses dialogic pedagogy to develop children's reasoning, creativity, social skills and ethical understanding (Trickey & Topping, 2004). Actually, the definitions of P4C in the literature such as approach (Zoabi & Lobont, 2022), thinking skills program (Trickey & Topping, 2004) or pedagogy (Lipman, 2003) shows that there was no consensus on the conceptual definition of Philosophy for Children. However, it can be thought that the content of Philosophy for Children includes vital requirements for improving inquiry-based learning via thinking skills such as; critical, collaborative, global, analytic, creativity, and reasoning.

Philosophy for Children, often abbreviated as P4C, aims to develop the four thinking skills as Creative, Caring, Collaborative and Critical thinking skills. P4C sessions begin with a stimulus on the topic to be discussed. The stimuli of P4C, which are chosen in accordance to the developmental level of the children or the participants, can be books, pictures, cartoons, poems or songs. Everyone sits in a circle during P4C sessions, with the teacher acting as a facilitator, not a leader. At the end of the session, the group tries to reach a philosophical question on the subject and the answers of the participants to this philosophical question are discussed objectively (Fisher, 2008; Lipman, 2003).

According to McGuiness (2005), P4C plays an important role in improving thinking skills, especially in the classroom via philosophical inquiries focused on exploration and questioning. P4C can be accepted as a strong pedagogy that helps individuals become people who think more, can put forward a judgment, can defend and exemplify their judgment (Lipman, 2003). Moreover, P4C supports child academic and social achievement (Millett & Tapper, 2012), improves their tolerance level and acceptance level of respect to new ideas, values and differences (Siddiqui et al., 2019). Children make their own reasonable judgements and think about philosophical issues and also develop their curiosity via P4C (Oyler, 2016). The socio-structural and pragmatist aspect of P4C pedagogy (Roversi et al., 2022) contributes to the development of different perspectives and flexible and active thinking of children (Lipman et al., 1980). In addition to these,

P4C implementations have positive effects on the students' reasoning, reading and non-cognitive skills (Ventista & Paparoussi, 2016). As P4C provides an environment for critical thinking, conceptual analysis and interpersonal dialogue on common problems in a democratic and philosophical environment, it contributes to children's being researchers and staying that way (Fletcher et al., 2021). On the other hand, Gorard et al. (2017) emphasized some criticism toward P4C such as; there are some problems about the clarity in the measurement of objectives (Slade, 1992), inability to provide an environment of free thought and questioning (Hayes, 2015), P4C pedagogy perception is not fully established and its implementations are not fully understood (Vansieleghem, 2005).

Significance and Purpose of the Study

Pre-school education and thinking skills should be integrated as a prerequisite for raising children who think, want to gain knowledge, are curious and act rationally. According to Lipman et al. (1980) including P4C pedagogy in pre-school education will make a difference in children's thinking skills, academic achievement and social development. In addition, it is stated that P4C can contribute positively to the moral development of children with the following items:

- enabling the child to realize the feelings of others and to develop empathy skills through dialogue;
- contributing to the moral development of children by directing them to discuss moral concepts;
- conducting ethical inquiries with children by discussing concepts such as truth and justice;
- through ethical inquiries, children evaluate their own value judgments and their impact on themselves.

Contrary to the opinions of influential theorists such as Piaget or Kohlberg, who emphasized children could not exhibit mature moral development before abstract thinking skills or formal operation stage, examining the effects of P4C on pre-schoolers' development of moral judgments based on abstract concepts, seen as the significant of the current study.

The stimuli used in the P4C sessions developed specifically for this research were unique and had not been tried in any implementation before. On the other hand, in the screening of P4C-based studies conducted in Türkiye between 2008 and 2023, it was reported that only 31 studies in total were found, 15 of which belonged to pre-schools. According to the results obtained in these studies, the effect of P4C implementations on five basic areas of participants' thinking skills, social skills, philosophical thinking skills, cognitive achievements and creativity were examined. Among these 31 P4C studies, the most implementations were for thinking skills (21 implementations), followed by social skills (14 implementations), followed by philosophical thinking skills (10 implementations) and cognitive achievements (5 implementations), while the least implementation was for creativity (2 implementations) have been determined to be relevant to the fields (Lafcı-Tor, 2023). Similarly, when focusing on international literature, it is seen that P4C contributes to children's critical thinking skills (Ab Wahab et al., 2022; Wu, 2021), reading skills, reasoning, non-cognitive skills (Ventista, 2017), their ability to understand the cause-and-effect relationship (Ventista & Paparoussi, 2016) and also citizenship education for marginalised children (Cassidy et al., 2018).

The current study's focus on moral development, apart from thinking skills, creativity or philosophical thinking skills, has the potential to contribute to the gap in the field. Thus, the aim of the study was to examine the effects of P4C activities on pre-schoolers' perceptions of moral rules and social rules.

Method

Participants

The study was conducted with a total of 48 children aged five years old, 23 of them in the

experimental group and 25 of them in the control group attending a state preschool in Ankara during the academic year of 2022/2023, selected to purposive sampling method. Control and experimental groups were randomly selected. Children in the control and experimental groups attend two different classes, the control group is in class A and the control group is in class B. There are no children with learning disabilities or special education needs in both the control group and the experimental group. All children participating in the study are Turkish, and 23 of them belong to middle socio-economic level families (10 in the experimental group and 13 in the control group), and 25 (13 in the experimental group, 12 in the control group) belong to high socio-economic level families. The parents of all children in the control and experimental groups have a bachelor's degree. Purposeful sampling is used for the identification and selection of deep information cases in cases limited resources (Patton, 2014). In this technique, the participants are in the immediate vicinity, easily accessible, and volunteers are selected as the study group for participating in the research. The strengths of this method are not only useful in in-depth examination, discovery and explanation of situations, facts and events that think to have rich information (Patton, 2014) but also examine the participants feelings, experiences, thoughts, opinions, events, activities, experiences (Onwuegbuzie & Leech, 2007).

Ethical Process

Ethical permissions were obtained from the provincial national education directorates where the research was conducted (protocol number: E-14588481-605.99-66954112) and Mersin University (approval number: 2021/05) to which the researchers were affiliated. The children and their parents were informed about the study. The study was started after signed voluntary consent forms were obtained from the families of the children who wanted to take part in the study. Children who attended the current study were coded with numbers, e.g., C1, C2, C3, ... C48 to record the data.

Research Design

In the research, both qualitative and quantitative data were used in accordance with the nature of the mixed method in order to examine the effect of philosophy activities for children on children's perceptions of moral and social rules in a comprehensive and multidimensional way and to ensure the validity and reliability of the collected data. The mixed method model is based on the idea that the deficiencies of each data group can be eliminated by integrating qualitative and quantitative design data (Johnson et al., 2007), as a type of research in which qualitative and quantitative research approaches are combined to address and validate various elements with a broad and deep understanding (Creswell & Creswell, 2018).

The time and dominance dimension determines the typology of mixed method (Leech & Onwuegbuzie, 2009). In the current study, fully mixed sequential equal status design, coded as F3, was followed as a methodological path of mixed method (see Figure 1). In the first stage of current research, quantitative data were collected for the pre-test, and then qualitative data were collected during the implementation process and finally quantitative data for the post-test. The F3 that was employed in the current study is compatible with models of mixed methods and were suggested by other researchers (Creswell & Creswell, 2018; Johnson & Onwuegbuzie, 2004).

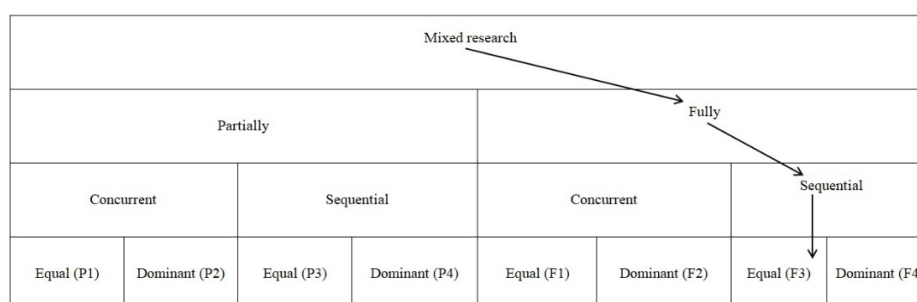


Figure 1. The mixed method typologies of Leech and Onwuegbuzie (2009) and the methodological path followed in the current study

The implementation process was applied in different classes rather than in the researcher's own class as one of the precautions for taking into account the risk of validity and reliability. The experimental and control groups were determined by considering this precaution. The quasi-experimental design was preferred in this study, in which both the participants and the control and experimental groups were not randomly assigned (Creswell, 2008), in accordance with the purposive samplings. In the analysis of quantitative data based on scales, statistical analyses were used to compare control and experimental groups. Moreover, the content analysis, for making inferences by systematically and objectively identifying messages from participants (Holsti, 1968), was used in the analysis of qualitative data obtained through observation, interview and anecdotal recording (Creswell & Creswell, 2018, Onwuegbuzie & Leech, 2004).

Data Collection Tools

Preschool Children's Conceptions of Moral and Social Rules Scale

In the current study, Preschool Children's Conceptions of Moral and Social Rules Scale, was used for determining the children's conceptions of moral and social-conventional rules, was developed by Smetana (1981) and adapted to Turkish culture by Secer and Sari (2006). The scale consists of two subscales that aim to measure adherence to moral items 1 from 5 and social rules items 6 from 10. Both Moral and Social rules dimensions of the scale consists of five sub-dimensions are Seriousness, Absence of Authority, Absence of Rules, Generalization and Punishment. The item testing each sub-dimension is scored between 1 and 3, and a minimum of 10 and a maximum of 30 points can be obtained from the whole scale, with a minimum of 5 and a maximum of 15 points from both the moral rules and social rules dimensions. The Cronbach alpha value of Preschool Children's Conceptions of Moral and Social Rules Scale was calculated .74. In another study where the scale was applied in Turkish culture, Cronbach alpha values were found to be .80 for the moral rules and .83 for the social rule (Özcan & Güngör-Aytar, 2023). The Pearson Correlation value was found .78, $p=.000$ of test-retest reliability was obtained three weeks after the initial interview for 32 of the 48 participants. Similarly, Smetana (1981) found the reliability value of test-retest of scale was .66, $p<.01$.

The five moral stimulus items were;

1. One child hitting another child;
2. A child not sharing a toy;
3. A child shoving another child;
4. A child throwing water at another child;
5. A child taking another child's apple.

The five social-conventional stimulus items were;

6. A child not participating in show and tell;
7. A child not sitting in the designated place (on a rug) during story time;
8. A child not saying grace before snack;
9. A child putting a toy away in the incorrect place;
10. A child not placing her belongings in the designated place (Smetana, 1981, p. 1334).

In order to evaluate the children's perceptions of moral and social rules, the following questions were asked about each of the pictures:

1. Do you think the event in the picture is true or false? If this is wrong, how wrong do you think it is? (Severity Dimension)
2. If the teacher did not see what the child in the picture was doing, would this behaviour of the child be correct? (The Dimension of Lack of Authority)
3. Would this behaviour of the child be correct if there was no rule set before regarding the event in the picture? (Absence of Rules Dimension)
4. Would it be right for this child in the picture to behave like this in another school or at home? (Generalization Dimension)
5. Should the teacher punish this child for this behaviour? If yes, how much punishment? Is it a

little or a lot of punishment? (Penalty Dimension)

While the items were scored between 1 and 4 points for (smallest face), “a little bit bad”, “very bad” or “very, very bad” (largest face)” in the original scoring of the scale (Smetana, 1981) as a result of our pilot implementations, the items were scored between 1 and 3 because children could not fully understand the distinction between “very bad” and “very, very bad.”

Scoring of the scale is as follows:

- Happy facial expression (approving) = 1 point
- Slightly angry facial expression (disapproving) = 2 points
- Very angry facial expression (no disapproval, that's too bad) = 3 points

Observation

Due to the facilitator role of the researcher in P4C activities, the observations made during the implementation processes were carried out in accordance with the participant observation method. In this method, researchers collect the data, as in the form of field notes which are unobtrusive and systematical (Bogdan, 1973). All the implementation processes of the 10-week P4C activities were recorded via video recordings of approximately 400 minutes in total, as well as the observation forms (see Table 1) filled by the researcher as a participant observer. Expert opinions were obtained from four experts (academicians from early childhood education) with more than 10 years of professional experience and that have PhD in early childhood education regarding the scope validity of the observation form.

Table 1. Observation form

	Very good	Good	Under development	Should be supported
1	Agreeing/disagreeing with the opinion			
2	Justify			
3	Comparison			
	Distinguish			
	Connect with			
4	Inference			
	Analogy			
5	Logical reasoning			

Interview

In order to increase the quality of the interview and to obtain the most appropriate interview form (Marshall & Rossman, 2014), expert opinions were obtained from five experts with PhD degrees who have 10-15 years of experience working in the field of measurement and evaluation (two experts), P4C (two experts), and one in the field of early childhood education. The interview form is presented in Table 2.

Table 2. Interview Form

Questions	Responses	Chid code:
1	Did we listen to each other caringly today?	
2	Have we thought about the activity we did today?	
3	Have we answered the questions today? Did we provide explanations?	
4	How did we treat each other today?	
5	Did we think of new things today? Have we got any new ideas/thoughts?	

Anecdotal Records

In the current study, anecdotes including the participation of the children in the activity process and the answers they gave to the questions about the P4C session and the general observations in the process were recorded during each P4C session and a total of ten anecdotes were recorded.

Trustworthiness

Reliability and validity play a crucial role for acceptability of the findings in scientific reports. The

methods used to ensure the reliability of data in research based on qualitative paradigms differ from quantitative-based studies. While reliability is tried to be ensured in quantitative research methods, trustworthiness is taken into consideration in qualitative studies. Despite the fact that there are many ways to improve trustworthiness (Creswell, 2014), four criteria-credibility, transferability, dependability, and confirmability-were used in the evaluation (Guba, 1981; Shenton, 2004).

Credibility: In this criterion, Merriam (1998) focused on the question “how compatible are the findings with the reality?” A mixed method, which combined qualitative and quantitative data was used, and data were obtained from a wide variety of sources such as scale, observation, interview and anecdotal records, which are considered important to increase reliability (Brewer & Hunter, 1989). In addition to these, Yin (1994) stated that that the progress of the techniques, methods and implementation happens correctly, in the right order and as planned reflecting the consistency of the findings highlighted in this criterion with reality at the highest level.

Transferability: To achieve these requirements, Shenton's (2004) six-step method was used. First, we selected appropriate schools to allow supervisors of P4C sessions in line with the goals and scope of the study. The fact that the researcher was also a teacher at the school and that the school had easy access was effective in choosing the implementation school. To avoid any validity and reliability problems, the implementation was carried out in classes other than the researcher's own class. Second, we chose the suitable sample using the purposive sampling technique in order to gather pertinent and transferable data. Thirdly, compared to P4C sessions which conducted with a relatively small number of populations, the number of experimental group (23 children) and control group (25 children) in the current study is sufficient to allow for the diversity of qualitative data and for the implementation of statistics to quantitative data. Fourthly, we used a variety of measurement techniques, including scale, observation, anecdotal records, and interview. The fifth phase involved several data collection sessions (each P4C session lasted nearly 40 minutes, interviews lasted nearly 10 minutes for each child, so observations records required about 400 minutes and interviews records about 230 (for 23 children), total of data recording time about 11 hours). The sixth and final point is that we collected data over the course of about three months, which gave us access to information that was sufficiently in-depth and detailed.

Dependability: Using independent, repeated, and cross-comparison procedures, the findings were verified by researchers. A total of 21 meetings were held during the research, with 20 meetings before and after each P4C session, and another meeting at the end of the process, where the general evaluation was made.

Confirmability: The implementations were verified again in chronological sequence with the records, and we independently and frequently studied and compared the findings in-depth findings.

Validity and Reliability Techniques for Analyzing to Quantitative Data

In addition to the trustworthiness steps listed above, the validity and reliability of the current study were increased with some other implementations. One of these implementation, Cronbach alpha internal consistency coefficient for the reliability of the quantitative data, test-retest Pearson correlation coefficient for the consistency of the scale and normality test results were taken into account for the determination of the statistical procedures to be applied. In addition, the P4C sessions were carried out in a classroom other than the researcher's classroom in order to avoid the risk of the researcher directly affecting the results on the participants. One of the other measures taken against the risks that may adversely affect the validity and reliability of the implementation is to seek expert opinions for the content validity of the instruments.

Information About Philosophy for Children (P4C) Activity Set and Implementation Process

In the process of creating the Philosophy for Children (P4C) Activity Set (see App. I for an example of P4C Activity Set), both researchers participated in a total of three courses/seventy-five hours of training programs in order to conduct the research more effectively and accurately and were accredited and received an internationally valid philosophy practitioner and educator certificate.

After the supervision process, the P4C activity set was sent to the four experts, who have experience about P4C and child development, and its final version was created. While creating the activities, the acquisitions in the fields of moral development, social and moral rules were included, while the program was created by taking into account the age and developmental characteristics of the children. P4C activity set consists of 10 activities planned as a 10-week practice for pre-school children. An intervention process lasted approximately three months, from January 9, 2023 to March 27, 2023. All implementation and data collection processes were carried out by the researcher. In Table 3, the 10 concepts and 10 activities in the P4C Activity Set are given together with the implementation dates and implementation periods.

Table 3. P4C weekly activity set

Week	Topic	Philosophical question (philosophical meaning)	Title of the P4C session	Date of P4C session*
1	Intention	What is intention?	Who is guiltier?	9 Jan. 2023
2	Rules	What is rule?	Cheerful forest	16 Jan 2023
3	Power-Authority	What is power/authority?	Otter	23 Jan. 2023
4	Share	What is share?	Tiny rabbit Bobi	30n Jan. 2023
5	Criteria of sharing	Are there any criteria for sharing?	It's mine	20 Feb. 2023
6	Benevolence	What are benevolence / help?	Grumpy flower	27 Feb 2023
7	Criteria of benevolence	What is the criterion of benevolence?	Kind-Hearted Giant Memo	6 March 2023
8	Truth	What is truth?	I did not do that	13 March 2023
9	Honesty	What is honesty?	Tree Mounted Kite	20 March 2023
10	Favour	What is favour?	Why is the deer sad?	27 March 2023

*all P4C session lasted about 40 minutes

Findings

The findings regarding the results of the quantitative and qualitative data obtained as a natural result of the mixed method implementation were reported under separate headings such as “Results of quantitative data” and “Results of qualitative data” to strengthen the conceptual expression.

Results of Quantitative Data

What are the Moral and Social Rule Perception Levels of Children?

First of all, normality test was applied to understand the distribution of the Preschool Children's Conceptions of Moral and Social Rules Scale and the results are shown in Table 4.

Table 4. Preschool children's conceptions of moral and social rules scale's normality test results

	Kolmogorov-Smirnov			Shapiro-Wilk		
	statistic	df	p	statistic	df	p
Preschool Children's Conceptions of Moral and Social Rules Scale	.076	48	.200*	.973	48	.327

Since Kolmogorov-Smirnov and Shapiro-Wilk normality test results indicated normal distribution ($p>.05$), analysis procedures were continued with parametric tests.

The Moral and Social Rule Perception Scale Pre-Test descriptive statistics results are presented in Table 5.

Table 5. Experimental and control group total pre-test descriptive statistics results of preschool children's conceptions of moral and social rules scale

	Min.	Max.	\bar{X}	S	SD
Moral rules sub-dimension	16.00	37.00	29.73	21.05	4.59
Social rules sub-dimension	13.00	37.00	28.75	28.45	5.33
Total	29.00	73.00	58.48	84.64	9.20

N=48

In the pre-test results, it was determined that the children participating in the study exhibited approximately 65% positive attitudes in both moral rules and social rules sub-dimensions, which were

above the medium level. Similarly, it was calculated that they had a positive retention rate of 67% in the context of moral and social rules from the whole scale.

T-test analysis results for moral and social rule perception between experimental and control groups are presented in Table 6.

Table 6. Pre-test results of the preschool children's conceptions of moral and social rules scale of the experimental and control group

	Group	\bar{X}	SS	t	SD	P
Moral rules sub-dimension	Experimental	30.78	5.03	1.548	46	.128
	Control	28.76	4.00			
Social rules sub-dimension	Experimental	30.13	5.59	1.758	46	.085
	Control	27.48	4.86			
Total	Experimental	60.91	10.00	1.799	46	.079
	Control	56.24	7.94			

$N_{\text{experimental}}=23$, $N_{\text{control}}=25$

It is seen that the pre-test mean scores of the experimental group and the control group are close to each other both in the whole of the scale and in both dimensions (moral rules and social rules), and there is no statistically significant difference between the groups ($p>.05$).

The Effect of P4C Implementations on Children's Perceptions of Moral Rules and Social Rules

After the P4C sessions, T-test was applied on post-test scores of experimental and control groups' points belong to Preschool Children's Conceptions of Moral and Social Rules Scale, to understand the effect of the implementation (P4C sessions) on participants' perceptions of moral and social rule. The results of T-test analysis are presented in Table 7.

Table 7. Post-test results of the preschool children's conceptions of moral and social rules scale of the experimental and control groups

	Group	\bar{X}	SS	t	SD	p
Moral rules sub-dimension	Experimental	33.78	3.25	4.980	46	.000
	Control	27.68	4.99			
Social rules sub-dimension	Experimental	31.91	4.34	5.356	46	.000
	Control	25.12	4.44			
Total	Experimental	65.70	6.98	5.929	46	.000
	Control	52.80	7.99			

$N_{\text{experimental}}=23$, $N_{\text{control}}=25$

It is seen that there is a statistically significant difference in favour of the experimental group in the whole of the scale and also in both sub-dimensions of moral rules and social rules ($p=.000$). From this point of view, it can be said that the P4C sessions applied within the scope of this research, have a positive effect on the perceptions of moral and social rules of the participating children. In order to understand whether the implementation caused a significant difference between the Preschool Children's Conceptions of Moral and Social Rules Scale pre-test and post-test scores of the experimental group, a t-test was conducted and the analysis results are presented in Table 8.

Table 8. Preschool children's conceptions of moral and social rules scale's pre-test and post-test t-test results of the experimental group

Group	Dimensions	Test	\bar{X}	SD	t
Experimental group	Moral rules sub-dimension	Pre-test	30.78	5.03	-2.580*
		Post-test	33.78	3.25	
	Social rules sub-dimension	Pre-test	30.13	5.59	-1.497
		Post-test	31.91	4.34	
	Total	Pre-test	60.91	10.00	-2.216*
		Post-test	65.70	6.98	

* $p<.05$; $N_{\text{experimental group}}=23$

It is seen that the post-test mean scores of the implementation in the experimental group in the total score of the scale and in the moral rules sub-dimension are statistically significant and higher than the pre-test mean scores. Although it does not indicate a statistically significant difference in the social rules sub-dimension of the experimental group, it is realized that the post-test scores are higher than the pre-test scores. These findings show that philosophy activities for children contribute to increasing the moral rule knowledge score and social rule knowledge score of the experimental group participants. As a result of the implementation applied to the participants, it can be said that philosophy activities for children increase the level of children's knowledge of moral and social rules.

Results of Qualitative Data

Children's Responses in P4C Sessions

Qualitative findings regarding the effects of P4C implementations on children's perceptions of moral and social rules were obtained from observations, interviews and anecdotal records, and in the following section, these data are included through examples selected from the implementation weeks.

Theme: Power (authority) - Otter Story

In the Story of Otter which is the third week activity, the following questions was discussed;

Should hedgehogs do what they are told or not? Why? (prompt question)

Why do animals fulfil the wishes of the otter? (transition question)

Should we always do the wishes of those who are stronger than us? Why? (transition question)

What is power (authority)? (philosophical question)

The story Otter was read in two parts in practice. After reading the first part, the children were asked the prompt question, should the hedgehogs do what they are told or not?, Why?.

They shouldn't, because the otter didn't treat them nicely and didn't use nice words (C1).

They shouldn't do it because he didn't use the magic word (C23).

They shouldn't, because the otter wasn't chosen as king. He is not the king (C9).

They shouldn't do it because the otter disrespected the hedgehogs and didn't treat them kindly (C3).

They shouldn't, because the otter gives orders to the hedgehogs. This is not a good thing (C13).

While all of the children answered they should not do it, they explained their reasons in different ways. At this point, an imaginary opponent was created as a facilitator. It was observed that three of the children changed their minds after the imaginary opponent was created.

Let them do it because the otter has declared himself king. There is no disrespect to the king (C19).

Let them do it, because together with the lion, the otter can become king (C15).

They should do it because the otter might get very upset and angry if they don't (C21).

After reading the second part of the story, participants were asked: Why do animals fulfil the otter's wishes? (transition question).

Because the otter is bigger than them, because what the big guys want is done (C11).

What the kings want is done, if it is not done; he punishes them and puts them in prison (C3).

Kings are powerful and what they want is done. If it is not done, the kings will be angry (C7).

Should we always do the wishes of people who are stronger than us? (transition question)?

Yes, because powerless people cannot do what they want on their own (C23).

No, we shouldn't do it all the time. Because they can lie to us and if we do whatever they want, bad things may happen to us (C6).

Yes, because if we don't do it, they may treat us very badly and punish us (C12).

Lastly, the philosophical question that what is Power (Authority)? was asked to the participants.

To rule everyone in the world (C3).

Keeping everything in your hands (C18).

To change and become stronger, and therefore to be able to do anything (C11).

Having the power of the world in your hands, having everything you want (C1).

Expressing their different perspectives on the concept of power (authority), children stated that it is the authority that holds the power, and that angering the powerful can have bad consequences.

Theme: Criteria of Sharing - It's Mine

In the story of *It is Mine* which is the fifth week activity; the following questions were discussed;

Should Piccolo give his banana to Oskar or not? Why? (prompt question)

Should we share our belongings with people who do not share their belongings with us? (transition question)

Is there a criterion for sharing? (philosophical question)

After reading the story, the participants were asked the prompt question Should Piccolo give his banana to Oskar or not? Why? and an investigation was initiated.

Let him give, because sharing is nice (C17).

He should give it, because if he doesn't, their friendship cannot be maintained (C4).

He shouldn't give it because she didn't share it with him (C9).

He should give it; otherwise, he will get angry with her (C2).

He shouldn't give it to her; he didn't give her the toy (C14).

The second question (prompt question). was asked to the participants: Should we share our belongings with people who do not share their belongings with us?

Yes, maybe when we share, he will learn how good it is to share (C3).

Yes, maybe he will realize the mistake he made (C13).

We don't have to share, we can do it if we want, if we don't want, we cannot share it (C9).

Those who do not share will be doing evil. If we do not share, we will also be doing evil (C4).

We must share so that he can like us (C10).

Lastly, the philosophical question was asked to the participants; Is there a criterion for sharing?

While all of the participants answered, there is a criterion for sharing; they expressed their reasons in different ways.

There is, I can share it with people I know (C4).

It exists, if I like it, I will share it (C1).

There is, if he is my friend and he shares his things with me, I will share his things too (C10).

While the criterion for sharing according to children is stated to be people they love or know, it has been observed that sharing their belongings is perceived as doing well, while not sharing their belongings is perceived as doing evil. Children also expressed that not sharing is a bad thing, while the perspective of I will share if he shares or maybe he will share is dominant. When the answers received from the interview questions were examined, the children stated that they enjoyed the activity process and were curious about what we would do in the next activity. We always read new stories and talk about different things.

I'm very curious about what we will do next time (C4).

I think we talk about very entertaining things, we all say different things (C9).

Theme: Favour – Why is the Deer Sad?

In the tenth week, the implementation, titled *Why is the Deer Sad?* The picture of a crying deer and its friends near to it was shown to children and the following questions were discussed;

What do you think could be the reason why the deer is sad? (prompt question)

What can its friends do for the deer? (transition question)

What is favour? (philosophical question)

After the picture was shown, an investigation was initiated with the prompt question which was what do you think could be the reason why the deer is sad?

He might have injured his foot and it hurts (C20).

Some evil-hearted person might have hurt the deer (C16).

He might have been pricked by a thorn in his foot (C23).

He might have fallen and injured or cut himself somewhere (C17).

Since the answers given by the participants were that the deer might be upset due to physical pain, the question, which was not included in the activity plan, was asked; do you think we only get upset when a part of us is injured or hurts, that is, when we suffer physically?

We get sad and cry when our friends don't include us in the game. (C17 who changed his initial thought)

If they leave us alone at night, we get scared and sad. (C16)

We also get sad when the electricity is cut off and we stay in the dark at night. (C19)

When we get scared, we get sad and cry a lot. (C7)

Then, the facilitator asked another transition question which was what can their friends do for the deer?

If he has a wound, they can take him to the veterinarian and bandage his wounds (C3).

They can share happiness with him. They can take him to the park (C21).

They can understand why he is sad and help him (C13).

They can help him, if he is hurting, they can take him to the veterinarian for treatment and they will be doing him a favour (C6).

When the targeted concept of favour was expressed by the investigating community, the facilitator moved on to the philosophical question that was: What is goodness?

It means not getting angry or punishing (C7).

Feeling love for everyone and sharing something they need with them (C8).

Helping those in difficult situations (C3).

Doing things for each other, loving each other and to make happy (C4).

Taking those in need into our homes and helping them (C6).

Not breaking hearts. Hugging each other (C19).

Sharing our Barbie house and toys we love, not dislikes (C20).

Being sensitive and helping everyone (C1).

While the majority of the children expressed sadness as physical injury, hurting and suffering, they stated that being alone and being in the dark (frightening to them) was also a sad thing. According to children, showing kindness, being good heartedness, helping people who need help, sharing their favourite toys, were seen as favours.

When the answers received from the interview questions with the children after the last activity were examined, they stated that they thought a lot about the activities, sometimes changed their ideas and enjoyed them very much.

We thought about very different things, it was very enjoyable to think with my friends. (C3)

I agree with my friends, it was different from the stories we normally read, we thought more and got new ideas (C17).

Discussion

The results of the research show that there is no significant difference in the perceptions of both moral rules and social rules of the participating children in both the experimental group and the control group, that is, the children are close in structure. When the answers given by the children to the scale questions are examined; it was concluded that social rules are perceived as more flexible than moral rules and that moral rule violations are defined as more serious and more punishable situations than social rules violations. In his research, Smetana (2006) stated that children evaluate moral rule violations as more serious, requiring more punishment, and wrong even if there are no rules. When the pre-test and post-test average scores of the experimental and control groups were compared, it was observed that while the post-test scores of the experimental group increased, there was no increase or even a decrease in the post-test scores of the control group. This decrease was due to the fact that the children became more integrated with each other in the 10-week period between the pre-test and the post-test and, accordingly, they were influenced by each other. Children's peer relationships are shaped by children's individual characteristics and their interactions with each other (Qashmer, 2023). In communicating with their peers, children become behaviourally similar to each other over time. For example, while children who spend time with aggressive peers exhibit aggressive behaviours over time (Liu et al., 2013) children who spend time with sharing and cooperative peers learn these behaviours and these behaviours are reinforced (Laursen &

Veenstra, 2021). There are studies supporting the results obtained in the current study that P4C sessions significantly and positively affect in strengthening children's social cohesion, social rule and moral development levels. In one of these studies, García-Moriyón et al. (2020) stated that the P4C educational concept supplies for creating areas where students can reflect on the kind of person and society they wish to become. Moreover, the formation of community feelings, according to Sharp (1995) is essential for the development of the pro-social virtues (such as sincerity, courage, care, honesty, considerateness, compassion, sensitivity, integrity, etc.) and character structures of the students in the class. This is in addition to developing a set of tools and procedures specific to ethical reflection. It has been reported that the philosophy with children curriculum, which was prepared by the Institute for the Advancement of Philosophy with Children (n.d) (IAPC, establishment in 1974), benefits from Royce and Powell's (1983) multifactorial personality systems theory, contributes positively to the development of some cognitive and emotional dimensions regarding the moral development of children. Developmental examples in cognitive; deduction and induction, impulsiveness, sensitivity to issues, idea flow, originality, cognitive complexity, abstract and concrete thought, etc. are all examples of cognitive skills. It has been observed that not only abstract concept development, but also children's listening to each other skills during the practices, teacher-child interaction and children's tendency to ask more questions have improved. These results also coincide with the findings of the Evaluation report and Executive summary Report about Philosophy for Children. In summary, the report emphasizes that P4C appears to have a positive effect on broader outcomes like students' speaking confidence, patience when listening to others, and self-esteem, according to teachers and students' feedback. Certain instructors thought that P4C had a beneficial effect on overall student involvement in the classroom and may have led to certain students asking more questions throughout all classes (Gorard et al., 2015). Based on this, it can be said that P4C implementations develop not only abstract definitions such as authority, sharing and kindness which are good reflections of social and moral rules but also develop curial social skills such as listening to each other, asking questions, self-expression. Self-awareness, sincerity, realism, cooperation, assertiveness (self-possession), tolerance for the strange, reflexivity, accomplishment motivation, and other characteristics are included in the affective domain. The P4C program, which was implemented, reinforced the students' moral habits and competences, according to the experimental study that looked at how the program affected the development of social, cultural, and ethical values in sixth-grade pupils (García-Moriyón et al., 2020). It appears that the results of the current investigation, which was conducted with a five year-old age group, are consistent with the findings obtained in older age groups.

According to the findings obtained from the three implementation examples presented above, in which abstract concepts such as authority, sharing and kindness were investigated, five-year-old children can develop conceptual explanations for the definition of abstract concepts. In fact, although Piaget (1964) stated in cognitive development theory, the development of abstract concepts could occur at formal operational stage (11 years old and up), recent studies (Hu et al., 2021; Gunes & Sahin, 2020; Lin et al., 2020; Woolley & McInnis, 2015) have reported some remarkable results which support the findings of current study that the development of abstract thoughts and ability to define abstract concepts can be observed at earlier ages. In addition to the studies emphasizing that abstract, thoughts and definitions for abstract science concepts can be developed around the age of five (Hu et al., 2021; Gunes & Sahin, 2020; Woolley & McInnis, 2015), it is reported that game-based implementations (Lin et al., 2020) and computational implementations (Bati, 2022) support abstract thinking in early childhood. It can be concluded that not only the subject/theme dimension but also the implementation dimensions improve abstract thinking.

In current study, it was observed that children expressed positive opinions about social rules such as sharing; doing favours or obeying the rules, and either questioned the concepts of authority or gave answers indicating emotional understanding and social competence. Similar results were reported in previous study (Giménez-Dasí et al., 2013), the P4C program was applied to the four and five age group, it was reported that there was a significant improvement in children's social interactions, social competences and emotion comprehension, consistent with the findings of current study. It is seen that P4C sessions contribute not only to children's abstract thinking or ability to think with abstract concepts (such as;

concepts of power, authority etc.) which is an important indicator in their cognitive development, but also to the positive development of their moral and social (punishment, love, rules, sharing, bad, good, justice etc.) perceptions. It is seen that the progress made by the children in the context of moral and social perception during the P4C implementation process of the current research is compatible with Lipman's (2008) thoughts about that P4C could be useful not only for developing thinking skills but also for moral education. Lastly, it may be claimed that the findings of this study support claims of Ann Sharp (2009), who is one of the P4C pioneers, P4C research can contribute to communities via a strong pedagogy in terms of moral development.

Conclusion

It was determined that there was an increase in the perception of moral and social rules of the experimental group after implementation process. In the research, when the experimental group's moral rule and social rule perception scale scores were examined before and after the implementation, a significant difference was found between the children's moral rule and social rule perceptions after the P4C sessions. Moreover, a visible progress was observed in the areas of cognitive development and social-emotional development, it was concluded that positive behaviours increased, especially in moral situations requiring tolerance in experimental group. The significant differences obtained on behalf of the experimental group in the post-tests applied at the end of the research are due to the P4C sessions applied. This idea is based on the fact that the behavioral changes in the control groups were not at a level that could cause a significant difference during the process, and that the children reflected the thoughts and inferences that would form the basis for positive behaviors, together with the practices in the anecdotal records and observations in the sessions of the experimental group. The study concluded that philosophy activities for children contribute to the development of critical thinking standards. At the end of the 10 P4C sessions implemented within the scope of this research, it was observed that children from experimental group have not only improved their thinking skills, but also have been able to develop conceptual explanations for important and abstract concepts such as justice, honesty, sharing, human rights, empathy and sharing. Moreover, children, in experimental group, have demonstrated collaborative and attentive approaches to problem solving.

Limitations and Implications for Future Research

This study has some potential limitations. The primary limitation to the generalization of these results is sample size, the second limitation concerns the access and the last one is longitudinal effects. Although the fact that the research is limited to 23 experimental groups and 25 control groups is considered sufficient in terms of qualitative research methods, it points to limitations in the quantitative dimension of the research. In an ideal P4C session, it is recommended that the number of the participants in inquiry community being twelve to sixteen participants the optimal number, since they provide a good variety of perspectives and chances for contributions (Fisher, 2008). In this context, one of the limitations of the research is that the experimental group itself cannot be divided into smaller parts and increasing the number of groups which involved ideal number of participants. Other potential participants could not be reached due to the limited number of classes in the schools, where chosen by purposeful sampling method, the research was carried out. Due to time problem; the inability to test the permanence or long-term effects of the implementations is considered to be another limitation of the research.

Implementing similar studies by increasing the number of samples, examining the relationships between P4C implementations and emotion regulation and personality development, and discussing the differences in depth with research groups that include different age groups and socio-economic status can be offered as suggestions for researchers. It may be recommended for early childhood educators to use P4C activities as a tool to recognize and evaluate the child, and to enrich the activities by changing the themes or stimuli in P4C activities.

Declarations

Authors' Declarations

Acknowledgements: This article is based on the related sections of the Ümmühan Ünal master's thesis called "Investigation of the effect of philosophy activities for children on the perceptions of moral and social rules of children" at the Mersin University, Institute of Educational Sciences, under the direction of Assoc. Prof. Gokhan Gunes.

Authors' contributions: Both authors contributed equally to this work.

Competing interests: The authors declare that they have no competing interests.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethics approval and consent to participate: This research was conducted with the permission of Mersin University ethics committee, protocol number 2021/05, and the permission of the National Education Directorate, protocol number E-14588481-605.99-66954112. The children and their parents were informed about the study and signed voluntary consent forms which were obtained from the families of the children who wanted to take part in the study before starting to the research. Personal information of no child in the study was included, and all of them were coded as C1, C2, ... C48.

Publisher's Declarations

Editorial Acknowledgement: The editorial process of this article was completed under the editorship of Dr. Carmen Huser through a double-blind peer review with external reviewers.

Publisher's Note: Journal of Childhood, Education & Society remains neutral with regard to jurisdictional claims in published maps and institutional affiliation.

References

- Ab Wahab, M. K., Zulkifli, H., & Abdul Razak, K. (2022). Impact of philosophy for children and its challenges: A systematic review. *Children*, 9(11), 1671.
- Baker, E. R., D'Esterre, A. P., & Weaver, J. P. (2021). Executive function and Theory of Mind in explaining young children's moral reasoning: A test of the hierarchical competing systems model. *Cognitive Development*, 58, 101035. <https://doi.org/10.1016/j.cogdev.2021.101035>
- Bati, K. (2022). A systematic literature review regarding computational thinking and programming in early childhood education. *Education and Information Technology*, 27, 2059-2082 (2022). <https://doi.org/10.1007/s10639-021-10700-2>
- Bogdan, R. (1973). Participant observation. *Peabody Journal of Education*, 50(4), 302-308.
- Brewer, J., & Hunter, A. (1989). *Multimethod research: A synthesis of styles*. Sage.
- Cassidy, C., Christie, D., Marwick, H., Deeney, L., McLean, G., & Rogers, K. (2018). Fostering citizenship in marginalised children through participation in Community of Philosophical Inquiry. *Education, Citizenship and Social Justice*, 13(2), 120-132. <https://doi.org/10.1177/1746197917700151>
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Pearson Education, Inc.
- Creswell, J. W. (2014). *Research Design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. (5th ed.). Sage.
- Dumontheil, I. (2014). Development of abstract thinking during childhood and adolescence: The role of rostral lateral prefrontal cortex. *Developmental Cognitive Neuroscience*, 10, 57-76. <https://doi.org/10.1016/j.dcn.2014.07.009>
- Fisher, R. (2008). *Teaching thinking. Philosophical enquiry in the classroom* (3rd ed.). Bloomsbury Publishing.
- Fletcher, N. M., Gregory, M. R., Shea, P., & Sykes, A. (2021). The story circle as a practice of democratic, critical inquiry. *Childhood and Philosophy*, 17, 1-42. <https://doi.org/10.12957/CHILDPHILO.2021.55722>
- García-Moriyón, F., González-Lamas, J., Botella, J., Vela, J. G., Miranda-Alonso, T., Palacios, A., & Robles-Loro, R. (2020). Research in moral education: The contribution of P4C to the moral growth of students. *Education Sciences*, 10(4), 1-13. <https://doi.org/10.3390/educsci10040119>
- Giménez-Dasí, M., Quintanilla, L., & Daniel, M. (2013). Improving emotion comprehension and social skills in early childhood through philosophy for children. *Childhood & Philosophy*, 9(17), 63-89.
- Gorard, S., Siddiqui, N., & See, B. (2017). Can 'Philosophy for Children' improve primary school attainment?. *Journal of Philosophy of Education*, 51(1), 5-22. <https://doi.org/10.1111/1467-9752.12227>
- Gorard, S., Siddiqui, N., & See, B. H. (2015). *Philosophy for children: Sapere, evaluation report and executive summary*. Durham: Education Endowment Foundation

- Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Technology Research and Development*, 29, 75-91. <https://doi.org/10.1007/BF02766777>
- Gunes, G., & Sahin, V. (2020). Preschoolers' thoughts on the concept of time. *The Journal of Genetic Psychology*, 181(4), 293-317. <https://doi.org/10.1080/00221325.2020.1753645>
- Hamlin, J. K. (2013). Failed attempts to help and harm: Intention versus outcome in preverbal infants' social evaluations. *Cognition*, 128(3), 451-474. <https://doi.org/10.1016/j.cognition.2013.04.004>
- Hamlin, J. K., & Wynn, K. (2011). Young infants prefer prosocial to antisocial others. *Cognitive Development*, 26, 30-39.
- Hamlin, J., Wynn, K. & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature*, 450, 557-559. <https://doi.org/10.1038/nature06288>
- Hayes, D. (2015). *Philosophy for children isn't real philosophy*. <https://www.spiked-online.com/2015/07/16/philosophy-for-children-isnt-real-philosophy/>
- Holsti, O. R. (1968). Content analysis, In G. Lindzey and E. Aronson (eds.), *Handbook of Social Psychology*, Vol 2. Addison-Wesley.
- Hu, J., Gordon, C., Yang, N., & Ren, Y. (2021). "Once upon a star": A science education program based on personification storytelling in promoting preschool children's understanding of astronomy concepts. *Early Education and Development*, 32(1), 7-25. <https://doi.org/10.1080/10409289.2020.1759011>
- Institute for the Advancement of Philosophy for Children (n.d). *IAPC timeline*. <https://www.montclair.edu/iapc/iapc-timeline/>
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. <https://doi.org/10.3102/0013189X033007014>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133. <https://doi.org/10.1177/1558689806298224>
- Kohlberg, L. (1958). *The development of modes of thinking and choices in years 10 to 16* [Unpublished doctorate thesis]. University of Chicago.
- Kuhlmeier, V., Wynn, K., & Bloom, P. (2003). Attribution of dispositional states by 12-month-olds. *Psychological Science*, 14(5), 402-408. <https://doi.org/10.1111/1467-9280.01454>
- Lafci-Tor, D. (2023). An investigation of research on philosophy for children (P4C) practices in Turkey: A systematic review. *Kaygı. Bursa Uludağ University Faculty of Arts and Sciences Journal of Philosophy*, 22(3), 703-740.
- Lam, C.-M. (2021). The impact of philosophy for children on teachers' professional development. *Teachers and Teaching: Theory and Practice*, 27(7), 642-655. <https://doi.org/10.1080/13540602.2021.1986693>
- Laursen, B., & Veenstra, R. (2021). Toward understanding the functions of peer influence: A summary and synthesis of recent empirical research. *Journal of Research on Adolescence: The Official Journal of the Society for Research on Adolescence*, 31(4), 889-907. <https://doi.org/10.1111/jora.12606>
- Lee, Y-e., Yun, J-eE., Kim, EY., Song, H-j. (2015). The development of infants' sensitivity to behavioural intentions when inferring others' social preferences. *PLoS ONE*, 10(9), e0135588. <https://doi.org/10.1371/journal.pone.0135588>
- Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Quality & Quantity: International Journal of Methodology*, 43(2), 265-275. <https://doi.org/10.1007/s11135-007-9105-3>
- Lin, S., Chien, S., Hsiao, C., Hsia, C., & Chao, K. (2020). Enhancing computational thinking capability of preschool children by game-based smart toys. *Electronic Commerce Research and Applications*, 44, 101011. <https://doi.org/10.1016/j.elerap.2020.101011>
- Lipman, M. (2003). *Thinking in education* (2nd ed.). Cambridge University Press.
- Lipman, M. (2008). *A life teaching thinking*. The Institute for the Advancement of Philosophy for Children.
- Lipman, M., Sharp, M. A. & Oscanyan, F. S. (1980). *Philosophy in the classroom*. Temple University Press.
- Liu, J., Lewis, G., & Evans, L. (2013). Understanding aggressive behaviour across the lifespan. *Journal of Psychiatric and Mental Health Nursing*, 20(2), 156-168.
- Margoni, F., & Surian, L. (2016). Mental state understanding and moral judgment in children with autistic spectrum disorder. *Frontiers in Psychology*, 7, Article 1478. <https://doi.org/10.3389/fpsyg.2016.01478>
- Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research*. Sage.
- McGuinness, C. (2005). Teaching thinking: Theory and practice. *BJEP Monographs Series III*, 3, 107-126. <https://doi.org/10.1348/000709905X61003>
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass.

- Millett, S., & Tapper, A. (2012). Benefits of collaborative philosophical inquiry in schools. *Educational Philosophy and Theory*, 44(5), 546-567. <https://doi.org/10.1111/j.1469-5812.2010.00727.x>
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Enhancing the interpretation of significant findings: The role of mixed methods research. *The Qualitative Report*, 9(4), 770-792.
- Onwuegbuzie, A. J., & Leech, N. L. (2007). Sampling designs in qualitative research: Making the sampling process more public. *The Qualitative Report*, 12(2), 238-254.
- Oyler, J. (2016). Philosophy with children: The Lipman-Sharp approach to philosophy for children. In Peters, M. (Ed.), *Encyclopedia of educational philosophy and theory*. Springer. https://doi.org/10.1007/978-981-287-532-7_226-2
- Özcan, A., & Güngör-Aytar, F. A. (2023). Investigation of moral and social rule conceptions, prosocial behaviors and emotion regulation skills of 60-72 month-old children attending a preschool education institution. *Sakarya University Journal of Education*, 13(2), 140-162. <https://doi.org/10.19126/suje.1069780>
- Patton, M. (2014). *Qualitative research and evaluation methods* (4th ed.). Sage.
- Piaget, J. (1932,1965). *The moral judgment of the child*. The Free Press.
- Piaget, J. (1952). *The origins of intelligence in children*. W.W. Norton & Co.
- Piaget, J. (1964). Cognitive development in children: Development and learning. *Journal of Research in Science Teaching*, 2(3), 176-186. <https://doi.org/10.1002/tea.3660020306>
- Pressbooks. (n.d.). *Psych in real life: Moral reasoning*. <https://pressbooks.nsc.ca/lumenpsychology/chapter/psych-in-real-life-moral-reasoning/>
- Qashmer, A. F. (2023). Emotion regulation among 4-6 year-old children and its association with their peer relationships in Jordan. *Frontiers in Psychology*, 14, 1180223. <https://doi.org/10.3389/fpsyg.2023.1180223>
- Roversi, V., Cavallo, A., & Contage, D. B. M. (2022). Creating the senses of the earth: The natural breath of the community of inquiry. *Childhood & Philosophy*, 18, 1-23. <https://doi.org/10.12957/CHILDPHILO.2022.66131>
- Royce, J. R., & Powell, A. D. (1983). *A theory of personality and individual differences: Factors, systems and processes*. Prentice-Hall.
- Secer, Z., & Sari, H. (2006). A comparative analysis of moral and social rule knowledges of the children who attended and did not attend nursery schools in terms of different variables. *The Journal of National Education*, 172, 126-142.
- Sharp, A. M. (1995). Philosophy for children and the development of ethical values. *Early Childhood Development and Care*, 107, 45-55.
- Sharp, A. M. (2009). The community of inquiry as ritual participation. In E. Marsal, T. Dobashi & B. Weber (Eds.), *Children philosophize worldwide: Theoretical and practical concepts* (pp. 301-306). Peter Lang.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63-75. <https://doi.org/10.3233/EFI-2004-22201>
- Siddiqui, N., Gorard, S., & See, B. H. (2019). Can programmes like Philosophy for Children help schools to look beyond academic attainment? *Educational Review*, 71, 146-165. <https://doi.org/10.1080/00131911.2017.1400948>
- Slade, C. (1992). Creative and critical thinking: An evaluation of philosophy for children. *Analytic Teaching*, 13(1), 25-36.
- Smetana, J. (2006). Social domain theory: Consistencies and variations in children's moral and social judgments. In M. Killen, & J. Smetana (Eds.), *Handbook of moral development* (pp. 119-154). Erlbaum.
- Smetana, J. G. (1981). Preschool children's conceptions of moral and social rules. *Child Development*, 52(4), 1333-1336. <https://doi.org/10.2307/1129527>
- Sodian, B., Licata, M., Kristen-Antonow, S., Paulus, M., Killen, M., & Woodward, A. (2016). Understanding of goals, beliefs, and desires predicts morally relevant theory of mind: A longitudinal investigation. *Child Development*, 87, 1221-1232. <https://doi.org/10.1111/cdev.12533>
- Trickey, S., & Topping, K. J. (2004). 'Philosophy for children': A systematic review. *Research papers in Education*, 19(3), 365-380.
- Vansieleghem, N. (2005). Philosophy for children as the wind of thinking. *Journal of Philosophy of Education*, 39(1), 19-35.
- Ventista, O. M. (2017). A literature review of empirical evidence on the effectiveness of Philosophy for Children. In E. Duthie, F.G. Moriyón, & R.R. Loro (Eds.), *Parecidos de familia. propuestas actuales en filosofía para niños/family resemblances [Current proposals in philosophy for children]* (448-461). Anaya Educación.
- Ventista, O. M., & Paparoussi, M. (2016). Introducing a philosophical discussion in your classroom: An example of a community of enquiry in a Greek primary school. *Childhood & Philosophy*, 12(25), 611-629. <https://doi.org/10.12957/childphilo.2016.24994>
- Woolley, J. D., & McInnis, M. A. (2015). The development of children's concepts of invisibility. *Cognitive Development*, 34, 63-75. <https://doi.org/10.1016/j.cogdev.2014.12.009>

- Wu, C. (2021). Training teachers in China to use the philosophy for children approach and its impact on critical thinking skills: A pilot study. *Education Sciences, 11*(5), Article 206.
- Wynn, K. (2008). Some innate foundations of social and moral cognition. In P. Carruthers, S. Laurence, & S. Stich (Eds.), *The innate mind: Foundations and the future* (pp. 330-347). Oxford University Press.
- Wynn, K., & Bloom, P. (2014). The moral baby. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (pp. 435-453). Psychology Press.
- Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Sage
- Zoabi, M., & Lobont, F. (2022). The P4C approach as a promoter of dialogical creative thinking based on the teachers' perception. *Interdisciplinary Research in Counseling, Ethics and Philosophy, 2*(6), 1-26. <https://doi.org/10.59209/ircep.v2i6.38>