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Children's Self-Regulation in the Context of Participatory Pedagogy in Early Childhood Education

Jonna Kangas
School of Education, University of Tampere
Mikko Ojala and Tuulikki Venninen
Department of Teacher Education, University of Helsinki

Research Findings: Research has shown that self-regulation can support child development in the areas of children's attentional flexibility, working memory, and inhibitory control for excluding impulsive responses. How this is actually related in everyday pedagogical early childhood education (ECE) activities has rarely been studied in detail. In this article self-regulation in a Finnish ECE context was analyzed. The data were collected with a survey questionnaire from 706 teaching teams that involved 2,222 individual teachers located in the capital area of Helsinki, Finland. Self-regulation was analyzed through teachers' perceptions within the context of participatory learning in ECE. The main categories of analysis answered research questions about self-regulation experiences offered to children, teacher support for children's engagement in self-regulation experiences, and children's participation in self-regulation experiences. The findings suggested that the teachers provided children with self-regulation experiences through play activities with their peers and teachers. These activities, which concerned discussing, negotiating, and making suggestions in interaction with others, were seen as an essential part of the children's self-regulation. The results showed that teachers supported children's self-regulation through participation by ensuring children's independent initiatives and listening to their voices and opinions; they also created opportunities for children to participate in decision making. *Practice or Policy:* Our results imply that using the framework of participation is promising when studying children's self-regulation in a pedagogical context where children need both social and cognitive support for their self-regulatory activities.

The aim of this article is to build knowledge about how children's self-regulatory processes in an early childhood education (ECE) learning context can be executed through the participatory pedagogy used in an ECE program in Finland. This goal requires combining understanding of the mechanisms in both participation and self-regulation focusing on learning in early childhood. The focus of the study is on teaching practices that intend to improve children's participation, including having a voice, practicing independent initiatives, and sharing power in decision making about everyday activities (Shier, 2001; Venninen & Leinonen, 2013).

Correspondence regarding this article should be addressed to Jonna Kangas, School of Education, University of Tampere, Akerlundinkatu 5, Tampere, 33100, Finland. E-mail: jonna.leinonen@helsinki.fi

In policy documents (e.g., Organisation for Economic Co-operation and Development [OCED], 2006; Taguma, Litjens, & Makowiecki, 2012). self-regulation is recognized as important for supporting children's development and learning, especially during the early childhood period. As a construct, self-regulation is broad and refers to both behavioral and cognitive processes (Liew, 2012). Based on an increasing number of studies, we agree that the concept of self-regulation is multidimensional, including cognitive and personality perspectives (McClelland & Cameron, 2011). For example, successful self-regulation requires cognitive functions like attention, flexibility, working memory, and inhibitory control (e.g., Happaney, Zelazo, & Stuss, 2004). In classroom behavior, self-regulation is connected to taking turns, persisting on a task, or remembering directions (McClelland & Cameron, 2011). For McClelland and Cameron (2012), self-regulation generally meant the capability to control or direct one's attention, thoughts, emotions, and actions. To develop successful self-regulation, children need both social and cognitive skills. Cognitive skills are needed, as executive processes in self-regulation include attentional flexibility, working memory, and inhibitory control for excluding impulsive responses in order to maintain more stable behaviors. Self-regulation has such sequential phases as task perception, goal setting and planning, enacting, and adapting (e.g., Laskey & Hetzel, 2010; Winne & Hadwin, 2008) and includes motivational elements and self-efficacy.

When it comes to studying children's self-regulation, two approaches can be identified (Liew, 2012). These approaches are a behavioral and temperament-based approach and a whole child approach. The first approach focuses on effort control. Effortful control is supposed to be temperament based, including voluntary control for approaching or withdrawing behavioral tendencies by using attentional or inhibitory control mechanisms (see Liew, 2012). When this approach is adopted, a focus is often on executive functions, where a person is able to engage in deliberate goal-directed activities by using inhibitory control, attention shifting, cognitive flexibility, and working memory (Happaney et al., 2004; Liew, 2012). Because control and executive functions have been studied in different research approaches, there have recently been efforts to view them as complementary rather than incompatible issues in children's self-regulation processes (Liew, 2012). This offers a new viewpoint for researchers working in education and child development if they wish to adopt the whole child approach (e.g., Diamond, 2010; Liew, 2012). Recognition of the whole child has been rooted very strongly in pedagogical philosophy and practice, especially in ECE in the United States (e.g., Blair & Razza, 2007; Epstein & Hohmann, 2012; National Association for the Education of Young Children [NAEYC], 2009) as well as Finland (e.g., Finnish National Board of Education, 2010; "National Curriculum Guidelines," 2005). For example, the national curriculum of preschool education in Finland states that the goal of preschool education is to promote children's development as functional, caring human beings by guiding them to ethically responsible behavior that honors other people's rights (Finnish National Board of Education, 2010).

Through this whole child approach, self-regulation is related to participation. Children's participation supports their skills and self-esteem, improving their learning and supporting better decision making for children and with children (Mayall, 1999; Sinclair, 2004). Participation means the act of taking part in activities knowing that one's actions are acknowledged and may be acted on (Boyden & Ennew, 1997; Morrow, 1999). Sinclair (2004) has expressed that participation is a multidimensional and complex target. Among the key dimensions are (a) level of participation, (b) decision making for children's involvement, (c) nature of the participation

activity, and (d) characteristics of the children involved. By investigating children's participation, researchers can have a better understanding of their competency, vulnerability, and power (control) issues. The age of children can affect their access to participation; usually young children are considered less capable of accessing participation than older children (Smith, 2002).

Teachers' support for children's participation through pedagogy can be considered by offering accessible information and opportunities for interaction, improving relationships between adults and children by developing their practical and communication skills, and building confidence in children skills and competence (Kirby, Lanyon, Cronin, & Sinclair, 2003). Mapping this support for children's participation in ECE requires evaluating and modeling the phenomenon with a theoretical framework. In this research, the pathways to participation model by Shier (2001) was used to analyze and evaluate teachers' support for children's self-regulation through participation. In the next sections we discuss the phenomenon of children's participation and self-regulation and explain the framework for supporting children's self-regulation through pedagogy practices. Through that we form the research questions and the hypothesis for the research.

CHILDREN'S PARTICIPATION IN ECE

Children's participation in the early years consists of practicing independent initiatives and making decisions about everyday activities. For example, children could choose activities freely or participate in decision making about the music activity or gym class (Venninen & Leinonen, 2013). All of these aspects are affected by a child's cognitive structure, experiences, individual and societal perceptions, and the circumstances and structures of the environment. During participation, children experience membership and belonging to a group by being involved, accepted, and engaged. Furthermore, participation experiences are also associated with democratic values and adults sharing power with children and respecting their rights (e.g., Shier, 2001; United Nations, 1989; Woodhead, 2006). According to Rogoff (2008), social cognition is involved in participatory learning, where children experience membership and belonging to a group by being involved, accepted, and engaged. Thus, participation causes positive emotions, such as the joy of social belonging (Venninen & Leinonen, 2013), that are also linked to self-regulation.

Pekrun, Elliot, and Maier (2009) have shown that children's self-efficacy, academic interest, and overall achievement are connected with enjoyment, hope, and pride. Positive emotions enhance academic benefits when children are acting in a goal-oriented way, because they create self-efficacy and encourage exploring, problem solving, and integrating diverse materials (Fredrickson, 2001; Valiente, Swanson, & Eisenberg, 2012). Participation in learning activities causes such positive emotions as the joy of learning together with curiosity, interest, and motivation and is related to academic competence and self-regulation (Fredrickson, 2001). In the Nordic countries, the issue of participatory learning has been considered important in the early years, where it covers capability, part taking, and agency (Nyland, 2009; Sheridan & Pramling-Samuelsson, 2001). The Finnish ECE curriculum recognizes both children's and parents' participation in planning and evaluating educational activities (Finnish National Board of Education, 2010; "National Curriculum Guidelines," 2005).

THE FINNISH ECE CONTEXT

National education policy guides educational activities at all levels of the Finnish education system, including ECE (Education and Research 2011–2016, 2012). The basic principle is that all people must have equal access to high-quality education and training. Education is free of charge at all levels, from preprimary to higher education. For day care for 0- to 5-year-olds, parents pay little according to their incomes, and very-low-income families have free service in ECE.

Early childhood activities have two phases based on the age of children. The first phase is between ages 1 and 6. During this time, different types of day care services are available mainly at kindergartens or family day care. This education provides care, education, and instruction based on knowledge about children's growth, development, and learning. The pedagogy is planned to facilitate early intervention in learning difficulties, offer equal opportunities in education, promote sociability, and reduce social differences in society. The ECE curriculum in Finland is built on a holistic view of children's growth, development, and learning, including pedagogical knowledge, cross-disciplinary information, and pedagogical expertise ("National Curriculum Guidelines," 2005). Self-regulation is needed to strengthen children's positive self-concept and their learning skills. Therefore, it can be said that Finnish ECE is planned to create the foundation for a child's lifelong learning, balanced growth and development, well-being, and health (Education and Research 2011–2016, 2012).

In Finland, every child from 10 months to 6 years old has a right to communal ECE. In 2012, 74% of 3- to 5-year-olds and almost 100% of 6-year-olds participated in ECE following the national curriculum guidelines ("National Curriculum Guidelines," 2005; see also Finnish National Board of Education, 2010). In Finnish day care centers, there is at least one teacher with an academic bachelor's degree and one to three teachers with lower educational degrees on a team. One teacher could be in charge of a maximum of every four children younger than the age of 3 and for seven children older than the age of 3. It is common practice that a work team consisting of three staff members is in charge of a group of children as a class. In Finland, a warm and personal relationship between teachers and children creates a basis for learning ("National Curriculum Guidelines," 2005). Teachers' commitment to the learning situation creates sensitivity to children's feelings and personal well-being. Teachers are advised to listen to children, provide opportunities to show initiatives, decide on their activities, explore, draw conclusions, and express their thoughts (Montie, Xiang, & Schweinhart, 2007; Ojala, 1997, 2000).

When implementing the Finnish ECE curriculum ("National Curriculum Guidelines," 2005), teachers must ensure that children's initiatives and actions are taken into account. It is suggested that teachers support and guide children to become conscious of their own learning and to perceive that they themselves can influence their own success in learning. The expressed concept of learning in the Finnish preschool curriculum for 6-year-olds is supporting the value of children's self-regulation (Finnish National Board of Education, 2010). Preschool learning should be an active and goal-oriented process that includes problem solving.

CHILDREN'S SELF-REGULATION IN A PEDAGOGICAL CONTEXT

There are increasing numbers of studies showing the positive impacts of self-regulative skills on children's learning and development. For example, McClelland, Acock, and Morrison (2006)

showed that in ECE, learning-related skills, including self-regulation and social competence, predicted significantly achievement in reading and math between kindergarten and sixth grade and growth in literacy and math from kindergarten to second grade. They also found that effective self-regulation had favorable influences on children's classroom behavior. This type of evidence supports intervening in children's achievement by developing their self-regulative skills. Individuals with more developed self-regulatory skills have been found to be successful in school, work, and relationships and have more positive mental health in general (Sayette, 2004).

In the United States, compared to many European countries, including Finland, guiding principles of developmental psychology have more influence on ECE. For example, in the HighScope Preschool Curriculum, developmentally appropriate curriculum content is planned to promote children's independence, curiosity, decision making, cooperation, persistence, creativity, and problem solving. Furthermore, it also supports children's autonomy and self-regulation (e.g., Epstein & Hohmann, 2012). For children, self-regulation is a growing capacity to control strong emotions and to stay focused. In this process, teachers can help children learn to self-regulate. Engaging in classroom activities with peers, teachers, and equipment and building the child–teacher relationship have positive outcomes in children's self-regulation development (Portilla, Ballard, Adler, Boyce, & Obradovic, 2014; Williford, Whittaker, Vitiello, & Downer, 2013). Based on research findings, the NAEYC (2009) agreed that children with greater self-regulative and other learning skills are later more skilled in reading and math.

In the Finnish International Association for the Evaluation of Educational Achievement (IEA) Preprimary Study, which examined teachers' expectations of children's learning and development in eight areas in early childhood settings, researchers found that the three most important skills in order of importance were social skills, self-sufficiency, and language (Montie et al., 2007; Ojala, 1997, 2000). However, in the United States, teachers reported that the corresponding order was socializing with peers and adults, language, and self-expression. In this comparative study, self-sufficiency skills were defined as skills that children learn to be independent and care for themselves and their belongings in a responsible manner. This means that children show persistence in a task or activity and finish what they begin or recognize and avoid dangerous behaviors, objects, and products in the environment (e.g., Montie et al., 2007). Because these types of skills are related to self-regulation, according to the studies of Montie et al. (2007), Ojala (1997), and Weikart, Olmsted, and Montie (2003), it seems that Finnish ECE teachers seem to prioritize self-regulation more than ECE teachers in the United States do.

SUPPORTING CHILDREN'S SELF-REGULATION THROUGH PARTICIPATION

Self-regulative processes depend on the context in which they are needed. Taking turns at play, persisting on a task, or remembering the directions for an activity are examples of children's successful self-regulatory activities (e.g., Bulotsky-Shearer, Fantuzzo, & McDermott, 2008; McClelland & Cameron, 2012). These actions are part of children's everyday life in ECE centers, and thus the process of supporting children's self-regulation through participation requires interactions in which teachers give children opportunities to express their views, listen to their voices, and share power in decision-making processes (e.g., Danso et al., 2003). Dahlberg and Moss (2005) have suggested that a pedagogy include active listening, reflecting, arguing, discussing, and interpreting that can support children's involvement and participation.

In this process, the perspectives of both children and teachers are taken into account. If teachers learn to come closer to children's perspectives, children can have rich participatory learning experiences in their educational lives. Furthermore, Mashford-Scott and Church (2011) have shown that teachers can gain knowledge and insights themselves by observing children's conversations in peer interactions. This increases understanding so that teachers and children collaboratively can achieve opportunities for promoting children's self-regulation.

In recent research, Portilla et al. (2014) stated that children's abilities in terms of self-regulation are also socially constructed within interactions where the child–teacher relationship is essential. When children's skills are developing and they are practicing their chances to make choices and demonstrate independent initiatives, teachers should change the support they are giving so that new forms of participation can emerge (Sinclair, 2004; Venninen, Leinonen, Lipponen, & Ojala, 2014). One important way to allow children increasing agency in choosing activities is to give children a voice and opportunities to use it. This means providing opportunities in which children can express their views and have them acknowledged (e.g., Danso et al., 2003).

Self-regulation is also present in social cognition where people can be observed as they process, encode, store, and retrieve social information; the reasoning and application the person makes to social situations based on his or her social cognition are also of interest (e.g., Fiske, 2004; Fiske & Taylor, 2008). Portilla et al. (2014) have found that the social atmosphere is essential in the classroom to support children who have behavioral problems. This could mean that the control dimension could be considered a part of the participatory learning process. Emilson and Folkesson (2006) described the relationship between teacher control and children's participation in toddler classes. They showed that high teacher control in many ways restricts children's participation. Consequently, high control offers children limited choices about how to perform tasks and a limited number of materials with which they can work. In addition, the dialogue between children and the teacher does not develop. In low-control pedagogical practice, children and teachers are in a free dialogue; the teacher gives support, listens to children, and responds continuously to children's initiatives. By using low control, a teacher can support children's experience by respecting their communication and world as seen and heard. Low external control also allows the teacher to access and monitor self-regulatory processes. Control issues are also important to consider in light of Posner and Rothbart's (2000) discussion of the effect the social environment and its norms have on children's development and brain plasticity. They pointed out that adults play an important role in the development of children's self-regulation skills when shaping the social environment and offering opportunities to interact with peers and adults in such informal situations as play.

FRAMING THE SUPPORT PROCESS

Improving children's participation is a process involving not only individual teachers but also entire educational organizations, which in early childhood settings means that teachers working with a group of children must overcome challenges to participation (Rodd, 2004; Shier, 2001). In Shier's (2001) pathways to participation framework, children's participation is supported by five different levels of teacher practices and pedagogy. At the first level of the framework, children's voices are acknowledged, which means that teachers actively listen to children. At the second level, children's opinions and views are actively inquired about and children are

supported to express them. At the third level, children's views are also taken into account and considered a part of the teachers' daily decision-making process. Finally, at the two highest levels, children's decision-making participation and their share of power in the daily interactions in the organization are adopted and improved; thus, children come to share power with teachers. These highest levels are quite similar when the focus is on young children, although Shier (2006) noted that the final power cannot be fully transferred from adults to children. This framework in an ECE context requires active choices or teachers' pedagogical interventions to work and act in daily interaction with children (see Emilson & Folkesson, 2006; Venninen & Leinonen, 2013). The participation of children in this model has been viewed as an important issue opening access for children's learning and self-regulation.

The focus of the present study is on teaching practices that intend to improve children's participation, including having a voice, practicing independent initiatives, and sharing power in decisions making about everyday activities (Shier, 2001; Venninen & Leinonen, 2013). When studying children's self-regulation, McClelland and Cameron (2011) made an important statement that self-regulation can be seen as an integrative ability that is conceptually distinct from its underlying components; thus, it is connected to pedagogical interaction. In our study we analyze children's self-regulation in close connection to ECE pedagogical practices in the day care context. Instead of aiming to study underlying mechanisms connected to cognitive regulation and personality perspectives, we prefer to study self-regulation as a means of promoting ECE practice. When children's participation is supported from a pedagogical point of view, there is a sphere of interaction that may improve self-regulation and related constructs, such as motivation, language skills, cooperation, independence, and interaction with others. Later, these skills promote learning and development as presented previously.

The aim of this article is to build knowledge about how children's self-regulatory processes in the ECE learning context can be executed through participatory pedagogy.

The research questions are as follows:

1. What experiences of self-regulation do children have when engaging in participatory activities?
2. How do teachers offer pedagogical support to children as they engage in these experiences?

We suggest that mapping mechanisms in both participation and self-regulation will allow access to a more insightful understanding of participation and self-regulation. Shier's (2001) pathways to participation model is used to frame support for children's self-regulation through participation by using the whole child approach. We suppose that by increasing teachers' and children's attention toward increasing participation experts can also support children's integrative abilities in self-regulation. This creates an approach of participatory pedagogy, where the teacher's role as a supporter and enhancer of children's development will be essential in the process when children are socializing in the society of adults.

CONTEXT AND METHODS

The present study took place in day care centers in Finland in the capital area of Helsinki (the cities of Helsinki, Espoo, Vantaa, and Kauniainen) in May 2010. This is an urban area and the

only metropolitan area in Finland. It constitutes the living environment of one fifth of all Finnish children younger than school age. The project was conducted in collaboration with the University of Helsinki and the communal day care organization of the capital area cities. The study's focus was on developing research-based tools and practices for supporting children's participation.

Participants

The survey participants were teachers working in day care centers in teams. A total of 706 teaching teams from 394 ECE centers responded to the survey (62% of all ECE classes in the capital area of Helsinki). The teams responded to the survey as a team, not as individuals, because teams are the basic functional and pedagogical units of ECE centers in Finland; they plan and carry out the daily practices in ECE. The participants were asked to evaluate their pedagogical practices in a team meeting and report them in the survey.

The sample of 706 teams included 2,222 teachers who took care of 13,933 children ages 3 to 5 in kindergarten classes ($n = 388$) and age 6 in preprimary school classes ($n = 318$). These teams consisted of two to five teachers working with a group of children. There was no standard class size, but the average was 19.6 children ($SD = 4.6$, min = 7, max = 31). The team members have different educational backgrounds. Some have early childhood or special education qualifications from a university, whereas others have nursing qualifications from a college. Specifically, 47% of the participants had at least a bachelor's degree in teaching, and 53% had a lower educational degree.

Measures

The questionnaire used in this study was part of the data collection of the research project of ECE at the University of Helsinki, Varhaiskasvatuksen kehittämiskeskus (VKK; Early Childhood Education Development Center)-Metro. The questionnaire was based on a theoretical frame of children's participation as introduced in the previous theoretical background and on presurvey results from 82 teaching teams of pilot day care center classes in the capital area of Helsinki. These pilot day care center classes served as models of participation on a practical level of ECE, and their participatory practices in everyday education were evaluated; the results were used to clarify and strengthen the research questionnaire. After that, the questionnaire was pilot-tested by professional teachers, researchers, and administrators in ECE and again clarified and perfected based on the piloting professionals' feedback. Finally, the questionnaire was sent to participant teams as an e-survey; teams had 1 month to complete and return it.

In this study, three open-ended items on a teacher-rated questionnaire were analyzed; however, each item on the questionnaire did not individually reflect a construct that was analyzed. Instead, text across items was analyzed to determine which self-regulation-specific experiences were offered to children; how teachers supported children as they engaged in those particular experiences; and how children participated, specifically, in self-regulation experiences. The three qualitative items on the questionnaire asked the following:

- Describe actual moments of participation that children in your class can experience. *(Participatory moments)*

- Which independent initiatives do children undertake in your group? *(Independent initiatives)*
- In what kind of decision-making processes do children participate during your class? *(Decision-making participation)*

During analyses, these research items were analyzed holistically, as explained later.

The questionnaire also included nine quantitative items that contributed to the assessment of teacher support for children as they engaged in self-regulation experiences. These quantitative items were considered in this part to determine the number of pedagogically supported activities for children's self-regulation at every level of participation in Shier's (2001) framework. By using both qualitative and quantitative data, triangulation was found to strengthen the findings (Olsen, 2004). These items were statements such as "Teacher collects information about children's ideas and interests in many ways." The teaching teams were asked to rate, on a 5-point Likert scale, how often the statement described in the variable actually occurred in their class. The response options were 5 = always, 4 = often, 3 = sometimes, 2 = rarely, and 1 = never.

Analytic Plan

The analysis method for the data was abductive content analysis. Abductive analysis is a mixture of inductive and deductive analysis approaches (Fann, 1970; Kovács & Spens, 2005). In an inductive approach, data about the phenomenon under investigation guide the analysis process, whereas in a deductive approach, the analysis is theoretically derived and it is a theory-testing process (Hyde, 2000; Mayring, 2000). In abductive analysis, the key element is the interaction between the theory and the data as a way to acquire new knowledge about the phenomenon (Fann, 1970). The researcher creates a framework of different theories together with the data in a creative process of theory matching (Kovács & Spens, 2005). In this process, the prior theoretical knowledge is presented in the introduction as a guideline for the phenomenon studied.

In this study, the analysis was conducted in three phases (see Figure 1). In the first phase of analysis, three original open-ended variables (research items) were identified and coded to from 2,115 units of analysis (meanings) titles using ATLAS.ti software (ATLAS.ti, 2013). Some units of analysis were only wordlists, in which teachers listed what equipment or activities children could choose (e.g., "choosing books or toys" or "engaging in free play"). Some descriptions went further by describing the teacher's and child's roles; for example, one teacher reported, "The child asks for a painting activity; the teacher provides the child with equipment and paints." Some of the participants' answers were rather brief or only focused on one meaning, whereas some answers consisted of lists of different meanings. Therefore, the chosen analytical methods fit the data, because every meaning could be identified.

This phase of analysis was conducted by triangulation, which means that in the coding process the identified meanings were discussed and evaluated by researchers based on theoretical background. Two of the researchers who conducted this analysis had backgrounds as ECE teachers with university degrees, which gave them expertise in ECE practices. All of the researchers had also worked in the research field of ECE, and two of them had higher academic degrees. Through this expertise comes knowledge and critical evaluation skills for Finnish ECE. Research triangulation was conducted to ensure that the analysis was based on a valid

understanding and previous knowledge (Golafshani, 2003). As examples of the coding process, some answers to the question of participatory moments and their coded meanings are presented here: "Children can choose play and activities in which they are interested. We listen to their ideas and try to respond to those wishes." In situations where three units of analysis (meanings) were identified and then coded, the comment "Children can choose play activities in which they are interested" (meaning) was coded as "Making choices," "We listen to their ideas" (meaning) was coded as "Child is listened to," and "Teachers try to respond to those wishes" (meaning) was coded as "Teacher takes children's initiatives into account."

In the second phase of analysis, these units of analysis (meanings) were grouped on a more abstract level (main categories; see Figure 1). In the first main category, Children's Self-Regulation in Participatory Activities (1,009 meanings). the focus was on children and their activities and experiences considering self-regulation and participation in light of the theoretical background. The second main category, Teacher Pedagogical Support for Children's Engagement in Self-Regulation Experiences (1,006 meanings), focused on teachers' pedagogical activity in light of the theoretical background of the study. Finally, in the third phase of analysis, classes within these main categories were analyzed and grouped in subcategories based on theoretical frameworks considering child-initiated self-regulation in the first main category and teachers' support for children's self-regulation in the second main category (see Figure 1).

In the first main category, Children's Self-Regulation in Participatory Activities, meanings that were considered to represent children's self-regulation experiences were found. These were categorized according to the theoretical framework of self-regulation, where six subcategories

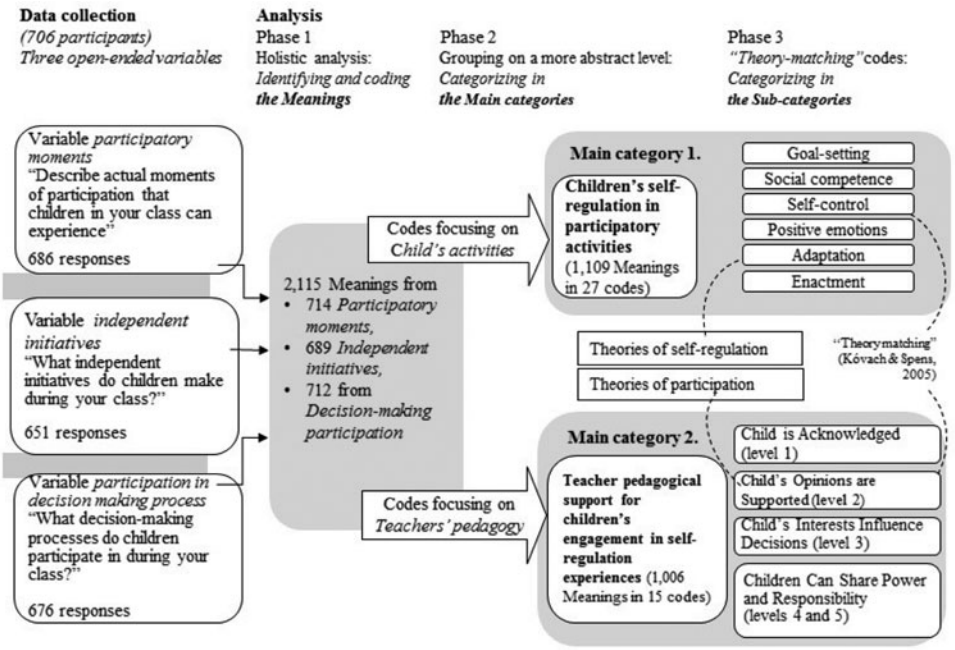

FIGURE 1 The process of analysis.

considered different elements of self-regulation were found. These subcategories were Goal Setting, Social Competence, Self-Control, Positive Emotions, Enactment, and Adaptation. These meanings in self-regulation are explained in the theoretical background presented earlier. An example of a meaning of a participatory moment is "The child becomes happy when he or she is acknowledged," which was coded as Enjoyment and further subcategorized by self-regulation theories in Positive Emotions. Another example of a participatory moment is "In free play, a child became involved," which was first coded as Involvement and further categorized in Adaptation. An example of an independent initiative is "From the child's interest in dinosaurs, we began to explore them together," which was coded as Exploring and further categorized in Enactment. Another example of an independent initiative is "Children are willing to negotiate about rules," which was coded as Negotiations With Peer and Teacher and further categorized in Social Competence. Finally, an example of participation in the decision-making process is "After a discussion about rules, children made 'rules of friendship' together," which was coded as (Taking) Responsibility and further categorized in Self-Control. Another example of decision-making participation is "Children could choose an activity from teacher-initiated choices and develop it further on," which was coded as Choice Making in the first main category and further subcategorized in Goal Setting.

In the second main category, Teacher Pedagogical Support for Children's Engagement in Self-Regulation Experiences, pedagogical support teachers described how they felt about acting supportive toward children's initiatives, getting to know children's perspectives, and sharing the power with them. Further on, these items were categorized according to Shier's (2001) framework of levels of participation to form four subcategories: Child Is Acknowledged, Child's Opinions Are Supported, Child's Interest Influences Decisions, and Children Can Share Power and Responsibility. The last subcategory combines the two highest levels of Shier's (2001) original framework, because it is rare that young children in ECE could gain all of the power from the teachers.

There were 1,006 items considered to represent teachers' support for children's engagement in self-regulation experiences. An example of a participatory moment is "Each child is noticed and taken onto the teacher's lap for comforting," which was coded as Teacher Fulfils Children's Needs and further categorized in Child Is Acknowledged. An example of an independent initiative is "Asking for wishes," which was coded as Teacher Asking for Wishes and further categorized in Child's Opinions Are Supported. Finally, an example of Decision-making participation is "We have practiced joint decision making in children's council now a few times," which was coded as Children Council/Board and further categorized in Children Can Share Power and Responsibility. In the process of theory matching (see Kovács & Spens, 2005), it seemed impossible to separate the two higher levels of Shier's (2001) model, which became clear with the subcategories. Therefore, it was decided to combine Levels 4 and 5 of the model in the results.

From quantitative measurements, eight items fitting the four subcategories of the main category Teacher Pedagogical Support for Children's Engagement in Self-Regulation Experiences were selected to shed light on the quantity of pedagogical support at each level of the framework as participants reported it. These quantitative items referred to Shier's (2001) model of pathways to participation in each step. The consistency of the eight quantitative variables used was computed using Cronbach's alpha, and the result was .724. In the Results section, more specific consistency items are described.

In sum, the first main category, Children's Self-Regulation in Participatory Activities, was constructed from 27 code classes and further categorized in six subcategories of self-regulation of children. The second main category, Teacher Pedagogical Support for Children's Engagement in Self-Regulation Experiences, was constructed from 15 code classes and further categorized in four subcategories of supporting children's participation.

RESULTS

The results for this article are presented within two main categories from the analysis: self-regulation in participatory activities and teacher support for children's engagement in self-regulation experiences. Children's self-regulation and participation in each subcategory is described using the three types of participation about which teachers were asked: participatory moments, independent initiatives, and decision-making participation.

Self-Regulation in Participatory Activities

Six theory-based self-regulation subcategories were found from the participatory activities teachers described children having in their everyday activities in kindergarten and preprimary classes (see Table 1).

Almost one third of the experiences that were considered to cause self-regulation in children were items in the Goal Setting category (28.7%). In this subcategory, teachers observed participatory activities in children's choices and expressions of interest. In general, these goal-setting issues were found in both variables: independent initiatives and decision-making participation. The issues of making choices were mentioned as moments where children could experience participation and through it competence and involvement. For example, one participant team from among the kindergarten class teachers described children's choice making concerning play: "Children's participation becomes visible when they influence the content of their play, like choosing equipment and peers."

The Social Competence aspect of self-regulation was the second largest subcategory (26.8%) in the participatory experiences of children. Participants described the majority of the issues concerning social competence as part of the variable independent initiatives. Participating with peers and teachers in shared activities and helping or influencing peers was considered part of the process of developing self-regulation in relation to social skills. The chance to make suggestions (most hits came from independent initiatives, as seen in Table 1) together with negotiating with peers and teachers to self-regulate one's actions are important parts of the process. In the following quote, a team's pedagogical planning process with children is described: "[Children participate in] planning shared activities together as well as planning activities for only their small groups. Children did a lot of group work, in which they had to make decisions about implementation together" (preprimary class teacher team).

In the subcategory of Self-Control (14.7%), participation was considered to be caused by controlling activities. The issues in self-regulation were found in both participatory moments and decision-making participation. Engaging in a self-selected activity was important (of which most came from decision-making participation, as seen in Table 1), and more general

TABLE 1
Categories of Self-Regulation in Participatory Activities

Self-Regulation Category	*Classes of Children's Self-Regulation in Participatory Activities*	*Total*	*% of All*	*Original Variables (Number of Mentions)*		
				Participatory Moments	*Independent Initiatives*	*Decision-Making Participation*
Goal Setting		290	28.7	64	116	110
	Expresses interests	38		4	25	9
	Takes initiative	49		11	33	5
	Makes choices	203		49	58	96
Social Competence		259	25.7	41	148	70
	Helps peers	10		6	3	1
	Influences peers	18		7	7	4
	Makes suggestions	87		6	66	15
	Negotiates with peers and teachers	89		16	37	36
	Participates in shared activity with peers and teachers	55		6	35	14
Self-Control		147	14.6	52	25	70
	Listens to instructions	3		3	0	0
	Engages in self-selected activity	62		12	3	47
	Expresses independence	46		25	14	7
	Takes responsibility	17		7	4	6
	Evaluates self	19		5	4	10
Positive Emotions		140	13.9	129	9	2
	Becomes inspired/shows enthusiasm	57		53	3	1
	Shows courage, daring	15		14	1	0
	Enjoys/experiences joy	28		26	2	0
	Is motivated	22		20	1	1
	Shows pride in success	18		16	2	0
Adaptation		126	12.5	89	17	20
	Involvement	46		26	5	15
	Meaningfulness	8		6	2	0
	Peacefulness	4		4	0	0
	Self-initiated activity	34		29	4	1
	Sense making	28		20	4	4
	Expresses self-confidence	6		4	2	0
Enactment		47	4.7	12	20	15
	Creativity	14		3	4	7
	Exploration	33		9	16	8
Total		1,009	100	387	335	287

experiences of independence and taking responsibility were in focus. An important part of developing self-regulation is also seen in children's abilities to reflect on and evaluate their own activities and learning. A kindergarten class team described the evaluation process of their class that helped children develop their self-evaluation ($f = 19$) skills: "A few times per

semester, children evaluate their classroom activities: they choose which of the activities has been the best by selecting digital pictures taken during the semester of their various activities."

In the category of Positive Emotions (13.9%) caused by self-regulation in participatory experiences, becoming inspired/enthusiasm (of which the majority came from participatory moments, as seen in Table 1) and motivation toward activities were in focus. A team of kindergarten class teachers described this:

> In play, the child develops his/her ideas and expresses needs like wanting new toys in his/her play. The teacher fulfills these needs. Thus, the child becomes motivated in action and experiences deeper involvement when he/she can influence the form of play.

Motivation was linked to other issues, such as pride in the self-regulation experiences, as shown in this comment:

> Planning one's own actions is more motivational than just participating in activities planned by others. Sometimes [this is] planning and implementing a sport class … choosing and planning activities together with a small group … influencing the content of the music class. Thus, there is satisfaction and pride in [their] capability and competence. (Preprimary class teacher team)

In the Adaptation category (12.28%), participatory activities considering children's adaptation toward tasks were considered through involvement in activities; self-initiated activities was the largest class and was considered an important part of self-regulation in general. This remark describes children's involvement: "Children are interested and involved in activities, where they can experience teachers sharing their interest. They experienced themselves to be important when being acknowledged" (preprimary class team).

The final subcategory of Enactment was considered in only 4.6% of mentions. In this category, exploration and creativity were the classes that were described to cause self-regulation in children's activities. One kindergarten team described creativity as "… part of play, where children can creatively shape and develop their activities: The tent became a cave for insects and fairies, and children asked for music so they could dance."

Teacher Support for Children's Engagement in Self-Regulation Experiences

Teachers' pedagogical support for children's self-regulation through participation was considered the focus of Shier's framework of the pathways to participation (see Table 2). Pedagogical support for children's self-regulation and participation was found in responses concerning decision-making participation, but independent initiatives and participatory moments were also involved at Levels 1 to 3 of the model. Teachers' supporting and enhancing actions were collected by the highest level of participation and are presented here at every level of Shier's model. The highest levels are dependent on the lower levels.

The number of participants who mentioned support for children's participation only at Level 1, Child Is Acknowledged, totaled 130. At Level 1 of participation, the self-regulation of children was described to be supported by listening to children's voices and observing children. Fulfilling children's needs and providing equipment were also considered supporting actions on this level.

TABLE 2
Pedagogical Support for Children's Participation in Subcategories by Shier's Level (1–5)

Shier's Level	*Total*	*Participatory Experiences*	*Independent Initiatives*	*Decision-Making Participation*
Child Is Acknowledged (Shier's Level 1)	124	31	72	21
Teacher listens to children's voices	67	28	30	9
Teacher fulfills children's needs	8	3	3	2
Teacher provides equipment	49	0	39	10
Child's Opinions Are Supported (Shier's Level 2)	183	46	51	86
Teacher observes children	8	0	6	2
Teacher asks for wishes	72	11	38	23
Teacher supports children's opinion expression	52	35	4	13
Children vote for activities or choices	51	0	3	48
Children's Interest Influences in Activities (Shier's Level 3)	257	81	130	46
Teacher takes children's initiatives into account	34	3	30	1
Teacher forms a learning environment according to the children's interests	14	2	12	0
Teacher plans actions according to children's interests	90	28	46	16
Teacher participates in children's planning of actions	119	48	42	29
Children Can Share Power and Responsibility (Shier's Levels 4 and 5)	442	46	126	270
Participates in adult-initiated decision-making process	383	30	116	237
Shares power and responsibilities in decision making	22	6	4	12
Children's councils/board meetings	29	7	1	21
Duties/responsibilities for children	8	3	5	0
Total	1,008	204	379	425

Listening to children's voices and providing equipment enhanced children's participation in class. One team of kindergarten class teachers described how important observation is when children will not talk, and another team highlighted the teacher's role in supporting all children as equals: "It's all about being present! The best interactions and listening to the child's voice are happening in everyday moments and everything else is built on this interaction with the understanding of the child's perspective" (kindergarten class team) and "It is the teacher's duty to make sure that the silent ones will also have their chances to be heard at mealtime and during other activities" (preprimary class team).

Shier's second level of participation support is Child's Opinions Are Supported; such support was mentioned 183 times, mostly in the variable decision-making participation. As seen in Table 2, Level 2 included both getting information from children's views and using those views for activities.

At the second level of participation, children's wishes for activities and play were inquired about in many classes. One team reported, "We observe play and issues that interest children. We take their wishes into account" (kindergarten class team). Expression of opinions was considered important together with granting opportunities to vote for activities and make choices, as is shown in these quotations: "Teachers make sure that all children can express their opinions

and everyone has a place and space to tell about their own interests either just to the teacher or to the whole class" (kindergarten class team) and "We ask children to vote on possible activities. For example, we ask if they would like to go on an outdoor trip to a playground or to the forest" (preprimary class team).

The third level of Shier's model is "Child's Interest Influences Decisions," which is based on children's voices (Level 1) and their opinions and observations of their interests (Level 2). There were 251 mentions that were considered to be at this level (see Table 2), of which the majority came from the variable independent initiatives. At the third level of participation, participants described their practices and actions as shown in this quotation: "In the morning meetings children express their thoughts and opinions/thus, they participate in designing our daily activities together" (kindergarten class team).

At the third level of the participation-supporting model, the majority of mentions concerned considering teachers helping children to participate in the planning of actions with them. Planning according to the children's interests was also an important part of participation support, as is shown in this quotation from a preprimary class team: "In our daily conversations, children are asked for opinions and describe their feelings and describe their day; all these are acknowledged, which makes each child 'visible' to others."

The two highest levels of participation were combined into one subcategory, Children Can Share Power and Responsibility; there were 442 mentions in this category, of which 383 considered the issue participates in adult-initiated decision-making process. At these levels of participatory support, the power and responsibilities of decision making were shared more openly with children. A team of teachers in a preprimary class described the shared decision-making process with children:

> We offer time and opportunities for children to participate in the decision-making process on all kinds of issues, which means they can influence and take part in planning their activities in the day care center. Nowadays, we have an active discussion culture in the class and decision making together with children is part of our daily routine.

Finally, eight quantitative items were grouped within the four subcategories from Shier's (2001) framework to shed light on the quantity and distribution of teachers' support for children engaging in self-regulation experiences in participants' classes (see Table 3). Through these eight items, the difference between kindergarten classes (children ages 3 to 6) and preprimary school classes (children ages 6 to 7) can be seen. According to t tests for equality of means, the pedagogical practices reported in the questionnaire seemed to differ significantly only at the highest level of the framework; at the lower levels, the means between these two age groups of children seemed to differ, but only nonsignificant differences occurred.

When focusing on quantitative variables of Shier's Level 1, where children were listened to, it can be seen that almost all participants considered listening to children's voices important, and it was done consistently. The two variables at this level had means of 4.40 and 4.38, with the smallest deviations between the participants.

At the second level of participation, support in pedagogical activities was common, as the quantitative variables show. It seems that expression of opinion ($M = 4.33$) as well as getting information about children's interests by observing ($M = 3.88$) occurred often; thus, they were rarer than support at Level 1 in the participants' classes.

TABLE 3
Quantity of Teachers' Pedagogical Support for Children's Engagement in Self-Regulation Experiences

	Kindergarten Classes (n = *388*)		*Preprimary Classes* (n = *318*)		t *Test for Equality of Means*	*All Participant Classes* (N = *706*)	
Shier's Level	M	SD	M	SD		M	SD
Child Is Acknowledged (Shier's Level 1)						Correlation (nonparametric) between the variables .246**	
Teacher stops to listen when child wants to talk to him or her	4.38	.579	4.44	.528	0.173*	4.40	.557
Children tell the teacher about their observations and explorations	4.34	.511	4.43	.502	0.120*	4.38	.509
Child's Opinions Are Supported (Shier's Level 2)						Correlation (nonparametric) between the variables .284**	
Every child has an opportunity to express an opinion	4.30	.574	4.37	.608	0.129*	4.33	.590
Teacher collects information in many ways about children's ideas and interests	3.84	.688	3.93	.713	0.086*	3.88	.700
Child's Interest Influences Decisions (Shier's Level 3)						Correlation (nonparametric) between the variables .413**	
Teacher uses observations from children's play when planning pedagogical activities	3.43	.767	3.44	.762	0.747*	3.43	.764
Children's initiatives change pedagogical activities designed by teacher	3.08	.643	3.18	.708	0.060*	3.13	.674
Children Can Share Power and Responsibility (Shier's Levels 4 and 5)						Correlation (nonparametric) between the variables .481**	
Children participate in designing activities	2.75	.824	3.05	.809	.000*	2.89	.830
Children can plan and implement activities for their peers	2.70	.888	3.05	.874	.000*	2.86	.898

Note. Cronbach's alpha for all variables = .724.
**t* test for equality of means is significant below the level <.05. **Correlation is significant at the .01 level (2-tailed).

In the quantitative variables, Shier's Level 3 is visible in pedagogical planning and supporting child-initiated activities. The activities at Level 3, as seen in Table 3, are conducted more rarely than those at previous levels. Actions and the means are also lower (3.43 for the variable teacher used observations from children's play when planning pedagogical activities and only 3.13 for the variable children's initiatives change pedagogical activities designed by the teacher; thus, the support from teachers is approaching "sometimes").

The quantitative data show that at Shier's highest levels activities of children's participation are much rarer than at the previous levels. Other surveyed activities at these levels took place

only sometimes or more rarely, which is also seen from the means of these variables ($M = 2.89$ and 2.86). In addition, the deviation between participants' classes was higher at higher levels of pedagogical support (standard deviations were all more than .8). The difference here between the means of the kindergarten classes and preprimary school classes was also significant.

DISCUSSION

The purpose of this study was to analyze how children's self-regulatory processes, and further on their development, can be supported through participatory pedagogy in Finnish ECE settings. In self-regulation and participation, a child is in active interaction with the educational environment with different kinds of controlling and executive processes. Successful self-regulation and participation is connected to children's attention, thought, emotions, and actions. In an educational context, both children and teachers are involved in participatory and self-regulative processes during daily activities.

Limitations of the Research

The aim of this research was to shed light on pedagogical processes through which teachers perceive their support for children's self-regulation and participation rather than to follow the development of children's learning skills and self-regulation. Therefore, the lack of measurements considering children developing self-regulation skills as individuals can be considered a minor limitation. In the future, the development of children's self-regulation skills in action research where children are influenced by pedagogical interventions could be followed, observed, and compared to that of children in standard groups.

Further limitations of this research relate to the data collection method with the questionnaire. A survey cannot observe the actual practices implemented in the participant classes. However, the questionnaire was conducted together with teams of participants; therefore, it could be assumed that teams also reflected each member's pedagogical practices and produced answers on which all members of the team could agree. In previous research on Finnish ECE professionals (Venninen et al., 2014), it was shown that teachers are willing to observe from a critical point of view, reflect, and develop their own working practices.

A final limitation of this study is that the professional experience (i.e., the number of years worked) or educational backgrounds of individual professionals could not be shown because of the data collection method. In the future, this would be an interesting research theme, now that the phenomenon of pedagogical support for children's self-regulation is better understood. It would also be essential to focus on the development of self-regulation skills in children when they are receiving high-quality ECE with a supportive pedagogical practice.

Children's Experiences of Self-Regulation Through Engaging in Participatory Activities

According to our results, different types of participatory actions related to self-regulation could be identified. These were activities related to goal setting, social competence, self-control,

positive emotions, adaptation, and enactment. Of these, goal setting, social competence, and self-control were activated more often. Children also experienced involvement, enthusiasm, and independence during their educational activities. In this research, teachers considered that goal setting through choice making was the most common of children's self-regulation processes. With these skills, children may achieve better learning outcomes in knowledge-based subjects, as shown in previous research (Wanless, McClelland, Acock, Chen, & Chen, 2011). In relation to self-regulation, participation can provide opportunities for the development of children's agency and autonomy (e.g., Mullin, 2007) and creates experiences of enthusiasm and involvement, as seen in the findings of this study.

According to several studies on children's participation in ECE, children are involved in activities that create chances for motivation, enjoyment, and influence on others (Sheridan & Pramling-Samuelsson, 2001; Sinclair, 2004). The ability to control, change, and influence the social environment is part of self-regulation and supports the development of both cognitive and social skills (see Fiske & Taylor, 2008; Happaney et al., 2004; McClelland & Cameron, 2012). According to our results, social competence was found to be an essential subcategory when children joining in activities that concerned discussing, negotiating, and making suggestions in interaction with others was seen as an essential part of this developmental process.

In participation, belonging and sharing are considered important parts of participatory experiences (Danso et al., 2003) that generate positive emotions such as joy and happiness. Positive emotions are also caused by successful self-regulation in situations where children can act in a goal-oriented way, create self-efficacy, explore, solve problems, and integrate diverse materials (Fredrickson, 2001). These positive emotions also appeared in the results of this research. According to Portilla et al. (2014), a supportive and positive relationship with the teacher is essential when creating engagement in learning. Our results also support this recent finding and show that participatory pedagogy with different levels of participation could create a supportive environment for students in ECE settings.

According to our results, it seems that children quite frequently experience opportunities to participate actively; however, some parts of children's self-regulation process are not sufficiently considered. In this study, adaptation and the skills necessary to participate in activities were mentioned rarely, even though these are important factors of self-regulation (see McClelland & Cameron, 2012). However, chances for discussing, negotiating, and making choices were considered part of the learning processes, where an individual child could practice and master skills to control his or her own actions. Essential issues would also be chances to have influence and share power with peers and teachers. Research in ECE has shown that children's participation should be considered an active learning paradigm (see Sinclair, 2004; Smith, 2002), where children can have a holistic influence on their everyday life in educational settings and have support for developing their self-regulation learning and skills to achieve better learning results.

One can actually recognize in the Finnish ECE curriculum framework (Finnish National Board of Education, 2010) the guiding principles of autonomy, exploration, social competence, self-expression, self-control, and participation. Teachers strive to help children to become conscious of their own learning; they support children to influence their own experiences and conduct their own explorations and investigations, as is shown in the results. Through participation, children can in many ways exercise social skills with peers and adults based not only on teacher support but also on self-initiation and reflection; thus, they develop their self-regulation skills (Portilla et al., 2014).

Supporting Children's Self-Regulation Through Participatory Pedagogy

In this study, the focus on conditions of self-regulation in a pedagogical context is essential. This aspect has been very rarely studied. In the Finnish ECE context, teachers do not usually aim to develop children's self-regulation as an isolated skill. Instead, these skills are present and connected in many elements of pedagogical practice. In Finnish ECE ("National Curriculum Guidelines," 2005), children's self-regulation seems to show in moments of participation, which children experience in their everyday education. The results show that teachers support children's self-regulation through participation in pedagogical planning and implementation. Teachers implemented different activities, from listening to children's voices, to taking account of children's opinions, to accepting children's influence on activities, and finally to allowing children to participate in adult-initiated pedagogical decision-making processes, which are also recognized as important in research on active and participatory learning (see Sinclair, 2004; Smith, 2002). These are also connected to experiences of self-regulation, which are offered to children by teachers, and more generally are linked in pedagogical planning and activities in ECE settings (Portilla et al., 2014).

In this research, the participants considered that children's initiatives were listened to and that children had chances to engage in self-initiated activities. This supports self-control abilities, which have been considered part of self-regulation in several research reports (Liew, 2012; McClelland & Cameron, 2012). Our participants frequently implemented activities related to listening to children's voices and opinions. However, they also engaged in activities related to accepting children's influence on pedagogical activities and often allowed children to participate in adult-initiated pedagogical decision making. According to Shier's (2001) theoretical framework, these activities activate children's participatory behavior more intensively than listening to children's voices and opinions does. When studying more deeply children's self-regulation in a pedagogical context, one can see that the focus on supporting teacher activities should be analyzed in a more detailed way (Emilson & Folkesson, 2006; Venninen & Leinonen, 2013). For children to self-regulate their actions better, even more support for children's self-regulation is needed. Interactions between teachers and children enhance children's experiences of participation and make them aware of their skills to self-regulate (Mashford-Scott & Church, 2011; Portilla et al., 2014).

A deeper understanding of children's self-regulation and the use of different pedagogical frameworks for observing support for children's development could help teachers to analyze and evaluate their own pedagogical efforts and consider children as developing agents (NAEYC, 2009). Our findings indicate that teachers' support for children's self-regulation measured with Shier's (2001) framework differs between the levels of participation. Some aspects of enhancing children's self-regulation by ensuring that the child is acknowledged and the child's opinions are supported were found to occur frequently. In other aspects of children's self-regulation, as in decision making and pedagogical planning, support was given infrequently. This support in McClelland and Cameron's (2012) finding shows that self-regulative processes also depend on context.

Children's participation and their self-regulation are not static and stable but considered developing skills that empower their agency (DeVries & Zan, 1994; Mullin, 2007). However, the results of this research show that there is no significant difference between kindergarten (3- to 5-year-olds) and preschool (6- to 7-year-olds) classes. This in turn does not support

previous findings that state that younger children are considered more incompetent (Smith, 2002). The only significant difference between different-age children was found at the highest level of participation, where children share the power with teachers, where also the deviation was higher. Therefore, it seems that support for children's participation is not always considered to apply in power relation issues between adults and children. Children's self-regulation could be supported and enhanced with pedagogical actions by teachers with different-age children, as Williford et al. (2013) suggested, to engage in classroom activities and develop their self-regulation. Our results imply that using the framework of participation is promising when one is studying children's self-regulation in a pedagogical context where children need both social and cognitive support for their self-regulatory activities.

The Implications of the Study for Policies and Practices in ECE

Considering children's self-regulation through participatory pedagogy offers new viewpoints to observe and enhance the development of children's self-regulation together with their cognitive and social skills in ECE everyday activities. Social environments shaped by teachers play an essential role in supporting children's self-regulation (Posner & Rothbart, 2000). As shown in previous research, children can practice and develop their skills by participating in shared activities (e.g., Portilla et al., 2014; Rogoff, 2008; Sinclair, 2004). In education, skills for self-regulation, such as setting goals, having control, and adapting to one's own actions, are part of empowered and active learning where social competence and behavior are required (McClelland et al., 2006). Therefore, the findings of this research imply that in ECE children's self-regulation should be considered a process of developing and learning, not an existing ability children do or do not possess. We suggest that measurement tests for children's self-regulation should be abandoned and more concern should be put into the context and social environment where children act daily as active agents of their learning. We suggest that children's voices and their perspectives about their development could be considered a part of the learning process in the early years; therefore, they should also be the focus of the evaluation process in ECE.

As shown in Woodhead's (2006) research, participation is associated with democratic values when adults share power with children and respect their rights. These results raise concerns about the quality of pedagogics in Finnish ECE; if children's self-regulation is viewed only from a narrow perspective, children may not have enough support to practice and master skills that are needed to develop their learning abilities (Smith, 2002). Pedagogical development where knowledge about children's participation is taken into account is required to improve the national ECE program. On a larger scale, in policy documents as well as in the pedagogical practices of ECE, children are still not considered able practitioners of their own activities that would help them to build competence in their self-regulation abilities.

Finally, the results could show that the pedagogical activities implemented in kindergarten centers aiming to support children's increasing participation have rich possibilities for enhancing children's skills in self-regulation. The framework of participation created by Shier (2001) used in this study is also promising for studying children's self-regulation in the pedagogical context of ECE. The findings support McClelland and Cameron's (2012) statement that children need both social and cognitive skills for their self-regulative activities. Participatory pedagogy

opens up possibilities to enhance children's attentional flexibility, working memory, and inhibitory control. This requires that children's participation be recognized and participatory pedagogy be considered an important ECE practice when supporting children's self-regulation and learning.

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