

Promoting Interaction and Shared Play Between Children with Profound Multiple Disabilities and Children Without Disabilities – a Pilot Study

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ABSTRACT:

Previous research shows that opportunities for shared interaction and play are beneficial for both children with and without disabilities. However, children with disabilities often experience limited opportunities to engage in play with peers. This study aimed to get insight into how interaction between children with profound multiple disabilities and children without disabilities can be promoted. Actions to promote shared play were explored through interviews with teachers and children in the course of a collaborative project with teachers at a school for children with an intellectual disability, situated within a mainstream school. According to the interviewed teachers, play could be promoted through adapting play rules, and materials, providing adult support, developing communication potentials, and time for play. The participating children without disabilities conveyed expressions of enjoyment and expressed ideas of how to support children with disabilities and adapt activities so that everybody could be a part of them. The results are discussed in light of previous research on creating opportunities for shared play between children with and without disabilities.

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INTRODUCTION

Creating opportunities for interaction and play with peers is essential for children's development. Interaction stimulates children's social skills and is also important for children's language and cognitive development (Hartup, 2009). It also contributes to well-being and higher life quality for both children with and without disabilities (Garvey & Kroese, 1991; Knox & Hickson, 2001). Having a friend with a disability may influence children's interest in diversity and encourage children to show acceptance towards persons with disabilities in general (Diamond et al., 1997). Studies show though that interaction between children with and without disabilities occurs seldom. Previous research shows that children with disabilities express feelings of loneliness and exclusion (Woodgate et al., 2020) and participate less in interaction with their peers than children without disabilities (Brown et al., 1999; Diamond et al., 2008). Children interact more often with adults than with peers and interact seldom, if activities are not well structured (Brown et al., 1999; Guralnick, 1999; Clarke & Wilkinson, 2007; Hall & McGregor, 2000; Rehm & Bradley, 2006; Chung et al., 2012).

It is therefore important to study how interaction between children with and without disabilities can be promoted. Research on interaction between children with and without disabilities has identified different factors that are important for interaction to work well (Carter et al., 2010; Chung et al., 2012). There is however not enough research on children with profound multiple disabilities (PMID), who have an intellectual disability in combination with physical disability, hearing or vision disability (Nijs & Maes, 2014). These children's disabilities put higher requirements on adapting the interaction and creating opportunities for shared play (Wilder, 2014).

The aim of this study was to get insight into teachers' and children's views of interaction between children with profound multiple disabilities and children without disabilities. The research questions are (a) What actions, according to the participating teachers, are important to create opportunities for shared play between children with and without disabilities? (b) What are the experiences of play activities by children without disabilities? (c) What do teachers view as benefits of activities that promote interaction and shared play between children with and without disabilities?

Literature review

Children with profound multiple disabilities have limitations in cognitive functioning combined with physical

disability, and vision- and/or hearing impairments. The disability influences their possibilities to communicate with others, understand social signals in interaction, to express social behaviors, such as waving or smiling in time (Nijs et al., 2016a; Nijs et al., 2016b). While parents and professionals express that social relations are an important dimension in the lives of persons with PMID (Nijs et al., 2016a), communication at the pre-symbolic level makes it difficult to express one's needs and be understood by others (Nijs et al., 2016a; 2018). Relations with peers and friends are important for children's well-being, health, and quality of life (Garvey & Kroese, 1991; Knox & Hickson, 2001; Nijs et al., 2016b). Therefore, it is important to investigate how opportunities for interaction and shared play with peers can be created.

Promoting possibilities for interaction and shared play between children with and without disabilities

Previous research has identified several pedagogical activities and environmental features to promote interaction and shared play between children with and without disabilities. In a study of interaction between children with autism and children with typical development (Gunn et al., 2014) the researchers found that children interacted more in semi-structured activities than in free activities. For children with autism, semi-structured activities, chosen concerning children's interests, have shown to increase interest in interaction with peers (Koegel et al., 2012). The same concerns children with an intellectual disability or autism who use alternative and augmentative communication and who seldom participate in common activities with children without disabilities unless the activities are well structured (Clarke & Wilkinson, 2007; Hall & McGregor, 2000; Chung et al., 2012).

Several literature reviews on intervention studies aim to facilitate interaction between children with and without disabilities. In a review by Carter et al. (2010), researchers found that interventions with a focus on social skills training for children with disabilities and their peers have shown to be effective in facilitating interaction. The same results are shown in a review by Chung, Carter, and Cisco (2012). Chung and colleagues outline that focus on peers has a big potential, as communication partners who can recognize a child's initiative to interact can more easily support a child in interaction. However, the researchers point to a lack of studies concerning the use of AAC and the possibilities of integrating AAC into an intervention in order to facilitate interaction among children (Chung et al., 2012).

In previous research, the importance of the pedagogical environment and the role of teachers have been described. Crawford et al. (2014) have made an overview of studies that focused on inclusion in play for children with physical disabilities. They have identified two major factors: an adult as a supervisor and environmental factors. The factors that concern adults as supervisor include actions to adapt play with regard to children's needs, to give children space for play and to encourage self-awareness, as well as to promote justice, equity and interaction. The factors related to environmental factors include physical environment, type of toys and type of activity.

In previous research the teachers are assigned an important role in creating of possibilities for interaction. When teacher introduced activities, assigned roles and equipped children with materials, it resulted in increased interaction between children with and without disabilities (Hestenes & Carroll, 2000). Adults can facilitate interaction by acting as a model for how social interaction occurs, encouraging cooperation and supporting interaction that is initiated (Hestenes & Carroll, 2000), or by prompting children on actions in play (Hestenes & Carroll, 2000). Actions involving preview of activities as preparation for play have also shown to be important for children with autism (Gengoux, 2015). Teachers may scaffold interaction between children with and without disabilities by supporting and encouraging children's peer-directed behaviors (Nijs et al., 2018). Stanton-Chapman (2015) has conducted several studies of interaction between children with and without disabilities. She makes the following conclusions: teachers can prepare the physical environment by choosing appropriate toys, teachers can help children to enter and exit play, comment in order to support interaction, observe and make new interventions based on observation. For example, several studies have shown that interaction between children with and without disabilities can be hindered by the vicinity of an assistant (Kim, 2005; Harris, 2011). To summarize, in previous research a number of actions to promote shared play between children with and without disabilities have been identified, as arranging physical environment and play materials and creating semi-structured play activities. Adults' role in modelling, encouraging and prompting children in play has been emphasized. However, few studies exist on adults' actions to promote shared play for children with profound multiple disabilities, who often rely on augmentative and alternative communication. This study intends to contribute to the field of research by exploring teachers' views of pedagogical actions to promote shared play with children with profound multiple disabilities.

Peers' perceptions of shared play

In creating opportunities for shared play between children with and without disabilities it is important to know of peers' perceptions of play. Peers' understanding of shared play with children with disabilities have been explored in several studies (Hestenes & Carroll, 2000; Diamond et al., 1997; Diamond & Hong, 2010; Diamond & Tu, 2009). Gasser, Malti and Buholzer (2014) have conducted studies of how children reasoned about their decisions to include children in play through fictitious stories. The researchers found that children based their decisions on the reasonings of moral, as well as equal rights. Younger children tended to take more excluding decisions than children in older age. Reasoning about decisions to include or exclude children in play change with age as children develop socially and cognitively (Gasser et al., 2014). Besides, in complex everyday life situations peers may be constrained by their classmates' responses and attitudes (Mulvey et al., 2020) as well as the moral and social norms and the group's functioning and the activity at hand (Gasser et al., 2014).

The importance of activity is highlighted in a study by Diamond, Hong and Tu (2008). The researchers interviewed children aged 6 years old about their decisions to include or exclude children with disabilities. They found that children's decisions were related to requirements in an activity. For example, peers tended to include children with a physical disability in an activity that did not require a physical activity. Researchers have found similar results in other studies (Diamond, 1993; Diamond et al., 2008). An activity can suggest hindrances or facilitators for different types of interactions. For example, talking to each other is more likely to occur during pretend play than during play that requires motor activity (Hestenes & Carroll, 2000). Research on peer's understandings of play with children with disabilities points to the complexity of peers' decisions to include or exclude and outlines the importance of creating activities accessible to all children, irrespective of disability. The possibilities of creating such activities and peers' perceptions of the activities are further in focus for this pilot study.

METHOD

This pilot study was conducted in close collaboration with two teachers at a school for children with PMID. Ethical guidelines were followed throughout the whole study and an ethical trial was approved by the National Ethical Authority (2016/383). In collaboration with researchers, the teachers constructed four activities in

Table 1. The list of play activities, created in collaboration between teachers and researcher, as well as adaptations in activities and data collection in connection to every activity

Play activity	Description	Adaptations for children with disabilities	Collected data
My place is better	Children sit down. The play starts by one child approaching another and saying "My place is good, but yours is better". The approached child has to leave his or her space to the child and takes turn in approaching other children.	Children are on the floor instead of chairs.	Video-recorded activity Teacher interview with stimulated recall Interview with children
Cat and fish	Children sit together in a ring. One child acts a "cat", moves around and approaches each peer with "Miau". Each child shows his or her own hands to show whether he or she has a toy fish.	Augmentative and alternative communication device allowing children to communicate.	Video-recorded activity Teacher interview with stimulated recall Interview with children
Bingo dance	The children are moving around in a room and each child has a card with a picture on it. Children who have matching cards, dance together.	Children with disabilities have access to wheelchairs and walkers.	Video-recorded activity Teacher interview with stimulated recall Interview with children
Boccia	The children are divided into two teams. The team that throws balls as near to the outlined target as possible wins.	Each team consisted of children with and without disabilities. Peers assisted children with disabilities to throw balls with the help of a groove.	Video-recorded activity Teacher interview with stimulated recall Interview with children

which children with PMID and children without disabilities participated. The two collaborating teachers were interviewed with the help of interviews using the interview method of stimulated recall after each activity. The children without disabilities were interviewed after the activities. Two teachers of children with PMID and teachers of children without disabilities were interviewed about their views of the benefits of the created activities for the participating children. The activities and their short description as well as data collected in connection to each activity are presented in Table 1.

Participants

The participants in the project included two teachers from a school for children with an intellectual disability and two teachers from a mainstream school, located within one compulsory school. This educational setting was chosen as the teachers contacted the researcher with a question about how inclusion could be promoted at this specific school. The teachers were between 45 and 60 years old and had worked at the school for 25 to 35 years. Four children with profound multiple disabilities, aged eight to ten years old participated in the study. In

addition to intellectual disability, the children had multiple disabilities, including physical and sensory disabilities. Four children without disabilities participated in the activities. The children were six years old and attended preschool classes.

Data collection

As seen in Table 1, the data collection encompassed interviews with two teachers of children with PMID using the procedure of stimulated recall (Stough & Palmer, 2003; Malva et al., 2023) as well as interviews with four teachers of children with and without disabilities. In addition, group interviews with four participating peers without disabilities were conducted after each activity.

Interviews with teachers

Teachers of children with PMID were interviewed about their views of pedagogical actions to promote play activities during recurrent meetings with the researcher. Stimulated recall method was used, in which teachers and the researcher viewed the video-recordings of the play activities and the teachers could stop the recordings and spontaneously share their views of actions they undertook to

promote play, while the researcher's role was to listen and ask follow-up questions (Stough & Palmer, 2003). This interview method allows to get a deeper understanding of teachers' pedagogical knowledge and their instructional decisions in the moment (Malva et al., 2023).

After the project the two teachers of children with PMID and the two teachers of children without disabilities were interviewed about their views of the benefits of shared play activities between the children. In accordance with the qualitative interview method (Kvale & Brinkman, 2014), the teachers could decide on the place and time for the interviews and the researcher emphasized the value of teachers' knowledge and expertise on children's play and interaction and was responsive to the teachers' unique experiences.

Interviews with the children without disabilities

Interviews with the children were conducted after the play activities and took 4-5 minutes. In conducting interviews with children the importance of informal conversations rather than formal interviews is emphasized (Doverborg & Pramling Samuelsson, 2002). Also, the importance of having themes rather than questions is emphasized, as well as covering themes through different types of questions, and follow-up questions to enable children to develop their thoughts. It is also important to adapt one's language. The issues of power are problematized and the researcher must emphasize that he or she is interested in children's ideas on the topic and not that children are expected to give the correct answer (Søbstad & Løkken, 1995; Skånfors, Löfdahl, & Hägglund, 2009).

Therefore, the researcher introduced the interview by asking the children about the play activity and whether they enjoyed it. After the introduction, the children were asked several questions concerning two themes, whether they thought the children with PMID enjoyed the activity and their suggestions of how the activity could be done so that all the children, including children with PMID, could be a part of it.

Data analyses

The interviews with both teachers and children were transcribed verbatim and qualitative analysis was conducted (Miles et al., 2014). The descriptive coding phase involved reading through each interview to identify recurring patterns in conversations with the children and assigning descriptive codes to the data. Then, several descriptive codes were clustered together to create pattern codes, which were more inferential in nature. In this process, some smaller codes were subsumed into larger codes.

RESULTS

The results are described concerning the three research questions guiding the study, in which teachers' views of pedagogical actions to promote play activities as well as the benefits of these activities for their children are reported alongside experiences and ideas about play expressed by children without disabilities.

Teachers' pedagogical actions to create opportunities for shared play between children with and without disabilities

Stimulated recall interviews with the teachers revealed several actions to promote play activities encompassing creating alternative play rules, adapting materials, providing adult support, creating communication potentials, and allowing time for activities.

Rules for play activities

In two of three play activities, the teachers reflected on the rules of the activities that are well-known for children in general but may be hindering and limiting participation for children with PMID. For example, viewing the play activity "My place is better", the teachers pointed out that changing seats is difficult for children with PMID and it would be better to change objects instead of sitting. Watching the activity "Cat and Fish", the teachers reflected that the participating children with PMID felt uneasy putting their hands behind the back and suggested that the rules could be changed to having hands on the knees and the stomach instead.

Materials for play activities

In two of three play activities, the teachers discussed the possibilities of adapting materials to make the activities accessible for the children with PMID. When watching the activity "Cat and Fish", the teachers discussed the possibility of using a more tangible object to represent the fish instead of a printed picture of a fish. Watching the activity "Bingo dance" the teachers pointed out that instead of wheelchairs the children with PMID could use a walker that could enable them to be more active in the dance.

Adult support

Adult support was described by the teachers as important in creating opportunities for shared play. When watching the activity "Cat and Fish", the teachers took notice of adults being present in near proximity to a child with PMID contributing to a feeling of safety and taking care

of the child's specific needs, for example, wiping the running nose. On the other hand, the teachers also expressed that adult support could limit opportunities for peer interaction. Watching the activity "Bingo dance", the teachers viewed adult support as problematic, when one of the teacher assistants danced with a child with PMID hindering interaction with peers.

Communication potentials in play

In all three activities, the teachers discussed communication potentials between children with and without disabilities that are either created or missed out on in the activities. For example, watching the activity "Cat and Fish", in which the children with PMID were supported by a speech device that the children could press to utter "Miau" to initiate the game, but the speech device was not pre-programmed to utter "No" to respond to other children's initiatives in the play activity. Watching the same activity, the teachers also noted that the communicative interchanges between children were too quick for the children with PMID to respond. They expressed a need to encourage peers to come closer to their play partners with PMID, to be able to attract children's attention through eye contact or physical contact. Similar challenges were also identified in the activities "My Place is Better" and "Bingo Dance", in which the teachers pointed to the need to create opportunities for shared attention between children, by mentioning children by names to catch peers' attention ("My place is better") or adapting the assistive technology to create opportunities for interaction by encouraging face-to-face contact.

Time for play

Time was discussed as an important factor in the activities as it took time for the children with PMID to take their turns in the activities, which were often characterized by a high tempo. In the activity "My place is better", the teachers reflected that it took time for the children with PMID to move to another place as a response to a peer's utterance "Your place is Better". In the three activities, the teachers reflected that it could facilitate the participation of children with PMID if the children had the opportunity to "pre-play" the activities with adult support.

How did the children without disabilities experience the play activities?

After the play activities, the children without disabilities were asked the questions about whether everybody had fun in the activities and how the activities could be adapted so that everybody could be involved in the activities.

The children expressed that they thought everybody had fun in the activities. In their descriptions of the activities, the children focused on children with PMID doing things and their expressions of joy. For example, being asked about how their play partner with PMID enjoyed the activity, one child uttered: "... *she laughed when she did it, she laughed and she giggled*".

Concerning the question of how the activity could be adapted so that everybody is a part of the play the children discussed how to help the children with PMID, for example, "*we helped him, first, you put the ball in the pipe and then he can take it and then he can let it go when he wanted to*", or "*you put the pipe in his hand and then you say 'let it go' and then they let it go*".

The children also talked about adapting the environment for play, for example in the interview after the activity "Cat and Fish" in which the children sat in a circle, one child exclaimed: "*We can make a big circle, not such a small circle but a big circle*".

What were the teachers' views of the benefits of play activities for both children with and without disabilities?

Both teachers of children with PMID and teachers of children without disabilities experienced that the contact created between children with and without disabilities continued after the project. The teachers of children without disabilities pointed out that the children talked about their experiences in the classroom and that interactions between the children continued, as illustrated in the excerpt below.

"I see and hear that our children recognize the children from the special school, they talk about their visits to the school and are proud of these, I think."

Teachers of children with PMID expressed similar experiences of contact between children after the project.

"There were some kids who said 'hi' during a break in the schoolyard, they say 'hi' and the name of the girl or the boy, the kids got to know each other and this, I think, shows that we are a bit on the way".

The teachers also discussed that the shared play activities have been important for children's well-being and development. The teachers of children without disabilities pointed out that the project had important implications for children's understanding and acceptance of differences.

"I think that in the long run, we provide them with an understanding of other people. They won't be uncertain about taking contact with someone who looks or behaves differently. I think the project results in understanding and knowledge of the fact that all people are different".

The teachers of children with PMID expressed that the shared play activities were especially valuable as these activities represented horizontal contacts in which the children could meet peers “of the same height”, which was not always the case in the pedagogical environment characterized by a high adult-to-child ratio.

“I think it might be exciting to meet a human being of the same height, I feel our kids often look up as they often interact with adults, but now I think they feel it is exciting to interact with other kids”.

DISCUSSION

This study set out to get insight into teachers’ and childrens’ views of possibilities for interaction between children with and without disabilities from the perspectives of teachers and children. The need for the study was informed by the challenges in participation in play activities, experienced by children with disabilities (Guralnick, 1999; Clarke & Wilkinson, 2007). In addition, while previous research has revealed several pedagogical actions for promoting interaction and play (Chung et al., 2012), fewer studies exist on promoting interaction involving children with profound multiple disabilities (Nijs & Maes, 2014). The results of the study outline several pedagogical actions that may be important to promote interaction and play between children with and without disabilities.

Interviews with the children showed that they had positive experiences of the play activities and also took notice of the experiences of joy by children with PMID. The children without disabilities also shared their ideas of making play activities accessible to the children with disabilities, by providing support and creating supportive environment. Previous research on children’s perceptions of play shows that children’s decisions of including or excluding peers in play are not based of experiences of other children but are rather related to the play activities themselves (Diamond, Hong & Tu, 2008; Diamond, 1993), which can also be seen in this study. Thus, creating activities that can be accessible to all children is important in promoting inclusive school environments.

In this study teachers’ perceptions of pedagogical action to promote shared play between children with and without disabilities were obtained through stimulated recall interviews in which the teachers had the opportunity to stop and reflect on specific video-recorded play activities. During the interviews, the teachers described several aspects of the pedagogical environment that were in their opinion important to promote interaction, which in-

clude adapting play rules and materials, providing adult support, creating communication potentials in play, and allowing time for play. These aspects have also been pointed out in previous research, as structured activities are more beneficial for promoting the participation of children with disabilities in play (Koegel, 2012; Gunn et al., 2014). In addition, the importance of adaptations in the physical environment and choosing appropriate materials and toys has been highlighted (Stanton-Chapman, 2015; Hestenes & Carroll, 2000). Thus, the teachers’ reflections on pedagogical actions to promote shared play in this study alongside previous research suggest that to facilitate shared activities for children with PMID, the teachers might structure the activities and adapt play rules, time, and materials required for play.

Two aspects of facilitating interaction brought up by the teachers in this study may be especially important. When describing the creation of communication potentials in interaction the teachers pointed to the need to encourage peers to initiate and sustain communication exchanges with children with PMID, by moving closer or making eye contact. Chung, Carter, and Cisco (2012) outline the importance of social skills training for peers to children with disabilities so that peers can recognize a child’s initiative to play and can more easily support a child in interaction. Further studies might focus on peer social skills training in promoting shared play activities between children with and without disabilities.

Another aspect of facilitating interaction, raised by the teachers in the study is the role of adult support in shared activities. The teachers described that adult support could contribute to children’s feeling of safety and adults could also provide for the children’s basic needs. On the other hand, however, adult support could limit possibilities for peer engagement in the interaction. Adults may play an essential role in adapting play to children’s needs, helping children to enter or exit play, prompting children, and promoting justice and equity (Crawford et al., 2014; Stanton-Chapman, 2015). On the other hand, the vicinity of an adult in shared activities can limit possibilities for interaction between children with and without disabilities (Kim, 2005; Harris, 2011). Thus, the role of adults in shared play activities may need to be balanced with regard to the specific requirements of the activity and the children involved in it.

The teachers describe several benefits of the study for both children with and without disabilities, as interactions with peers may be experienced as exciting and engaging by children with PMID and it may promote understanding and acceptance of differences among chil-

dren without disabilities. Previous research accentuates the importance of creating opportunities for interaction between children with and without disabilities as it is important in fostering children's social skills and contributes to well-being and higher quality of life for both children with and without disabilities (Garvey & Kroese, 1991; Knox & Hickson, 2001; Hartup, 2009). The current pilot study makes an important contribution to research on how interaction between children with and without disabilities can be promoted, but more research is needed on creating opportunities for participation and engagement in play for all children.

Limitations

This is a pilot study conducted in collaboration with a limited number of teachers and children to promote shared play and interaction. Further studies may be needed to get a broader understanding of how shared play between children with PMID and children without disabilities can be promoted. The limitation of the study is that it did not take into account the experiences and

perceptions of children with PMID. Due to time constraints and children's unique needs in communication and everyday functioning, the researcher had to rely on their teachers' perceptions of the children's needs and experiences in the play activities. However, in future studies, there is a need to create opportunities to the children with PMID to voice their opinions and to bring forth their understandings and experiences.

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DECLARATION OF INTEREST STATEMENT

The author reported no potential conflict of interest.

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REFERENCES

- Brown, W. H., Odom, S. L., Li, S., & Zercher, C. (1999). Ecobehavioral assessment in early childhood programs: a portrait of preschool inclusion. *Journal of Special Education, 33*, 138-153. <https://doi.org/10.1177/002246699903300302>
- Carter, E. W., Sisco, L. G., Chung, Y., & Stanton-Chapman, T. L. (2010). Peer interactions of students with intellectual disabilities and/or autism: A map of the intervention literature. *Research and Practice for Persons with Severe Disabilities, 35*(3-4), 63-79. <https://doi.org/10.2511/rpsd.35.3-4.63>
- Clarke, M., & Wilkinson, R. (2007). Interaction between children with cerebral palsy and their peers 1: Organizing and understanding VOCA use. *Augmentative and Alternative Communication, 23*, 336-348. <https://doi.org/10.1080/07434610701390400>
- Chung, Y., Carter, E. W., & Sisco, L. G. (2012). A systematic review of interventions to increase peer interactions for students with complex communication challenges. *Research and Practice for Persons with Severe Disabilities, 37*(4), 271-287. <https://doi.org/10.2511/027494813805327304>
- Crawford, S. K., Stafford, K. N., Phillips, S. M., Scott, K. J., & Tucker, P. (2014). Strategies for inclusion in play among children with physical disabilities in childcare centers: An integrative review. *Physical & Occupational Therapy in Pediatrics, 34*(4), 404-423. <https://doi.org/10.3109/01942638.2014.904470>
- DeKlyen, M., & Odom, S. L. (1989). Activity structure and social interactions with peers in developmentally integrated play groups. *Journal of Early Intervention, 13*(4), 342-352. <https://doi.org/10.1177/105381518901300406>
- Diamond, K. E. (1993). Preschool children's concepts of disability in their peers. *Early Education and Development, 4*, 123-129. https://doi.org/10.1207/s15566935eed0402_4

- Diamond, K. E., Hestenes, L., Carpenter, E., & Innes, F. (1997). Relationships between enrollment in an inclusive class and preschool children's ideas about people with disabilities. *Topics in Early Childhood Special Education, 17*, 520-536. <https://doi.org/10.1177/027112149701700409>
- Diamond, K. E., Hong, S., & Tu, H. (2008). Context influences preschool children's decisions to include a peer with a physical disability in play. *Exceptionality, 16*(3), 141-155. <https://doi.org/10.1080/09362830802198328>
- Diamond, K. E., & Hong, S.-Y. (2010). Young children's decision to include peers with physical disabilities in play. *Journal of Early Intervention, 32*(3): 163-177. <https://doi.org/10.1177/1053815110371332>
- Diamond, K., & Tu, H. (2009). Relations between classroom context, physical disability and preschool children's inclusion decisions. *Journal of Applied Developmental Psychology, 30*(2), 75-81. <https://doi.org/10.1016/j.appdev.2008.10.008>
- Doverborg, E., & Pramling Samuelsson, I. (2000). *Att förstå barns tankar: metodik för barnintervjuer [To understand children's thoughts: method for interviews with children]*. Stockholm: Liber.
- Garvey, K., & Kroese, B.S. (1991). Social participation and friendships of people with learning difficulties: a review. *The British Journal of Mental Subnormality, 37*, 17-24.
- Gasser, L., Malti, T., & Buholzer, A. (2014). Swiss children's moral and psychological judgments about inclusion and exclusion of children with disabilities. *Child Development, 85*(2), 532-548. <https://doi.org/10.1111/cdev.12124>
- Gengoux, G. W. (2015). Priming for social activities: Effects on interactions between children with autism and typically developing peers. *Journal of Positive Behavior Interventions, 17*(3), 181-192. <https://doi.org/10.1177/1098300714561862>
- Gunn, K. S., Trembath, D., & Hudry, K. (2014). An examination of interactions among children with autism and their typically developing peers. *Developmental Neurorehabilitation, 17*(5), 327-338. <https://doi.org/10.3109/17518423.2013.778348>
- Guralnick, M. J. (1999). The nature and meaning of social integration for young children with mild developmental delays in inclusive settings. *Journal of Early Intervention, 22*, 70-86. <https://doi.org/10.1177/105381519902200107>
- Hall, L. J., & McGregor, J. A. (2000). A follow-up study of the peer relationships of children with disabilities in an inclusive school. *The Journal of Special Education, 34*, 114-126. <https://doi.org/10.1177/002246690003400301>
- Hartup, W. W. (2009). *Critical issues and theoretical viewpoints*. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.) *Handbook of peer interactions, relationships, and groups*. New York, NY: Guilford Press.
- Harris, B. A. (2011). Effects of the proximity of paraeducators on the interactions of braille readers in inclusive settings. *Journal of Visual Impairment & Blindness, 105*(8), 467. <https://doi.org/10.1177/0145482X1110500803>
- Hestenes, L. L., & Carroll, D. E. (2000). The play interactions of young children with and without disabilities: Individual and environmental influences. *Early Childhood Research Quarterly, 15*(2), 229-246. [https://doi.org/10.1016/S0885-2006\(00\)00052-1](https://doi.org/10.1016/S0885-2006(00)00052-1)
- Kim, S. D. G. (2005). Kevin: "I gotta get to the market": The development of peer relationships in inclusive early childhood settings. *Early Childhood Education Journal, 33*(3), 163-169. <https://doi.org/10.1007/s10643-005-0041-3>
- Knox, M., & Hickson, F. (2001). The meanings of close friendship: the views of four people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 14*, 276-291. <https://doi.org/10.1046/j.1468-3148.2001.00066.x>
- Koegel, L. K., Vernon, T. W., Koegel, R. L., Koegel, B. L., & Paullin, A. W. (2012). Improving social engagement and initiations between children with autism spectrum disorder and their peers in inclusive settings. *Journal of Positive Behavior Interventions, 14*(4), 220-227. <https://doi.org/10.1177/1098300712437042>
- Kvale, S., & Brinkman, S. (2014). *Den kvalitativa forskningsintervjun. [Qualitative research interview]*. Malmö: Studentlitteratur.
- Malva, L., Leijen, Ä., & Arcidiacono, F. (2023). Identifying teachers' general pedagogical knowledge: A video stimulated recall study. *Educational Studies, 49*(4), 588-613. <https://doi.org/10.1080/03055698.2021.1873738>
- Mulvey, K. L., McMillian, L., Irvin, M. J., & Carlson, R. G. (2020). Youth Cognition Surrounding Bullying of Peers With Disabilities: Inclusion, Intervention, and the Role of the Group. *Journal of Emotional and Behavioral Disorders, 28*(1), 17-28. <https://doi.org/10.1177/1063426618799737>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook (3rd ed.)*. London: Sage.
- Nijs, S., & Maes, B. (2014). Social peer interactions in persons with profound intellectual and multiple disabilities: A literature review. *Education and Training in Autism and Developmental Disabilities, 49*(1), 153.
- Nijs, S., Vlaskamp, C., & Maes, B. (2016a). Children with PIMD in interaction with peers with PIMD or siblings: Sibling and peer interactions in persons with PIMD. *Journal of Intellectual Disability Research, 60*(1), 28-42. <https://doi.org/10.1111/jir.12231>
- Nijs, S., Vlaskamp, C., & Maes, B. (2016b). The nature of peer directed behaviours in children with profound intellectual and multiple disabilities and its relationship with social scaffolding behaviours of the direct support worker. *Child: Care, Health and Development, 42*(1), 98-108. <https://doi.org/10.1111/cch.12295>

- Nijs, S., Vlaskamp, C., & Maes, B. (2018). Promoting Social Scaffolding Behaviors in Staff Members and Peer-Directed Behaviors Among Persons With Profound Intellectual and Multiple Disabilities: An Intervention Study. *Journal of Policy and Practice in Intellectual Disabilities*, 15(2), 124–135. <https://doi.org/10.1111/jppi.12251>
- Odom, S. L., Peterson, C., McConnell, S., & Ostrosky, M. (1991). Ecobehavioral analysis of early education/specialized classroom settings and peer social interaction. *Education and Treatment of Children*, 13(4), 316-330.
- Rehm, R. S., & Bradley, J. F. (2006). Social interactions at school of children who are medically fragile and developmentally delayed. *Journal of Pediatric Nursing*, 21, 299-307. <https://doi.org/10.1016/j.pedn.2006.02.003>
- Skånfors, L., Löfdahl, A., & Hägglund, S. (2009). hidden spaces and places in the preschool: withdrawal strategies in preschool children's peer cultures. *Journal of Early Childhood Research: ECR*, 7(1), 94–109. <https://doi.org/10.1177/1476718X08098356>
- Stanton-Chapman, T. L. (2015). Promoting positive peer interactions in the preschool classroom: The role and the responsibility of the teacher in supporting Children's sociodramatic play. *Early Childhood Education Journal*, 43(2), 99-107. <https://doi.org/10.1007/s10643-014-0635-8>
- Stough, L., & Palmer, D. J. (2003). Special Thinking in Special Settings: A Qualitative Study of Expert Special Educators. *The Journal of Special Education*, 36(4), 206–222. <https://doi.org/10.1177/002246690303600402>
- Søbstad, F, & Løkken, G. (1995). *Observation och intervju i förskolan. [Observation and interview in preschool]*. Malmö: Studentlitteratur.
- Wilder, J. (2014). *En systematisk kunskapsöversikt om kommunikation hos och med barn och ungdomar med flerfunktionsnedsättningar [A systematic research review on communication in and with children and youth with profound multiple disabilities]*. Kalmar: Nationellt Kompetenscentrum Anhöriga.
- Woodgate, R. L., Gonzalez, M., Demczuk, L., Snow, W. M., Barriage, S., & Kirk, S. (2020). How do peers promote social inclusion of children with disabilities? A mixed-methods systematic review. *Disability and Rehabilitation*, 42(18), 2553–2579. <https://doi.org/10.1080/09638288.2018.1561955>