Reasoning about social inclusion over the early years of primary school : A focus on epistemic cognition

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Abstract

In this longitudinal study, we explored children's reasoning about social inclusion/exclusion at Year 1 and Year 3 (*n=169* Year 1, *n*=129 Year 3) of early primary education in Australia and how this reasoning related to changes in children's epistemic cognition. The data collection involved 30-minute interviews in which children were asked to engage in two tasks related to (1) epistemic cognition and (2) including an aggressive child in play. Findings showed that children were more likely to choose to include the aggressive child in Year 3 if they also expressed Subjectivist epistemic beliefs than if they expressed Objectivist beliefs. The children who expressed Subjectivist epistemic beliefs were more likely to justify their decision to include an aggressive child in a more nuanced and complex manner. We argue for a focus on epistemic reflexivity for reasoning about social inclusion as a way in which to provide new understandings about how broader contextual influences may mediate such reasoning.

Keywords

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Introduction

Social exclusion based on prejudice is experienced by children from an early age and has important consequences for psychological development (Killen and Rutland 2011). Understanding the reasons a child is rejected at school (Killen, Mulvey, and Hitti 2013; Rutland and Killen 2015) is therefore critical in the early years. We know that young children develop friendships based on a range of factors including age, gender, culture, and behaviours (Nipedal, Nesdale, and Killen 2010). However, of particular concern in this paper, is the extent to which children may reason about the inclusion or exclusion of others who exhibit aggressive behaviours at school. Rutland and Killen (2015) remind us that primary school children become all too aware of how teachers view aggression as unacceptable and across the early years of primary school children learn what is socially acceptable and unacceptable (Scholes, Lunn Brownlee, Walker, and Johansson 2017; Thornberg 2008). This perception can have an impact on children's reasoning about inclusion and exclusion of others who may demonstrate aggressive characteristics.

While there is a growing body of research that shows even young children can engage in exclusive behaviours with others (e.g., Killen, Rutland, and Ruck 2011), we know much less about how young children reason for social inclusion. We draw on a body of research which shows that epistemic cognition may influence reasoning (Greene, Cartiff, and Duke 2018; Johnston, Woodside-Jiron, and Day 2001; Kang and Wallace 2005). Epistemic cognition, in this paper, refers to the thinking children engage in that reflects the nature of knowing and knowledge (for review see Brownlee, Schraw, and Berthelsen 2011; Hofer and Pintrich 2012; Lunn Brownlee, Schraw, Walker, and Ryan 2016). Epistemic cognition has been defined variously as 'people's beliefs, stances, or theories related to knowledge and knowing' (Chinn and Sandoval 2018, 24). A range of nomenclature has also been used to explore epistemic cognitions including personal epistemology, epistemic beliefs and epistemic development (Chinn and Sandoval 2018). From this perspective, our research supports the premise that 'Young children can and do critique and use knowledge, and that variance in such abilities plays a role in their educational success (Bendixen and Feucht, 2010; Bråten, 2016; Sandoval et al., 2016)' (in Greene et al. 2018, 1103). This premise is not only about reasoning per se, it is about reasoning related to values and actions for inclusion. However, to date, no research that we are aware of has explored early primary school children's epistemic cognitions about social

exclusion/inclusion as they navigate the early years of primary school. These early years are pivotal for establishing socially inclusive interactions with diverse groups of children. In this paper, our focus is to examine the extent to which children's epistemic cognitions change over three years in primary school education and the extent to which such cognitions are related to their reasoning about inclusion or exclusion based on aggressive behaviours. We argue that it may be important to address children's epistemic cognition explicitly to have an impact on children's socially inclusive practices at school.

Children's reasoning to include or exclude peers

From an early age children make comparisons between groups of people as they reason about who to include or exclude (Killen and Smetana 2010). This reasoning includes understandings about group membership with exclusion potentially based on commonalities of the group (e.g., gender and race), and group norms (e.g., sanctioned behaviours) (Hitti et al. 2014). Exclusion can be justified when behaviours deviate from expectations related to group membership as children may make personality trait attribution about specific groups such as girls being shy or boys being aggressive which can lead them to justify rejection on the basis of individual traits ('reject him because he is aggressive'). (Hitti et al 2014). Children make such moral judgements about whether aggressive behaviour is right or wrong in particular contexts as they develop insights into social systems and how they work (Nesdale, Killen, and Duffy 2013; Nesdale 2013). In school contexts there are specific expectations about attitudes and behaviour which suggest that aggression is not acceptable (Killen et al. 2013).

Social structures in schools contribute to what is acceptable inclusive behaviour. Rules, protocols and procedures establish taken-for-granted modes of behaviour for children from the first years of schooling influencing ways of socialisation and defining oneself as a student (Thornberg 2008). Children's reasoning about such interpersonal traits as aggression as well as expectations about appropriate friendships may be influenced by expectations of appropriate behaviour within the school context. In this way there is the moral construction of 'the good pupil' and designated appropriate behaviour (Thornberg 2009). Relational rules designate how to behave in relation to other people to regulate behaviours that affect others' wellbeing such as 'don't fight', 'don't hit or kick others', and 'don't bully' (Johansson et al. 2014; Thornberg 2008, 2011). In the context of these relational rules, children may consider aggressive behaviour as unacceptable (Killen et al. 2013). In this way intergroup norms influenced by school expectations (rules, protocols and procedures) add to a complexity in social cognition that mediates decision-making and justifications about including children based on aggressive traits (Scholes et al. 2017). From this understanding we are interested in the role epistemic cognition plays in children's socially inclusive practices at school, particularly as it relates to inclusion of a child characterised as aggressive in play.

Children' epistemic cognition

Over the last 50 years, since Perry first investigated Harvard students' personal epistemologies, the field of epistemic cognition has experienced several waves of research which reflect these different views of epistemic cognition (See Hofer 2016 for an overview of these waves of research). In this paper, we consider epistemic cognition to include the thinking children engage in that reflects their views about the nature of knowing and knowledge.

One of the earliest approaches to research took a developmental perspective on adults' and adolescents' epistemic cognition (Hofer 2016), with relatively less focus on children, especially younger primary school children. Essentially this body of research argued that epistemic beliefs changed over time in a stage-like manner from absolutist (knowledge is black and white, reality is knowable and can be transferred from one to another), to multiplist (the belief that knowledge is based on personal opinion) and finally to evaluativist ways of knowing (knowledge is constructed by evaluating competing perspectives to arrive at a reasonable constructed understanding) (for a review see Brownlee, Schraw, and Berthelsen 2011).

This view of development theorises that children up to the age of four understand the world to be directly knowable (realism) (Kuhn and Weinstock 2002). Next, children engage in Objectivist epistemic thinking, reflected in their growing understanding that other individuals can hold false beliefs about an absolute reality. As children develop they come to understand that knowing their world is a subjective experience, where others may view the world differently to them and different understandings of an experience are uniquely understood (Kuhn and Weinstock 2002). Carpendale and Chandler (1996) noticed that in middle to late childhood, the beginning of a constructed view of the world emerges. Kuhn, Cheney, and Weinstock (2000) argued that the capacity to integrate both Objectivist (similar to Absolutist views) and Subjectivist (similar to Multiplist views) beliefs develops over time, culminating in an Evaluativist perspective. This means that children grow increasingly able to consider multiple perspectives and adjudicate on such views to arrive at an informed understanding.

Moving beyond this developmental perspective, a range of researchers explored changes in children's epistemic cognition that spans various domains of judgment. This body of research explored children's epistemic cognition and how it varies across domains related to values, personal taste, aesthetics, and truths (ambiguous and physical facts) (Mason, Boldrin, and Zurlo 2006; Wainryb et al. 2004; Wildenger et al. 2010). Kuhn, Cheney, and Weinstock (2000) expected that children would experience domains differently in terms of epistemic cognition with subjective thinking developing first in the domain of personal taste, then aesthetics, values and lastly social

truth and physical truth. However, their research with 5th grade children showed that Subjectivist epistemic cognition emerged last in the domain of value judgements rather than in the domain of truth. Mason et al. (2006) also found similar results with Italian 5th grade children and secondary school children in 8th, 11th and 13th grades. They showed that Objectivist epistemic cognition was evident in the domain of values, even after children showed Subjectivist thinking in the other domains.

In other interview research with children aged 5, 7 and 9 years Wainryb et al. (2004) introduced children to characters who had different beliefs to the children across the range of judgement domains. They explored epistemic cognition by examining children's thinking about the extent to which they believed that more than one belief could be right (relativism) as well as the extent to which it was acceptable to think differently to each other (tolerance). As might be expected based on previous research, older children were more likely to engage in Subjectivist epistemic cognition. However younger children also demonstrated some Subjectivist thinking in the domains of personal taste and ambiguous fact. Wildenger et al. (2010) explored younger children's epistemic cognition (aged 3, 4 and 5 years) using Wainryb et al.'s methodology and noticed that the five-year-old children held less Subjectivist views than the younger children in the sample (aged 3 years). Of interest for our study is the overall finding in these studies that children seem to engage in more Objectivist epistemic cognition when it comes to reasoning about moral values than in other judgement domains. This reasoning is likely to have implications for reasoning about values associated with social inclusion and exclusion.

There is some evidence to suggest that when children use multiple classification skills they are less likely to rely on stereotypical thinking and are not as likely to exclude others (Aboud 2003). This type of multiplistic thinking, we argue, can be associated with epistemic cognition because it relies on going beyond absolute knowledge (linked to the idea of stereotyped information about others) to being able to make judgments about many characteristics of diverse others. Such thinking would enable children to reason about inclusion based on a variety of negative and positive characteristics of other children, therefore enabling them to think beyond stereotyped, Objectivist information (Aboud 2003).

We know very little about how children's Subjectivist thinking regarding the inclusion of others emerges over the early years of primary education. The field of epistemic cognition lacks research which takes a longitudinal view on how younger primary school children's reasoning for social inclusion changes over the early years of school. This period in a child's school life is critical for addressing bullying and prejudicial behaviours based on social exclusion (Nipedal, Nesdale, and

Killen 2010). We know that it is possible for younger primary school children to go beyond Objectivist thinking (Wainryb et al. 2004; Wildenger et al. 2010) but it remains to be seen how such epistemic cognition changes over time within the context of reasoning focused on social inclusion/exclusion.

Method

In this paper, we explored children's epistemic cognition in the context of reasoning about social inclusion/ exclusion in Year 1 and Year 3 of early primary education in Australia.

The longitudinal research reported in this paper addressed two research questions:

 1. What is the relationship between epistemic cognition and children's reasoning about including or excluding an aggressive peer in their play in years 1 and 3 in primary school?

 2. What changes take place in children's justifications about the inclusion of children who are aggressive between year 1 and year 3?

Ethics and participants

After University ethical approvals were gained (Approval number1300000134), school authorities (Education Queensland, Catholic Education and Independent schools) were asked to provide consent for schools to be approached about the study. Following this, school principals were approached and given the opportunity to provide written consent for teachers within their school to be invited to participate. A selection of classes were then made across South-East Queensland. The sampling procedure ensured that metropolitan and regional school contexts were represented. The selection was also based on schools with overall school populations of around 600 students to ensure that there were sufficient numbers of Year 1 and Year 3 classrooms in each school. This facilitated the tracking of children as a cohort within a school rather than recruiting different children in each year of the study. Parents and children from participating classrooms where teachers have provided consent were approached via the teacher to request participation. Parents were provided with an information and consent package.

All children who were attending Year 1 at the participating schools were invited to take part in the study. An information letter that outlined the children's involvement in the study was sent home to all parents along with appropriate consent forms. Children and their families provided their consent using a parent and child consent form. As part of this process children were asked to colour in a smiley face if they consented to be interviewed. The researchers however were aware that children may feel obliged to give consent (Alderson 1995), particularly in an educational context structured

by relations of authority between the children and adults. To address this concern, children were asked verbally if they were still happy to participate prior to the interview and they were also reminded they could withdraw from the interview at any time (Dockett, Einarsdóttir and Perry 2012). In the third year of this study children were again verbally asked for consent and reminded they could withdraw. As we were interested in making children feel as comfortable as possible, children were interviewed in a location close to their classroom throughout the interview process. In this way the children were close to their teachers and if we sensed they were getting restless or seemed uncomfortable we offered the opportunity to return to their class.

The children in the study came from ten primary schools (four independent, and six public schools) in South-east Queensland, Australia with approximately a 50 percent return rate. There were a total of 169 children in Year 1 (aged 6-7 years) with 83 boys and 86 girls. In Year 3 there were 129 children (aged 8-9 years) of whom 65 were boys and 64 were girls. All children for whom parents gave consent at Year 1 were included in the study at both Year 1 and Year 3. There was a reduced sample at Year 3 as a number of children had moved schools during the intervening time period.

Data collection and analysis

The data collection took place using a 20-30-minute interview, with each individual child from whom we had gained written and verbal consent. These interviews were audio-recorded and later transcribed verbatim. Each interview was comprised of two main tasks related to epistemic cognition and reasoning about inclusion/exclusion of others respectively. The scenarios were counterbalanced in their presentation to children by using a random number table to order the sequence of presentation. Puppets were used to represent the characters in the epistemic cognition scenarios based on research which has indicated that young children are able to identify with puppet characters and find such interactions engaging (see e.g., Eder 1990). Both tasks were analysed separately before the relationship between the two sets of responses was explored.

Epistemic cognition task (based on Wainryb et al. 2004). The child was first asked 'Do you think it is okay or not okay to hit and kick other children'. Once his/her view was established on this issue, the child was shown two puppets called Sam and Taylor. 'Sam believes that it's okay to hit and kick other children and Taylor believes that it's wrong to hit and kick other children.' The next question was 'Could only one be right or could both be right? Why?' In year 3 we created a slightly different version of the scenario to be developmentally appropriate for older children which maintained the intent of exploring judgements in the values domain. We scored children's responses dichotomously. A score of 0 was associated with Objectivist epistemic cognition (only one belief could be right) while a score of 1 was associated with Subjectivism (both beliefs could be right).

Reasoning about inclusion/exclusion scenario task (based on Killen, Lee-Kim, McGlothin, and Stangor 2002)**.** The following scenario required children to consider a child who demonstrated aggressive characteristics in his interactions with other children:

> Michael is in Grade 1. Jack is a new boy in the class. Jack seems very bossy and pushes other kids around. Jack wants to make friends with Michael and asks Michael to play with him at lunch time. Michael does not want to play with Jack because he pushes other kids around.

> 1. Do you think Michael should play with Jack even though he is bossy and pushes other kids around?

> 2. Why do you think he should/should not?

To analyse responses to question 1, we coded all responses that indicated Michael should play with Jack as a 0 and those who believed he should not play with Jack as a 1 (see Killen et al. 2002). The responses to question 2 were analysed using inductive thematic analysis. Three researchers coded five interviews that included the children's justifications for inclusion or exclusion, allowing the codes to emerge from the data. The researchers then conferred to assess consistency in their coding. If there was a case where researchers could not reach consensus, an external researcher with expertise in this area acted as arbitrator. In this way the researchers interrogated the coding using the process of dialogic reliability (Åkerlind 2005)

Exploring the relationships between epistemic cognition and reasoning about inclusion. Chi square was used to explore the relationship between children's epistemic cognition in year 1 and year 3 (Objectivist or Subjectivist) and whether children did or did not include Jack.

Findings

Relationship between epistemic cognition and children's reasoning about inclusion/exclusion

A chi-square test of independence was performed to examine the relation between epistemic cognition and children's scenario decision to include or exclude Jack. Results of chi square analyses indicated that there was no relationship between children's epistemic cognition in year 1 and whether they chose to include Jack in their play, χ^2 (1, N =167) = 0.305, p = 0.77. In year 1, most children chose to exclude Jack and expressed Objectivist beliefs (see Table 1). In year 3, there was a significant relationship between children's epistemic cognition and whether they chose to include Jack in their play, χ^2 (1, N =128) = 8.45, p = .004. Children were three times (Odds ratio 2.895) more likely to choose to include Jack if they also expressed Subjectivist beliefs than if they expressed Objectivist beliefs (see Table 2).

Table 1. *Cross tabulation of epistemic cognition and inclusion at year 1.*

		Can only one of them be right or can both be right?		
		One (Objectivist)	Both (Subjectivist)	Total
Do you think Michael	No	98	10	108
should play with Jack?	Yes	55	4	59
	Total	153	14	167

Note: 1 cell has an expected count less than 5. The minimum expected count is 4.95

Table 2. *Cross tabulation of epistemic cognition and inclusion at year 3.*

		Can only one of them be right or can both be right?		
		One (Objectivist)	Both (Subjectivist)	Total
Do you think Michael	No	42	19	61
should play with Jack?	Yes	29	38	67
	Total	71	57	128

Changes in children's justifications about the inclusion of children who are aggressive

Next, we explored how children with Subjectivist epistemic beliefs or children with Objectivist epistemic beliefs justified their inclusion of the aggressive child in the scenario. The justifications used by children included responses that reflected, being 'nice', 'teaching others', 'being fair and having friends', and a 'nuanced understanding'. The justifications and percentages are presented in Table 3.

Table 3. *Changes in children's justifications about the inclusion of children who are aggressive between year 1 and year 3.*

	Year 1		Year 3	
	Objectivist %	Subjectivist %	Objectivist %	Subjectivist %
Being nice	54.5%	47.6%	14.8%	29.3%
Teaching others	31.8%	27.3%	55.6%	29.3%
Being fair & having friends	9.1%	22.8%	11.1%	22.0%
Nuanced understanding	4.5%	0	18.5%	20.5%

The category *Being nice* included responses that indicated it was important to include Jack simply because it was nice or kind, for example:

> He should still play with him… Because it's nice. (10109 Yr 1)

> Because it's nice to make other people happy. (30101 Yr 3)

Children used the term 'nice' suggesting they had internalised the social protocols around getting along with others at school and the need to behave within particular boundaries associated with niceness. In Table 3 we can see that this was a common response in Year 1 for children who held Objectivist and Subjectivist beliefs, however by Year 3 this response was not so common, especially for children with objectivist epistemic beliefs.

Teaching others was a category that showed an awareness that Jack could become less aggressive if he was taught or instructed in ways to behave appropriately. For example:

> Oh he could — yes, because he can speak to the -— he can speak to him and tell him not to do it. (90223 Yr 1)

> Yes because, that way, he could teach them to be a better kid and actually learn not to be rough. (10314 Yr 3)

References above such as 'tell him' not to behave in an aggressive manner and suggestions that Jack might learn not to be rough suggest that, for these children within their school context, there is an understanding of opportunities to change. In Table 3 it is evident that "teaching others" was the next most commonly occurring response in Year 1, after "being nice" for children who held both objectivist and subjectivist beliefs. By Year 3, this was the most commonly occurring response for children who held objectivist beliefs.

The category *Being fair and having friends* reflected justifications that including Jack was the fair thing to do or that he might simply need friends, as exemplified in the following quotes:

> Yes, he should. He might not have anything to play. It would be fair if he could just play with each other. (10109 Yr 3)

> Yes… Because he's a new person and he doesn't have any friends to play with. (40109 Yr 1)

Children's responses about fairness and having friends suggest that there are expectations about including others in play especially if they are new or without something to play during school breaks. This justification was not as common as "being nice" and "teaching others", although children with

Subjectivist beliefs at both Year 1 and Year 3 were more likely than children with Objectivist beliefs in Year 1 and 3 to report this reasoning for including Jack (see Table 3).

Responses that reflected the category *nuanced understanding* involved recognising that everyone is different or identifying that people are capable of changing. In general, these responses were more complex and nuanced in nature than the other categories of justifications. For example:

> Umm, sort of… Because, because it doesn't matter what people are like, because people are all different and they could make friends. (90106 Yr 1)

> Yes, I do… Because even if — well you might be able to change the person. You might be able to say I don't like it when you boss me around and I don't think it's good to boss anyone else around, because it might make them feel really upset and like they don't want to play with that person anymore. Then that person will be lonely, so I think Jack shouldn't be bossy because then — well that Michael should play with Jack because they can be friends, except Michael… (30106 Yr 3)

The first response shows an understanding of difference when it comes to making friends, for example "because people are all different". The second quote shows the understanding that Jack might feel upset and lonely and suggests that, for some students, there was an emotional response to the scenario and the consequences of exclusion. In both examples there is a sense that the children have a more nuanced understanding of why Jack should be played with. We see in Table 3 that in Year 1 very few children reported this reasoning for including Jack (across Objectivist and Subjectivist beliefs) but by Year 3 there is a marked increase in the number of children who demonstrate more nuance in their reasoning (for children with both Objectivist and Subjectivist beliefs).

Summary

In Year 1, most children reasoned that inclusion was a *nice* thing to do (Objectivist 55%, Subjectivist 48%), followed by *teaching* Jack to be nice (Objectivist 32%, Subjectivist 29%). Fewer children at both Year 1 and Year 3 identified that it was important to include Jack because it was the *fair (and having friends)* thing to do (Objectivist 9%, Subjectivist 24%). Interestingly, no Subjectivist and small percentage of Objectivist children in Year 1 identified with the category *nuanced understanding* (Objectivist 5%, Subjectivist 0%).

By Year 3, children's reasoning still shows that most children feel it is *nice* to be included (Objectivist 13%, Subjectivist 29%) and that it is important to *teach* Jack to be nice (Objectivist 47%, Subjectivist 29%). Justifications related to *fairness and having friends* (Objectivist 9%,

Subjectivist 22%) are similar in frequency to what was recorded for Year 1. However, justifications related to the category of *nuanced understanding* (Objectivist 16%, Subjectivist 20%) have increased for children with both Subjectivist and Objectivist epistemic cognition.

Discussion of findings

The relationship between epistemic cognition and children's reasoning about inclusion

The findings showed that children became more likely to say Jack should be included in play even though he is bossy and pushes as they progressed through the early years of primary school. In Year 1, very few children thought that Jack should be included whereas, by Year 3, slightly more than half of the children said that Jack should be included. Children in Year 3 were also more likely to indicate that Jack should be included if they expressed Subjectivist views than if they expressed Objectivist views. The relationship between Subjectivist epistemic cognition and the inclusion of an aggressive child points to a focus on being more able to consider multiple perspectives as described by Aboud (2003). Aboud argued that children who reason in a subjective way are less likely to be exclusive and prejudicial in their interactions with others. Our data would also support Aboud's finding — as children reason about multiple perspectives, they become more likely to behave inclusively. While very few children expressed Subjectivist beliefs in Year 1, this number increased substantially by Year 3, with an associated increase in the number of children willing to include Jack even though he was aggressive. Of course, these findings relate to children's espoused, rather than actual, inclusive behaviours.

In a recent meta-analysis, Greene et al. (2018) identified the significance of children's epistemic cognition for academic success — we argue that this cognition may also be important for social success. If social exclusion is to be reduced, it may be important to consider extending children's epistemic cognition and ways in which children can be encouraged to consider multiple perspectives when solving social problems. Considering multiple perspectives is especially critical in the early years of school to counter development of prejudice and stereotypical thinking. While no children in our study demonstrated Evaluativist beliefs, we did see a shift towards more Subjectivist views in Year 3. We think that understanding more about children's epistemic cognition for social inclusion can assist teachers to (1) understand children's reasoning about inclusion and exclusion and (2) see that children can engage in complex thinking about inclusion.

Changes in children's justifications about inclusion

Exploring children's justifications provided more detail about the nature of Objectivist and Subjectivist epistemic cognition for reasoning about social inclusion. Four interesting observations can be made based on the data related to children's justifications. First, in Year 3, children with

Subjectivist views appeared more likely than children with Objectivist views (Subjectivist 20%, Objectivist 16%) to identify with the category *nuanced understanding* as an explanation for including Jack in their play. However, even children with Objectivist views were more likely to report nuanced understanding as a justification at Year 3 than at Year 1. This movement suggested a higher level of complexity than the other justifications because they showed that children could think in a more complex and nuanced manner, much like the multiplistic thinking referred to by Aboud (2003).

Second, in Year 3, children with Objectivist epistemic cognition were more likely than children with Subjectivist views (Objectivist 47%, Subjectivist 29%) to describe how it is important to include Jack because such inclusion might enable them to *teach* him how to be less aggressive. We think that this focus on teaching reflects an understanding that children can change their aggressive behaviours if they are shown how to interact appropriately. This teaching mostly reflects a view that a child should be given the right information to behave better, which suggests an Objectivistic stance on absolute knowledge.

Third, children with Subjectivist epistemic views were more likely at both Year 1 (Subjectivist 24%, Objectivist 9%) and Year 3 (Subjectivist 22%, Objectivist 9%) to identify justifications related to *fairness and having friends*. Fairness has previously been identified as a priority in terms of group functioning (Killen et al. 2002) however in our findings, fairness appears to be related to the ability to see another point of view, or Subjectivist views in relation to interpersonal characteristics associated with aggression. Children used the term 'fair' and offered justifications that illustrated their understanding of another child's point of view. This ability to draw on another perspective has implications for teaching as we would argue that facilitating opportunities for children to develop the ability to think multiplistically (subjectively) has the potential to encourage less exclusive and prejudicial interactions in schools (Aboud 2003).

Finally, it seems that for both groups of children being 'nice' was a common justification in Year 1 (Subjectivist 48%, Objectivist 55%), with the frequency of such responses reducing in Year 3 (Subjectivist 29%, Objectivist 13%). This decrease in justifications around being nice was coupled with an increase in Objectivist justifications around teaching others (Year 1, Subjectivist 29%, and Objectivist, 32% to Year 3, Subjectivist 29%, and Objectivist 47%). Children used the term 'nice' as a concept associated with doing the right thing at school and associated protocols around getting along with others and the need to behave within particular boundaries associated with niceness. The decrease in being nice in Year 3 and the increase in teaching others may be associated with the schooling context and a shift in expectation as children move through the primary school years.

Implications

Our study has provided new insights into the development of epistemic cognition in the domain of reasoning about inclusion over the early years of school. It was apparent that, as children move from a view that knowledge is a given (Objectivist thinking) to multiplistic or Subjectivist thinking, they become more likely to include diverse others, at least at the level of discourse. Teachers can play an important role in promoting social inclusion in classroom and school settings.

We argue that one way in which teachers may be able to support children to think about their epistemic cognition regarding inclusion and exclusion might be to focus on epistemic reflexivity (Lunn Brownlee, Johansson, Walker, and Scholes 2017; Scholes, Lunn Brownlee, Walker, Johansson, and Ryan 2018). Advocates of epistemic reflexivity consider the nature of knowledge explicitly when engaging in reasoning about inclusion and exclusion. Epistemic reflexivity goes beyond reasoning to include action (Lunn Brownlee, Ferguson and Ryan, 2017). It involves first identifying or discerning an issue of concern with respect to social inclusion. Next, a process of deliberation takes into account the broader influences on reasoning such as family influences, peers, school rules etc. It promotes critical reasoning and analysis of different perspectives. Finally, epistemic reflexivity is expected to lead to some sort of action or dedication, for promoting social inclusion (Lunn Brownlee, Ferguson and Ryan, 2017). We argue that a focus on epistemic reflexivity would support children to move beyond Subjectivist perspectives to engage more with critical reflection and evaluation of a variety of perspectives. Winton (2007) has suggested that, when children engage in critical evaluation of conflicting points of view, they are able to develop more sophisticated understandings about equity and social justice. This type of critical epistemic reflexivity is promoted when teachers value children's voices in dialogically organise classrooms (Lunn Brownlee et al. 2018). Teaching practices that involve dialogic interactions have the potential to move children beyond stereotypical thinking to engaging in epistemic reflexive thinking about social justice in the school context and in society more broadly.

Conclusion

In this paper we explored how children's epistemic cognitions changed over the early years in primary school education and the extent to which reasoning about social inclusion and exclusion were related to such cognitions. Addressing children's epistemic cognition explicitly may impact on children's socially inclusive reasoning at school, although further research is needed to explore how such reasoning takes into account broader contextual influences during deliberations.

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