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## Limited representation of individuals with disabilities in early childhood classes: alarming or status quo?

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### ABSTRACT

UNICEF's new Millennium Development Goals and Beyond (2015. <http://www.un.org/millenniumgoals/>) focus on the needs of the largest marginalised minority, individuals with disabilities, challenging us to examine issues related to exclusion and develop strategies for making an authentic sense of belonging and high-quality early childhood education a reality for over 93 million children with disabilities (United Nations Children's Fund. 2006. Convention on the Rights of Persons with Disabilities. <http://www.un.org/disabilities/default.asp?id=150>). A first step in addressing stigma and the exclusion of individuals with disabilities is to examine materials in environments, given that positive representation in books and media contributes to a sense of belonging, increased self-esteem, and greater understanding of and attitudes towards others. Historically, the portrayal of individuals with disabilities in the literature and media has been absent or negative while the number of children with disabilities in early childhood classes has steadily increased. In this study, the representation of individuals with disabilities in school materials was examined in 32 kindergarten classes using the *Inventory of Disability Representation* (Favazza, P. C., and S. L. Odom. 1997. "Promoting Positive Attitudes of Kindergarten-Age Children Toward People with Disabilities." *Exceptional Children* 63: 405–418). Two classrooms (6%) had moderate representation, 22 classrooms (69%) had low representation, and 8 classrooms (25%) had no representation of disabilities. Implications for practice and research are presented in light of the current focus on disability rights and becoming a more inclusive society.

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Individuals with disabilities; media; inclusion; attitudes; sense of belonging

Leading international and national organisations report that individuals with disabilities represent at least 15% of the global population (U.S. Department of Education 2014; WHO 2011). At the same time, children with disabilities are among the world's most stigmatised and excluded population because of limited understanding and knowledge about persons with disabilities and negative attitudes (UNICEF 2013). One example of exclusion, which may contribute to the lack of understanding about and acceptance of persons with disabilities, is the lack of representation in the print and visual media, curriculum, and materials used with children during their formative years in early childhood environments.

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Attitude research has highlighted the correspondence of indirect influences (images in books, curricula and toys, conversations about human differences) on attitude formation in the initial work by Favazza and Odom (1997), which was influenced by early attitude research scholars, Triandis, Adamopoulos, and Brinberg (1984). Moreover, O'Dwyer (2006) noted that the goal of early childhood education is to enable children to reach their potential by focusing on four aspects of learning: (a) *learning to know* – acquiring basic knowledge; (b) *learning to do* – children putting what they have learned into practice; (c) *learning to be* – developing independence and critical thinking; and (d) *learning to live together* – coexisting in community with others. Taken collectively, attitude research and these developmental goals highlight the importance of promoting a sense of identity and belonging, and an understanding of others during the early childhood years.

### **Positive representation, identity, and belonging**

Why is the representation of children with disabilities important and what are the potential consequences of not being depicted in positive ways within classroom environments? The representation of persons with disabilities could change the persistent negative narrative about disabilities into a positive narrative that demonstrates the capabilities and contributions of all individuals to society. This is consistent with the tenets of Disabilities Studies in Education, which promotes social justice, equitable and inclusive opportunities and meaningful access to all aspects of society, and assumes the competence of persons with disabilities (Connor et al. 2008).

Materials that are used with young children serve two purposes: the materials *mirror* or reflect the child in his/her environment and the materials provide a *window* into the lives of others (Ellis 2015; Style 1988). All children need to *see* themselves in the environment around them and *hear* stories that include them for this positively impacts their sense of belonging, self-esteem, and understanding of others (Murray and O'Doherty 2001), simultaneously providing both a self- and group-identity. Because of this, the materials, toys, books, and displays reflecting children and their families, act as a *mirror* as children learn about themselves in relation to their world and to others (family, classmates). At the same time, all children need to be exposed to images of human differences, as this contributes to their understanding of and attitudes towards others. In essence, the materials serve as a *window* into the diversity that is in our world. This is a critical point, as images in the environment (or lack of images, or negative images) impact early perceptions, which lay the foundation for attitude formation. This has particular significance for individuals with disabilities.

Clearly, there is a history of non-representation or negative representation in print and visual media of persons with differences, including individuals with disabilities, which serves to perpetuate negative attitudes and the exclusion of individuals with disabilities (Ellis 2015; Ostrosky et al. 2015). This historical challenge has current relevance given the recent international focus on stigma and the marginalisation of people with disabilities (Millennium Development Goals and Beyond 2015; UNICEF 2006), and the current dialogue stressing the need to re-conceptualise disability as a social construct, much like race and social class (Connor 2011; Ferri and Connor 2014; Gallagher, Connor, and Ferri 2014). Espousing this perspective involves a rejection of the traditional medical model of disability as something that is 'abnormal', and instead embraces the notion that diverse abilities represent a natural continuum of human differences. If we recognise disability is a social construct, we also must embrace the notion that individuals with disabilities have a place in all aspects of our environment, as do persons who represent different races, ethnicities, and family structures (Favazza, Ostrosky, and Mouzourou 2016). Given these converging realities (the national and global push for inclusion, the push for recognising disability as a social construct, the increasing numbers of children with disabilities in early childhood classes, and the persistent stigma, exclusion and negative attitudes towards persons with disabilities), it is critical that we examine environments to ensure that all children have the most basic human right, an opportunity to develop a positive self-identity and positive group identity (i.e. a sense of belonging).

### Addressing the challenge of under-representation

The issue of under-representation of groups of people is not new and is not confined to persons with disabilities. For example, researchers have found the negative portrayal or absence of representation of subordinate or minority groups (e.g. African-Americans, Latinos, gay and lesbian individuals, persons with disabilities) in both print and visual media (Horning, Lindgren, and Schliesman 2013; Hughes-Hassell, Barkley, and Koehler 2009). The phenomenon was so notable that Clark (1969) developed a model of representation of subordinate groups in the media, which has been used to describe or depict members of minorities, particularly African-Americans. At that time, the depiction of minorities could fit into one of the following stages:

*Stage One:* Non-representation; subordinate group is ignored; symbolically non-existent.

*Stage Two:* Ridicule; subordinate group is humiliated or the victim of derogatory statements or actions by a dominant group, which establishes control or advantage.

*Stage Three:* Regulation; the subordinate group holds positions of control over the dominant groups (e.g. police officers, soldiers, teachers and administrative officials).

*Stage Four:* Respect; the subordinate group is accepted; intergroup relationships can be formed; subordinate group is no longer treated or seen differently than the dominant group.

A similar model of representation emerges when we examine the absence of representation or negative representation of individuals with disabilities. In the early work by Hunt (1991), the study of representation and stereotypes was expanded to persons with disabilities in books, television, movies, and advertising. Hunt found not only a lack of representation, but also stereotypic portrayals when individuals with disabilities were represented. If individuals with disabilities were portrayed, the image fit into one of these themes: (1) pitiable/pathetic, (2) an object of curiosity, (3) an object of violence, (4) sinister/evil, (5) the super (hero) cripple, (6) laughable/butt of jokes, (7) her/his own worst enemy, (8) a burden, (9) non-sexual, and (10) unable to participate in daily life. For example, in several animated movies, characters with disabilities are portrayed as sinister (i.e. Captain Hook in *Peter Pan*, Disney et al. 2007), the super hero cripple (i.e. *Hunch Back of Notre Dame*, Trousdale et al. 2002) or an object of pity and curiosity (*Dumbo*, Sharpsteen et al. 2011).

In their review of over 500 award-winning children's books, Blaska (1996) confirmed the overwhelming under-representation, invisibility, and exclusion of individuals with disabilities. Only ten of 500 books reviewed (2%) included people with disabilities in the story or illustrations, and only six of these books had characters with disabilities that were integral to the story. The limited presence of people with disabilities points to the need for more stories that positively represent the diversity of society. Likewise, in a study of literacy-rich aspects of 40 early childhood programmes (e.g. Head Start, preschool, early childhood special education, childcare), researchers found over 1600 books available for independent use by children in their classes and of these, only 24 (1.4%) included characters with disabilities. Interestingly, classrooms had many books representing cultural diversity (73%). Also, 57% of the 40 classrooms had no books with characters with disabilities. The remaining 42% had only one or two books available (Blaska 2000). More recently, in a study of 102 library books for young children that included characters with disabilities, Price, Ostrosky and Mouzourou (2016) found that many of the books included negative portrayals of individuals with disabilities such as stereotypical images or offensive language.

Ellis (2015) chronicles the representation of disabilities in toys, emphasising that toys serve as a 'mirror of the values of society', reflecting what society deems as acceptable or important (15). Sadly, while toys could raise awareness about human differences, toy makers have been remiss in providing appropriate toys that reflect disabilities and have made missteps along the way. As Ellis points out, when Barbie arrived seated in a wheelchair in 1996, the figure could not fit into the Barbie Dream House. Moreover, when dolls reflecting facial features of a child with Down syndrome appeared, consumers rejected the dolls. Examples such as these reflect the values of society and send messages

of what is accepted and important (‘perfect/normal’ bodies) and what is/is not accepted by society (‘imperfect/abnormal’ bodies, such as people with disabilities). The subject of what and who constitutes ‘perfection’ is one example of how values are socially constructed within societies and the consequential impact it can have on the representation and acceptance of people who differ from what is believed to be ‘normal’.

Taken together, these examples speak volumes about society’s views towards disabilities and a lack of understanding among members of society that people with disabilities represent an important facet of human differences, worthy of representation. Books, toys, and other items in children’s classroom environments and the rich conversation that can ensue from using these materials can create a positive narrative of disability that young children may grow up to learn. A crucial role for teachers is to create environments that reflect positive self-images and narratives for each and every child in their classroom communities.

**Inventory of Disability Representation survey**

The *Inventory of Disability Representation (IDR)* survey (Favazza and Odom 1997) is one tool that has been used to critically examine early childhood classrooms for the presence of disability representation. The survey is modelled after the Anti-Bias Curriculum (Derman-Sparks and the Anti-Bias Curriculum Task Force 1989), which is used to examine cultural aspects in early childhood classrooms. Like the Anti-Bias Curriculum, teachers use the *IDR* to evaluate five aspects of their classroom including (a) the visual/aesthetic environment (i.e. posters that depict individuals with disabilities), (b) the classroom curriculum (i.e. content that portrays individuals with disabilities), (c) books that reflect children with diverse abilities, (d) dramatic play materials (i.e. dolls with crutches, puzzles that depict children using adaptive equipment), and (e) exposure to different modes of communication (i.e. sign language, Braille). In addition, three aspects of the school environment are evaluated and include (a) school-wide friendship programmes that support interactions between children with and without disabilities, (b) school-wide counselling units that promote understanding children with diverse abilities, and (c) school-wide signage reflecting disability diversity (i.e. Braille, sign language).

Prior to this study, the *IDR* was used in four studies (see Table 1). Across an 8-year period of time, 121 early childhood classes (116 of these classes were in the USA) were evaluated using the *IDR* with results indicating that 95% of the classes had little or no representation of children with disabilities, 3% of the classes had moderate representation, and 2% had high representation of individuals with disabilities. When questioned about the absence of materials, teachers indicated three challenges: lack of funds for materials, lack of knowledge of where to obtain materials, and lack of knowledge about how to select and utilise the materials that contained disability content (Favazza and Odom 1997).

**Table 1.** *IDR* ratings from previous studies.

Studies using the <i>IDR</i>	Number of classes	Mean score (SD) <i>IDR</i> rating		<i>IDR</i> rating
Favazza and Odom (1997)	11	Pre-test	2.5 (1.6)	Low
		Post-test	3.3 (2.4)	Low
Favazza, Phillipsen, and Kumar (2000)	4	Pre-test	1.5 (1.5)	Low
		Post-test	1.6 (1.5)	Low
		Follow-up	5.2 (4.2) <sup>a</sup>	Low
Favazza et al. (2000)	92	54 kindergarten classes	4.1 (3.8)	Low
		26 child care classes	3.6 (4.2) <sup>a</sup>	Low
		12 Pre-K special ed. classes	2.9 (2.4)	Low
Nikolarazi et al. (2005)	14	5 Classes in Greece	Range 0–5 <sup>b</sup>	Low
		9 Classes in the USA		
		3 Classes	3–5 <sup>b</sup>	Low
		4 Classes	10–13 <sup>b</sup>	Moderate
		2 Classes	14–15 <sup>b</sup>	High

<sup>a</sup>High variability.

<sup>b</sup>Range reported; means and standard deviation not reported.

The lack of representation or negative representation of persons with disabilities can also be found in materials used to prepare teachers. For example, in a review of 59 textbooks for future physical education (PE) and adaptive PE teachers, Hardin and Hardin (2004) found that only 1.5% of 2455 images depicted a child with a disability, and of these 71% portrayed the child as needing assistance. The authors suggested that the absence of children with disabilities in textbooks implies that inclusion is not a reality in public education. In addition, the authors stated that the limited images that do exist 'reinforce the idea that children with disabilities are a burden for teachers or classmates because almost every image depicts the person with a disability receiving assistance from an able-bodied person' (409). The implication is that the invisibility of students with disabilities in teacher education texts or the negative portrayal of persons with disabilities as needy or burdensome may reinforce or sustain negative perceptions and attitudes towards persons with disabilities and differences by future teachers. And, if pre-service teachers are unaware of the impact of representation on the acceptance of persons with disabilities and the self-esteem of individuals with disabilities, they might not critically evaluate the environmental print in their schools and unintentionally contribute to negative attitude development in their students.

Therefore, the purpose of this study was to examine how individuals with disabilities are represented in classroom materials and to determine if inclusive early childhood environments have changed in disability representation from previously evaluated classes. Given the increasing number of children with disabilities educated in inclusive settings in the USA (Snyder and Dillow 2012), this study is timely and important.

## The current study

### Methods

Data for the current study were collected as part of a larger randomised control study to examine the efficacy of the *Special Friends* programme (Favazza and Odom 1996, 1997), also called *Friends*. The programme was designed to positively impact children's attitudes towards individuals with disabilities by providing indirect experiences (reading and discussing books with characters who have disabilities), direct experiences (cooperative play groups with children and materials that represented diverse abilities, races, languages) and the child's primary social group (family members who repeated the book reading and discussion activity at home) (Ostrosky and Favazza 2008–2012). The longitudinal study was implemented in 16 experimental and 16 control classes across two states whereby kindergarten teachers were randomly assigned to implement one of two curricula: *Friends* (Favazza, La Roe, and Odom 1999) or *Science*, an adapted *ScienceStart!* programme (French and Conezio 2007) three times each week for 6 weeks.

### Participants

The average class size in the *Science* and *Friends* classrooms was 21 and 23, respectively. The primary criterion for recruitment was that each class had at least 4 students with disabilities. A child was identified as having a disability if he/she: (a) met the criteria of disability as defined in the Individuals with Disabilities Education Improvement Act of 2004; (b) was on a 504 plan (which provides accommodations and services that remove barriers to learning for children with disabilities); or (c) was in the process of being referred for additional support (e.g. behaviour support plan, IEP evaluation). Hereafter, these children are referred to as children with disabilities. Data for the study were collected from 32 kindergarten teachers, most of whom had taught students with disabilities in inclusive classrooms in the past five years. Demographic information on the teachers is presented in Table 2.

**Table 2.** Teachers' demographic information.

Variables	Frequency
Education level	
BA or BS	8
BA or BS plus additional courses	14
MA	5
MA plus additional courses	5
Special education training	
None	1
Seminar or workshop	3
1–2 courses	14
3–4 courses	3
More than 4 courses	5
Special education graduates	6
Age	
Below 25 years	3
26–35 years	10
36–45 years	8
46–55 years	10
Above 55 years	1
Number of years teaching	
Mean	13.4
Range	(1–33)

## Measure

### Inventory of Disability Representation

The *IDR* (Favazza and Odom 1997) is a 14-item survey used to measure, describe, and evaluate how children with disabilities are depicted in early childhood classroom materials across the following categories: displays or visual/aesthetic environment (e.g. posters, class decorations), classroom curriculum (e.g. social studies unit), and children's books or videos. In addition, some *IDR* items reflect school-wide representation of disabilities (e.g. inclusive friendship programmes, school-wide counselling curriculum focused on human differences, use of Braille and/or sign language by the broader school community). For the purpose of this study, the *IDR* was updated to include other widely used terminology (i.e. children with special needs and diverse abilities) and current examples of well-known individuals with disabilities (e.g. Stephen Hawkins). In addition, we provided more delineation within items to reflect the presence of increased diversity, and the scoring was refined by separating out the score of '0' as having 'No Representation'. Scores on the *IDR* range from 0 to 30; it can be completed in 10 minutes. All 'Yes' responses receive one point and all 'No' responses receive zero points. Higher scores represent higher levels of representation of persons with disabilities or materials/equipment used by persons with disabilities (cf. 0 = no representation, 1–10 = low representation, 11–20 = moderate representation, 21–30 = high representation). The *IDR* is included in [Appendix](#).

## Procedures

As part of the larger efficacy study, prior to the intervention, teachers completed the *IDR* and then met with one of the authors to discuss their responses on the completed survey. For each 'YES' response (i.e. a teacher marked YES in response to the item *Do children have daily access to books in your room that reflect different languages like sign language?*), the research staff asked the teacher to verify the response (e.g. 'Could you show the materials to me?'). For example, if the teacher said 'YES' when answering a question about daily access to books about persons with disabilities, but the books were only available during a specific part of the year (i.e. Helen Keller book is only available during a unit on the 5 Senses), the response was changed to 'NO' (and given a score of zero).



## Results

In the larger study of the 32 kindergarten classes, the levels of acceptance were measured using the *Acceptance Scale for Kindergarteners-Revised (ASK-R)* (Favazza and Odom 1997) at pre-intervention and at four points post-intervention. The results indicated that pre-test ASK-R scores were not significantly different across the two interventions, but the level of change from pre to post was statistically significant. Specifically, there was a significant time by treatment interaction, with children in the *Friends* classrooms (who were exposed to books, materials and discussions about persons with disabilities) making significantly greater gains than children in *Science* classrooms when pre-test ASK-R scores were contrasted with post-intervention scores.

In addition, pre-intervention results on the *IDR* revealed the levels of representation of persons with disabilities within the classroom and school environments were alarmingly dismal. On a scale of 1 to 30, the average score across the 32 classrooms was 4.13; 8 classrooms (25%) had no representation; 22 classrooms (69%) had low representation; and two classrooms (6%) had moderate representation. No classrooms had high levels of representation of persons with disabilities. It is notable that one moderate scoring class was in an elementary school known for its cultural and linguistic diversity, as it had students from over 50 countries and more than 40 languages were spoken. The diversity in this school may have contributed to the school having more diversity represented in the environment, including disabilities. The second moderate scoring class was taught by a woman who had a son with significant disabilities, possibly contributing to her awareness of the ways classroom environments influence children's attitude development.

In addition to the quantitative data, teachers were asked to provide examples to support their *IDR* responses and these additional comments were summarised (see Table 3). Teachers indicated that images of children with disabilities were provided through posters, books, and bulletin board displays in their classrooms. Many teachers noted that these images were presented as part of their Community unit, Social Study unit, or Reading programmes. Teachers also shared some of the book titles that they used on a regular basis. Additionally, teachers mentioned books about famous individuals with disabilities such as Helen Keller and Louis Braille, which were introduced during different thematic units (e.g. *Inventors*, *5 Senses*). Although teachers reported that they used books that included images of individuals with disabilities or books that contained sign language, typically, these books were not available in the classrooms year-round but rather they were brought out during specific times of the year. With regard to classroom materials, a few teachers mentioned that they had eyeglasses available for use in the dramatic play area or that students used magnifying glasses in connection with science projects. Some teachers reported that they taught sign language and displayed posters in Braille or sign language. However, none of the teachers reported having play materials that represented disabilities (e.g. a doll who uses hearing aids, puzzles with individuals with disabilities, manipulative figures that depict an individual using a walker).

In terms of school-wide programmes that promote interactions between children with and without disabilities, a few teachers mentioned that they used Positive Behaviour Interventions and Supports (PBIS; Sugai and Horner 2006) and the *First Step to Success* curriculum (Walker et al. 1997). Also, some teachers reported that inclusive classrooms helped to support peer interactions between students with and without disabilities.

## Discussion

While an increasing number of children with disabilities are being educated in inclusive early childhood classes, national guidelines from the Division for Early Childhood and the National Association for the Education of Young Children (2009) stress the need for creating welcoming inclusive early childhood classes, and there is a global focus on the critical need to create a sense of belonging for individuals with disabilities (Millennium Development Goals and Beyond 2015; UNICEF 2006), little has changed with regard to the level of representation of individuals with



**Table 3.** Examples of teachers' responses to *IDR* items.

Section	Item	Examples of teachers' responses
Visual/aesthetic environment	Are there images of children with disabilities in your room?	Posters Books Bulletin board Picture cards for writing Banner
Classroom curriculum	When images of persons in different occupations are presented in your curriculum, are differently abled people represented?	Social study curriculum – books and pictures of individuals in wheelchairs Community unit-different jobs and abilities Reading programme – <i>The Band-Girl</i> uses a wheelchair and <i>My First Book of Sign Language</i>
	When images of important and/or famous individuals, past and present, are presented in your class curriculum, are differently abled people represented? If yes, who?	Braille books available during the Inventors unit Books – <i>I Am Special. All about Me</i> (about children in wheelchairs) and <i>Grandma's Wheelchair</i> Sesame Street book – <i>We Are All Different, We Are Alike</i> . Social Studies unit for Community Helpers Inventors unit Helen Keller and Louis Braille in the 5 Senses unit Jesse Owen (asthma) President Roosevelt Magic Johnson and Robin Williams (ADHD) Whoopi Goldberg and Tom Cruise (learning disabilities) Stephen Hawking (Lou Gehrig's disease) War veterans People with hearing aids
Classroom books	Do children have access to books in your room that reflect children/adults with special needs and abilities?	<i>Victoria Smiles</i> <i>Helen Keller book</i> <i>Percy the Penguin Who Did Not Belong</i> <i>My 5 Senses</i> (Science and Social Studies unit) <i>How Willy Got His Wheels</i> (Social Studies unit) <i>My Brother Has a Wheelchair</i> <i>Vicky the Vet</i> (child in a wheelchair) Periodically in room, not always People in hallways give them this exposure At library
	Do children have access to books in your room that reflect different languages, like sign language or Braille?	Books on sign language <i>You Can Learn Sign Language</i> During the '5 Senses' unit, the teacher gets sign language books from school library We talk about it and create 'mock' Braille representations of our names
Classroom dramatic play	Do children have accessibility to and exploration of tools used by persons with various special needs such as crutches, braces, wheelchair, walker, cane, magnifiers, or eyeglasses?	5 Senses unit Science unit Available ALL the time at play time Old lady glasses Tinted glasses Magnifying glasses in Science
Classroom language	Do children in your class have opportunities in the current curriculum to see or use sign language and/or Braille? If yes, what opportunities are included?	Sign language chart Songs with signs Alphabet chart in Braille Poster on wall In bathroom and in hallways We use sign language and Spanish when we have snack to say 'thank you' I teach some simple signs

(Continued)

**Table 3.** Continued.

Section	Item	Examples of teachers' responses
School-wide environment	Is there a school-wide programme for your students that promotes and encourages interactions between children with and without disabilities?	Inclusion classrooms PBIS and First Step to Success Curriculum
	Are there school-wide opportunities for children to see or use sign language and/or Braille (such as rooms or doorways labelled)?	Our school is the designated school for visually impaired children. Braille is seen around school. I think room numbers are labelled in Braille

disabilities in early childhood classes. The results from this study mirror earlier studies documenting limited representation of individuals with disabilities in early childhood classrooms. As in years past, these findings lead one to wonder why limited or no representation of individuals with disabilities persists. Is there a lack of awareness that a sense of belonging is a basic human right? Have we become complacent with the status quo of underrepresentation, even when this invisibility contributes to persistent issues of stigma, exclusion, and non-acceptance?

While several teachers mentioned that they provided access to materials that depicted individuals with disabilities, these materials were often linked to thematic units or were part of a social emotional curriculum that was available during a limited part of the year and might not necessarily focus on the interactions between children with and without disabilities or focus on promoting a sense of belonging and acceptance. For example, programmes such as *First Step to Success* (Walker et al. 1997) focus on interactions between children, not necessarily between children with and without disabilities. Some social emotional curricula support the development of specific skills such as expressing emotions, self-regulation, social problem-solving, initiating, and maintaining interactions (Joseph and Strain 2003), and other programmes focus on promoting acceptance, celebrating diversity, using strategies to support friendships, and highlighting the contributions of persons with disabilities (Favazza, Ostrosky, and Mouzourou 2016). In all of these instances, materials that include individuals with disabilities should be used to intentionally facilitate conversations, and support interactions, social skills, friendships, and class membership for all children.

Moreover, it is not enough to simply infuse materials and programmes into classrooms. Careful evaluation of materials, resources, and programmes will lead teachers and parents to recognise and avoid deficit narratives or portrayals of persons with disabilities. This then will ultimately lead to a more fully developed understanding of individuals with disabilities as people who are more similar than different in their capacity to participate in, and contribute to, society in positive and meaningful ways.

### Limitations

There are limitations with this study, which need consideration when interpreting the results. The first limitation relates to the data collected. While the research staff confirmed all responses on the *IDR*, the results represent self-report data. Research staff did not observe teachers using the materials or children's reactions to the materials that depicted persons with disabilities. Second, many US kindergarten classes are focused on academics, which could have resulted in decreased time and activities in dramatic play areas or the absence of these types of materials in the classrooms. Given that the Dramatic Play section of the *IDR* is worth 9 points, if a teacher does not provide children with 'access to tools used by persons with disabilities (i.e. wheelchairs, crutches, braces, walkers, canes, magnifying glasses/eyeglasses) or dolls and other materials representing disabilities', their *IDR* score is significantly lowered.

A third limitation relates to the Classroom Language section of the *IDR*, which focuses heavily on sign language and Braille, and does not include augmentative and alternative forms of communication such as Picture Exchange Communication System (Frost and Bondy 2001). In response to

this limitation, more communication items were added to a newer version of the instrument, which was also expanded to include other areas of diversity found in today's inclusive classrooms (see Favazza, Ostrosky, and Mouzourou 2016), and aligned with the tenets of Disabilities Studies in Education (Baglieri et al. 2011).

A fourth limitation is the demographics of the participating classes. Many of the classes represented Title I schools with 43–55% of children from low-income families (as defined by receiving free or reduced lunches). In other words, almost half of the classes represented resource-poor communities, which could have impacted the amount of funding that schools had to purchase materials, which in turn could be one of many factors that negatively impacted *IDR* scores. Indeed, when asked, almost all teachers indicated that their budget for materials was quite small, limiting their capacity to purchase materials, including those related to diversity, which also reflects the value society places on the needs of children from diverse populations. Other explanations of limited representation of persons with disabilities could have been participating teachers' negative attitudes, fear, or reluctance to talk about disabilities. Professional development is needed to help current and future teachers learn to recognise and remove barriers to positive identity, belonging and participation of children with disabilities so that children's experiences and voices are not absent in the environment,

### Recommendations for practice

There are a number of potential barriers to representing disabilities in classroom settings. Mendosa and Reese (2001) highlight challenges related to early childhood materials that reflect *all* children. Sometimes, print or visual media may be *popular but problematic*, such as children's stories that portray characters with disabilities in a negative way such as the villain (i.e. Captain Hook in *Peter Pan*). Another challenge is that classrooms may *only have a few books with a character to represent a whole group* (e.g. persons with disabilities). When this occurs, the materials likely portray an inadequate picture of the experiences of a whole group of individuals. Because of these challenges, critical attention is needed regarding the positive and negative messages conveyed through materials, resources, and images in the environment.

Other challenges include the *availability and access* to a wide range of high-quality materials and the *time needed to locate, evaluate, and utilise materials* in ways that are informed by best practices, cultural sensitivity, and developmentally appropriate practices. For example, the lack of funding to obtain books and classroom materials that represent a broad range of diversity is problematic. This challenge is addressed in the Convention on the Rights of Persons with Disabilities (CRPD), which calls upon nations to promote a sense of dignity and self-worth (Article 8), and to combat stereotypes and raise awareness of the capabilities and contributions of persons with disabilities (Article 24) by

fostering at all levels of the education system, including in all children from an early age, an attitude of respect for the rights of persons with disabilities; encouraging the use of all forms of media to portray persons with disabilities in a manner consistent with the CRPD. (UNICEF 2006)

Consistent with these tenets is the need to make available resources that reflect children with disabilities as a tool for enhancing self-esteem, a sense of belonging, and acceptance of human differences. Clearly, infusing high-quality materials that reflect diversity, in *all* schools, is a first step in supporting social inclusion and positive attitude development at the very age when attitudes of acceptance or rejection are being formed.

Moreover, while tools are available to evaluate the representation of diversity in classrooms (e.g. Derman-Sparks and the Anti-Bias Curriculum Task Force 1989; Favazza, Ostrosky, and Mouzourou 2016), the assumption is that after using such tools, teachers would be inspired to include diverse materials in their classrooms and be both informed and sensitive in using materials in ways that reflect diversity in positive and appropriate ways. Clearly, school administrators, teachers in training, and practising teachers need to participate in professional development that highlights the challenges and resources that are available to address this shortcoming in inclusive early childhood settings.

At the same time, there are potential facilitators of representation. Key stakeholders such as administrators, teachers, counsellors, librarians, and family members could work collaboratively to create welcoming communities of learners. Together, they could participate in professional development opportunities to learn why it is important to introduce such materials into classrooms, where materials can be found, how to evaluate materials to ensure high-quality and recommended practices, and most importantly, how to embed and utilise resources to maximise the inclusive experience for all. Professional development is needed to foster critical thinking skills that will help teachers and administrators learn how to identify and challenge deficit thinking. Through professional development, teachers can learn about how assumptions, attitude development and subsequent messages play out in classroom environments, and how to improve and transform their thinking and their environments so as to recognise and value all children, families, and identities.

The invisibility of children with disabilities extends to their family members as well. Therefore, involving family members in professional development opportunities has great potential for positive change. For example, providing families with lists of books that they can obtain from local libraries and discussion guides to facilitate conversations with their children can raise awareness about the need for such materials related to persons with disabilities and other groups (Favazza, Ostrosky, and Mouzourou 2016; Park and Ostrosky 2013; Price, Ostrosky, and Mouzourou 2016). Some schools have parent work groups that help meet the needs of the school. One such group could be convened to address this issue. For example, family members could be taught to evaluate books for classroom teachers using already developed guidelines (see Favazza, Ostrosky, and Mouzourou 2016). Following a critical review of books that included characters with disabilities, Ostrosky et al. (2015) describe 18 books worthy of consideration for use in early childhood classrooms. Family members could assist teachers in developing classroom libraries that include these books, which have already been critiqued. In doing this, both parents and teachers learn about key features to look for when evaluating materials and learn how to talk about disability content. Parents and other family members also can be an excellent resource in advocating with administrators and vendors for the need for such materials. In doing so, it raises their level of awareness and connects them to issues that impact the development of *all* students. In addition, parents and other school personnel (i.e. librarian) can help locate websites of affordable images, books, e-books, labels, and materials for school environments. Moreover, professional development could support educators to fully listen to and collaborate with families. In this way, family members are positioned as experts in terms of insights and perspectives as they share their experiences regarding their children and their experiences regarding inclusion and exclusion.

There are other strategies to increase the representation of disabilities in early childhood environments. For example, images of children from the class and community can foster a sense of belonging. Likewise, materials can be added to dramatic play areas, the library and computer centres, and shared with multiple teachers. Teachers also can critically examine the curriculum to identify places where individuals with disabilities can be embedded into conversations, images, and materials. Moreover, teachers, parents, and administrators can determine ways to implement school-wide programmes that positively reflect disabilities as well as other areas of diversity (i.e. race, ethnicity, language, family structure) (Favazza, Ostrosky, and Mouzourou 2016).

### ***Recommendations for research and development***

Even though more children with disabilities attend school in inclusive classes, and there are guidelines from the National Association for Education of Young Children (NAEYC), the Council for Exceptional Children's Division for Early Childhood (DEC), and CRPD regarding the importance of creating a sense of belonging, little has changed when today's level of representation of disability in early childhood classes is compared to classrooms two decades earlier. There are many implications for research and development given the persistent lack of representation and the critical need to create a sense of belonging for all children.

First, it is time to explore the utility of instruments such as the *IDR* as a way to raise the standards for practice in inclusive classrooms. Tools for evaluating diversity in classrooms often do not include individuals with disabilities and yet they represent at least 15% of the population in the global context (UNICEF 2013; U.S. Department of Education 2014; WHO 2011). However, moving forward, instrument development should reflect the tenets of Disability Studies in Education, by recognising and including disability as one of many human differences (Baglieri et al. 2011; Connor et al. 2008). For example, in response to the need for both materials and tools to reflect the range of human differences, a new tool entitled *Diversity in School Environments* (Favazza, Ostrosky, and Mouzourou 2016) was developed, but it needs to be used more widely to ascertain how the range of human diversity is represented in classrooms and schools. The development of new tools should include the representation of populations that continue to be missing from current environmental rating scales by examining images of people from diverse racial, ethnic, and language backgrounds, individuals with disabilities, and contemporary family structures. We must recognise that these differences are not mutually exclusive and, in fact, represent the continuum of human differences; to do less only serves to perpetuate the deficit, norm-based views of and response to disability and diversity.

Second, high-quality materials that represent individuals with disabilities need to be developed with attention given to cultural appropriateness in our diverse global society. For example, the Jomo Kenyatta Foundation in Kenya provides a platform for local writers and artists to develop materials that reflect Kenyan children, including children with disabilities. These books could be evaluated to ensure that the content meets quality indices for promoting greater understanding and acceptance of children with disabilities. In doing so, we could avoid perpetuating negative portrayals of children with disabilities such as those found by Daniels (2004). Similar to the Ostrosky et al. (2015) study, contemporary books with characters with disabilities could benefit from evaluation prior to publication, to ensure that the content promotes acceptance of individuals with disabilities, thereby increasing representation in materials in resource-poor areas (see 'Children's Books: Pyramid Series' – Jomo Kenyatta Foundation n.d.).

Third, it would be informative to know if content on disability representation as it relates to a sense of belonging and attitude development is a standard ingredient in programmes that prepare teachers to work in inclusive settings. It is a huge responsibility to impact the development of children's perception of self and their perceptions of others. Therefore, it is critical that we evaluate how this topic is addressed at the pre-service level and include content that is missing. Surveying Early Childhood Special Education and Early Childhood programmes could inform our understanding of what we know is needed to create high-quality inclusive early childhood classes and the current reality (e.g. lack of disability representation, negative attitudes). At the pre-service level, teacher education that supports positive identities and representation of persons with disabilities must involve information on disability as a social construct and the tenets of Disabilities Studies in Education. It also should involve opportunities to evaluate materials and environments, to ensure teachers' understanding of how to create classrooms, activities and select materials that do not perpetuate a deficit model of disability. Pre-service training should include opportunities to talk about human differences with young children so that future teachers can hone their skills in utilising materials that reflect diversity. Addressing all of these topics ensures that disability and diverse identities are visible, intentionally and thoughtfully embedded, and portrayed positively throughout early childhood education teacher preparation programmes, educational environments, and curriculum.

Finally, the field of attitude research would benefit from examining the relation between children's self-esteem, sense of belonging, and social acceptance in classes that have high or low representation of disabilities in classroom materials. As classrooms become more diverse, it is essential to have a clear understanding of the how aspects of one's self-concept can be enhanced by attention to representation in early education classrooms.

## Conclusion

Imagine growing up in a world that has no images of someone like you, no stories that reflect your life, no books or media that portray your life experience in positive ways. This is the reality for most children with disabilities when they enter early childhood settings. Moreover, in these settings, this lack of representation continues to reinforce children's feelings of being invisible to the world.

The Millennium Development Goals (United Nations 2013) and the CRPD (UNICEF 2006) challenge all nations to develop concrete plans for creating high-quality, inclusive early childhood programmes for more than 93 million children with disabilities, programmes where children experience a true sense of belonging and membership, not feelings of being guests within classrooms. Intentionally including carefully evaluated materials that positively depict individuals with disabilities from different social classes, races, ethnicities, languages, and family structures is a first step in setting the stage for *all* children to feel that they belong, which is at the core of inclusion (McQuinn 2013; Ostrosky et al. under review). In taking this step, we are responding to the clarion call by UNICEF, CRPD, scholars, and practitioners working in the new discipline of Disabilities Studies in Education to make sure that children with disabilities are no longer invisible in the materials and curricula available within most early childhood classes. It is time to change the status quo.

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## Appendix

### Inventory of Disability Representation (IDR)

(Favazza and Odom, 1999)

Classroom ID: \_\_\_\_\_

Date: \_\_\_\_\_

### Classroom Environment

#### Visual/Aesthetic Environment

1.) Are there images of children with disabilities in your room? (Photos, pictures reflecting persons with differing abilities.)	Yes	No
<ul style="list-style-type: none"> <li>If you answer "NO", skip down to question 5 (Classroom Curriculum) and continue.</li> <li>If you answer "YES", continue with question 2.</li> </ul>		
2.) Do these images reflect current daily lives in the U.S. such as the use of up-to-date photos and pictures?	Yes	No
3.) Indicate if these images have an adequate balance.		
a) Is there more than just one person with a disability?	Yes	No
b) Is there more than one type of disability represented?	Yes	No
4.) Do these images show differently abled people:		
a.) of various ethnic backgrounds	Yes	No
b.) of various ages (adults and children)	Yes	No
c.) doing work	Yes	No
d.) doing recreational activities	Yes	No
e.) with families	Yes	No
f.) in a positive way (active, independent)	Yes	No

#### Classroom Curriculum

5.) When images of persons in different occupations are presented in your curriculum, are differently abled people represented?	Yes	No
6.) When images of <i>important and/or famous individuals, past and present</i> , are presented in your class curriculum, are differently abled people represented? If Yes, who? (examples: President Roosevelt (polio), Helen Keller (visual and hearing impairment), Magic Johnson and Robin Williams (ADHD), Whoopi Goldberg and Tom Cruise (learning disability), Stephen Hawking (severe multiple disability from amyotrophic lateral sclerosis or ALS or Lou Gehrig's Disease).	Yes	No

**Classroom Books**

7.) Do children have <i>access to books in your room</i> that reflect children/adults with special needs and abilities?	<b>Yes</b>	<b>No</b>
8.) Do children have <i>access to books in your room</i> that reflect different <i>languages</i> , like		
a) sign language?	<b>Yes</b>	<b>No</b>
b) Braille?	<b>Yes</b>	<b>No</b>

**Classroom Dramatic Play**

9.) Do children have accessibility to and exploration of tools used by persons with various special needs such as		
a) Crutches?	<b>Yes</b>	<b>No</b>
b) Braces?	<b>Yes</b>	<b>No</b>
c) Wheelchair?	<b>Yes</b>	<b>No</b>
d) Walker?	<b>Yes</b>	<b>No</b>
e) Cane?	<b>Yes</b>	<b>No</b>
f) Magnifiers or eye glasses?	<b>Yes</b>	<b>No</b>
10.) Do any dolls (bought or homemade) have different kinds of abilities? If yes,		
a) do they reflect both genders?		<b>No</b>
b) do they reflect different racial/ethnic backgrounds?	<b>Yes</b>	<b>No</b>
c) <i>what disabilities</i> are represented?	<b>Yes</b>	<b>No</b>

**Classroom Language**

11.) Do children in your class have opportunities in current curriculum to see or use sign languages and/or Braille? If yes, opportunities might include		<b>No</b>
a) labeling on furniture and/or materials,	<b>Yes</b>	<b>No</b>
b) alphabet and/or number posters,	<b>Yes</b>	<b>No</b>
c) songs and/or finger games.)	<b>Yes</b>	<b>No</b>

**School –Wide Environment**

12.) Is there a school-wide program for your students that promotes and encourages interactions between children with and without disabilities? <i>If yes, explain.</i>	<b>Yes</b>	<b>No</b>
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Name of Program:

Grade Levels:

13.) Is there a school-wide unit/curriculum within the counseling program at your school that provides information about children with disabilities? <i>If yes, explain.</i>	<b>Yes</b>	<b>No</b>
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Name of Unit/Curriculum:

Grade Levels:

14.) Are there school-wide opportunities for children to see or use sign language and/or Braille (such as room or doorways labeled)?	<b>Yes</b>	<b>No</b>
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**Use this Space for Additional Information or Comments**