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To cite this article: Silvia Dell'Anna , Marta Pellegrini , Dario Ianes & Giuliano Vivanet (2020): Learning, Social, and Psychological Outcomes of Students with Moderate, Severe, and Complex Disabilities in Inclusive Education: A Systematic Review, International Journal of Disability, Development and Education, DOI: [10.1080/1034912X.2020.1843143](https://doi.org/10.1080/1034912X.2020.1843143)

To link to this article: <https://doi.org/10.1080/1034912X.2020.1843143>



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Published online: 22 Nov 2020.



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Learning, Social, and Psychological Outcomes of Students with Moderate, Severe, and Complex Disabilities in Inclusive Education: A Systematic Review

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ABSTRACT

The purpose of this systematic review was to investigate the learning, social, and psychological outcomes of students with moderate, severe, and complex disabilities (MSCD) in inclusive settings. The review discusses barriers to conducting rigorous research in this field. Whilst an initial literature search located 1,338 records, only 18 were finally included due to the eligibility criteria. Studies were placed in categories based on the topics investigated. Regarding learning outcomes of students with MSCD, findings were moderately in favour of school inclusion for both academic achievement and adaptive skills. Regarding social outcomes, results showed that inclusive settings offer more access to instructional time and peer interaction, although they reported marginalisation during class activities and social isolation within the peer group. Finally, in terms of psychological outcomes, inclusive settings appeared to reduce the frequency of challenging behaviours. The paper also addresses conceptual barriers regarding the definition of inclusion and its consequences on research and practice as well as research design barriers resulting from the quality of research in this field. Based on review results, this paper outlines epistemological propositions for developing standards of quality for both research and practice in the field.

KEYWORDS

Inclusive education; moderate, severe and complex disabilities; learning outcomes; psychological outcomes; social outcomes; systematic review

Introduction

The Salamanca Statement (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 1994) and, more recently, the Convention on the Rights of Persons with Disabilities (United Nations [UN], 2006) have promoted the right to inclusive education for pupils with disabilities and the creation of 'a school for all'. In particular, Article 24 of the Convention (CRPD) clarifies the steps required to fulfil this commitment to inclusive education. Students with disabilities should be ensured the possibility of reaching their highest potential, as well as effective participation in school and in society. These objectives can be pursued if access to the general education system is guaranteed

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and, more specifically, if reasonable accommodations are made – such as facilitating or adapting learning materials, or making different forms of support available.

The implementation of inclusive education, especially in those countries with a long tradition of special education and a well-structured system of special schools, has always been accompanied by scepticism and resistance, but the debate has become particularly heated (Ianes & Augello, 2019). Even the formulation of the right to inclusive education is subject to strong criticism, particularly with reference to the quality of the system for students with disabilities, its feasibility and economic sustainability. Some authors even discuss whether the right to inclusive education should be considered a human right (Gordon, 2013) and therefore essential and not violable, and whether its implementation is always in the best interest of people with disabilities (Imray & Colley, 2017). Other authors emphasise that education systems act under economic constraints that could reduce the fulfilment of rights to the 'minimum essential levels' (De Beco, 2014, p. 268). These concerns are confirmed by the data collected on the implementation of CRPD worldwide. Its application is still limited and, where implemented, meets numerous challenges, such as inadequacy of teaching, services and adjustments, insufficient monitoring, and cultural barriers (Byrne, 2019).

Within the heterogeneity of students with disabilities, those with the most complex and profound disabilities raise major concerns because of their need for extensive support, highly individualised measures and qualified teaching and care staff. Many aspects regarding the effectiveness of inclusive school systems for students with moderate, severe and complex disabilities (MSCD) are still under discussion, such as how to guarantee relevant curriculum content and objectives, provide the required adaptations (Downing, 2010; Imray & Colley, 2017), specialised services, individual support, and make the necessary accommodations (Kurth, Lyon, & Shogren, 2015; Taub, McCord & Ryndak, 2017) as well as developing specific teachers' competences (Weiss, Markowitz, & Kiel, 2018).

Given the relevance of the topic at a political and academic level, this systematic review aims to synthesise studies available on learning, social and psychological outcomes of students with MSCD in inclusive contexts. Moreover, it discusses epistemological underpinnings of this field of study and suggests future directions in research.

Previous Reviews

Several systematic reviews investigated different issues related to students with MSCD in inclusive contexts. One of the first works to synthesise research on this topic was carried out by Carlberg and Kavale (1980), who analysed the outcomes of 50 studies investigating the effect of special class (segregated placement) vs. regular class (integrated placement) for students with disabilities. The authors concluded that segregated placement is an inferior alternative to integrated placement for students with below-average IQs, but significantly superior for students with behavioural or emotional disorders, or with learning disabilities.

Critical components of successful inclusion for students with MSCD in general education settings were investigated by Alquraini and Gut (2012) in a systematic review focussed on: (i) adaptation of schoolwork; (ii) effective instructional practices; (iii) peer support; (iv) assistive technology; (v) administrative support; educators' professional training; and (vi) the involvement of families. Overall, the results showed the importance

of full inclusion for all students, not only for those with mild disabilities, and many studies provided evidence of positive outcomes of including students with severe disabilities in several areas, such as academic achievement, social development, and communication skills.

Nowicki (2003) carried out a meta-analysis on the social competences of children with learning difficulties in inclusive classrooms, concluding that (i) children with learning disabilities and children designated as low in academic achievement are at a greater social risk than their average- to high-achieving classmates, and that (ii) children with learning disabilities and their low-achieving classmates do not appear to have accurate self-perceptions of social acceptance. The review by Hudson, Browder, and Wood (2013) – including a total of 17 experimental studies – focussed on effective strategies supporting academic learning for students with MSCD in general education, providing evidence in favour of embedded instruction trials using constant time delay.

Stakeholders' beliefs about addressing the general education curriculum in mainstream classrooms with students with MSCD were investigated by Ballard and Dymond (2017), whose systematic review showed that generally stakeholders perceive social inclusion as more important than involvement in classroom activities and academic progress. Finally, Rogers and Johnson (2018) conducted a systematic review to determine the most effective strategies for including students with MSCD within the general education classroom, and their results showed that an individualised education program within a Universal Design for Learning environment gave access to meaningful and appropriate inclusive education.

Objectives

This study systematically reviewed qualitative and quantitative research that explored learning, social and psychological outcomes of students with MSCD in inclusive contexts, including both peer-reviewed articles and grey literature published during the past 10 years. Specifically, grey literature refers to unpublished studies or research published in non-commercial form. We included studies which examined outcomes only in inclusive contexts as well as studies that compared the inclusive schools with special schools.

In this study, we have defined MSCD as low-prevalence disabilities, such as moderate to severe intellectual disabilities, often in association with autism and/or physical or sensory disabilities. Regarding learning outcomes, we have referred to the development of both academic skills and relevant adaptive skills related to the Individual Educational Plans (IEP) of the students; social outcomes refer to students' social participation (e.g. friendship, relationship, social inclusion); and psychological issues refer to aspects such as well-being, attitudes, and motivation.

Our secondary objective, in line with our previous review (Dell'Anna, Pellegrini, & Ianes, 2019), was designed to understand and discuss barriers to conducting rigorous research (e.g. experimental evaluations and single-subject studies).

In order to achieve these objectives, this systematic review responded to the following research questions:

What are the learning, social and psychological outcomes of students with MSCD in inclusive contexts?

What are the conceptual and methodological issues in the research on inclusive education?

Method¹

Eligibility Criteria

The following eligibility criteria were adopted to select relevant studies for this systematic review:

Study design: Studies could be quantitative (e.g. randomised controlled trial; quasi-experiment; pre/post comparison; correlational); qualitative (e.g. case study; action-research; interpretative study); mixed-method or multi-method.

Participants: Studies needed to include students with MSCD (e.g. medium/moderate to severe/profound intellectual disability, eventually correlated to other types of disabilities, such as autistic spectrum disorder, socio-behavioural disability, physical or sensory disability) in inclusive schools or classes from kindergarten to secondary education.

Setting: Studies needed to be carried out in inclusive contexts, defined as a school or class that does not select or separate students on the basis of individual characteristics (e.g. achievement, SEN, disabilities). Studies where the primary variable investigated was not inclusion (e.g. specific interventions or projects) were not included.²

Outcomes: Studies needed to investigate at least one type of outcome related to learning, skills, social inclusion and participation, psychological aspects (e.g. motivation), or behaviour of students with MSCD.

Information sources: Studies might have included different informants on the outcomes considered, such as teachers, peers, students with MSCD themselves, parents, or relevant stakeholders.

Publication timeframe: Studies were required to be published in the last 10 years (2010–2019).

Language: Studies could have been carried out in any country, but reports had to have been written in English.

Information Source and Search Strategy

The systematic review search included electronic bibliographical databases (ERIC, PsycINFO, Education Source) and a specific database (*ProQuest Dissertations and Theses Global*) for retrieving the grey literature. In addition, we screened the reference lists of previous reviews on inclusive education and included studies identified through the search. The latest search was carried out in July 2019.

In searching through databases, no study design limit was imposed on the search, although date and language limits were used to filter the results. Based on the objective of this systematic review, a set of keywords relating to the setting were identified (e.g. inclusive, inclusion, mainstream school, regular school, general school); along with the type of participants (e.g. student, children, intellectual disability, cognitive impairment, severe disability, complex disability); and the students' outcomes (e.g. academic achievement, behaviour). These were combined using logical Boolean operators (see Online Supplemental Materials).

Study Selection Process

Studies were exported from the databases to Zotero to remove duplicates and have a complete list of the studies to be screened. After a preliminary phase of reviewer training aimed at building a consensus about the application of the eligibility criteria, two review authors independently screened the titles and abstracts of each study located. After the screening phase, two authors independently read the full-text reports and decided whether these met the inclusion criteria. Reasons for the exclusion of studies was recorded. When disagreements occurred, they were resolved through discussions among at least three of the four authors.

Data Collection Process and Data Items

A data extraction form was developed *a priori* and the coding process was conducted by two independent review authors, with disagreements resolved by a third author. As for the study selection process, the reviewers conducted calibration exercises before starting the review. Data were extracted from the articles by recording³: (a) study characteristics (bibliographical information and sample characteristics); (b) research design; (c) sources of information; (d) context of inclusion; and (e) outcome categories and measures. After the coding process, studies were placed in outcome categories identified on the basis of study results.

Results

Study Selection

A total of 1,290 records were retrieved through electronic database searches and an additional 48 records were identified through other sources, such as previous reviews and reference lists of the included articles. After removing duplicates ($n = 251$), 1,087 were screened on the basis of the study's title and abstract. Of this, 1,004 studies were excluded because, after reviewing the abstracts, they clearly did not meet the criteria. The full texts of the remaining 83 records were examined in more detail by applying the eligibility criteria. 65 studies did not meet the eligibility criteria, whereas the 18 studies meeting the eligibility criteria were included in the review (Figure 1).

Study Characteristics

18 studies were included according to the eligibility criteria. Table 1 shows the included studies and their main characteristics. All studies were published articles in international scientific journals.

Research Designs and Sources of Information

Studies used different research designs (e.g. quantitative survey, case study) and adopted different methods, with a high variability in terms of the sample size and measures used. 10 studies used quantitative designs (one quasi-experiment, four correlational and five quantitative surveys), six used qualitative designs (five

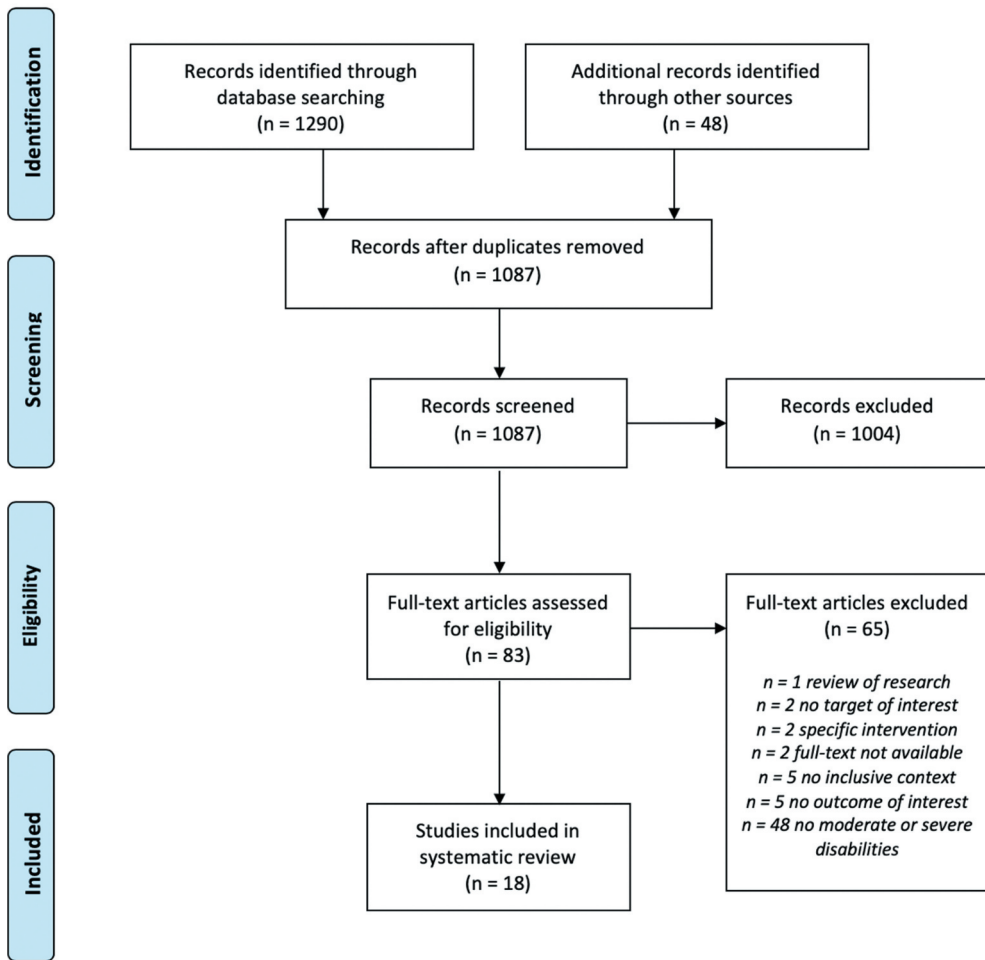


Figure 1. Selection procedure, adapted from Moher et al. (2015).

qualitative case studies, one interpretative study), and only two studies used the mixed method/multi-method design. As data collection methods, qualitative design studies mostly used systematic observations (six studies) or interviews and focus groups (four studies). Quantitative design studies used mostly questionnaires as their data collection method; only two studies administered standardised measures of academic achievement or other skills. Furthermore, only seven studies out of 18 did a comparison between students' outcomes in inclusive schools and special schools.

The selected studies used different sources to acquire information on students with MSCD. Most of them used teachers (nine studies) or parents (11 studies) as informants, whereas seven studies involved peers or other stakeholders and only five students with MSCD. Six studies used field notes by researchers during observations to obtain information on the outcomes of interest. Almost half of the studies used only one source of information (eight studies), three studies used two sources and seven studies three or more sources. Therefore, for most of the studies, there was a lack of source triangulation

Table 1. Included studies in the systematic review and their characteristics.

Study	Sample				Research design	Outcome category
	Country	Grade level	n. of students with MSCD			
Alexander ¹ son (2011)	Sweden	Primary	1	Qualitative case study	AS, AP	
Ballard and Dymond (2016)	USA	Secondary	1	Case study	AL, AS, SI, WB	
Chen (2017)	Taiwan	Secondary	74	Correlational study	AS	
de Graaf and de Graaf (2016)	Netherlands	Preschool – Secondary	ca. 285	Quantitative survey study	AL, AS	
de Graaf and van Hove (2015)	Netherlands	Preschool – Secondary	Not specified	Quantitative survey study	AL	
Dessemontet et al. (2012)	Switzerland	Primary	Not specified	Quasi-experiment	AL, AS	
Feldman et al. (2016)	USA	Secondary	108	Interpretative study	AP, SI	
Ferreira et al. (2017)	Portugal	Preschool	ca. 47	Correlational study	SI	
Hardiman et al. (2009)	Ireland	Not specified	45; 20 mainstream, 25 special	Quantitative survey study	AS, CB	
Harkins (2013)	USA	Preschool – Secondary	1	Qualitative case study	AL, AS, SI	
Huck et al. (2010)	Australia	Primary	11	Quantitative survey study	AS, SI	
Leyser and Kirk (2011)	USA	Preschool – Secondary	ca. 44	Mixed method/multi method	AP, SI	
Matzen et al. (2010)	USA	Middle	3	Mixed method/multi method	AP, CB	
Naraian (2011)	USA	Primary	1	Qualitative case study	AP, SI	
Olsson et al. (2018)	Sweden	Secondary	129; 115 mainstream, 14 special	Quantitative survey study	AP, SI, WB	
Potter (2014)	UK	Primary	1	Qualitative case study	SI	
Taheri et al. (2017)	Canada	Preschool – Secondary	ca. 197; 90 mainstream, 107 special	Correlational study	AP	
Tuersley-Dixon and Frederickson (2016)	UK	Primary	20	Correlational study	SI	

AL = Academic Learning Outcomes; AS = Adaptive Skills; AP = Activity Participation; CB = Challenging Behaviour; SI = Social Interactions; WB = Well-being

that could have improved the reliability of collected information. In fact, in the studies including many sources of information, researchers frequently requested different information from the diverse informants.

Contexts of Inclusion and Participants

To select the studies, we carefully looked at the definition of 'inclusive context' provided in the text, together with that of 'disability', in particular with reference to MSCD. These two criteria represented the most determining exclusion factors in the selection procedure and a conceptual barrier in the coding phase. The 18 studies included were carried out in 10 different countries, mostly English-speaking, showing a wide variety in terms of implementation of school inclusion and disability classification. Moreover, in some studies, relevant information regarding the context was missing.

Most studies involved contexts that were presumably 'fully inclusive' (15). Among these, the majority of the studies (11) generically spoke about inclusive education/class/school without providing further information either on the model of inclusion implemented (e.g. class heterogeneity, accommodations made and support provided) or the effective participation of the students with disabilities in academic and social activities (e.g. percentage of school day in general education classes). Given the lack of information, we had to be cautious in considering them fully inclusive. The remaining three studies (Alexandersson, 2011; Ballard & Dymond, 2016; Feldman, Carter, Asmus, & Brock, 2016) explicitly described the effective participation in academic activities of students with disabilities and clarified that inclusion was only partial (e.g. percentage of school day or number/type of classes attended).

In relation to disability and its classification, many studies considered a wider sample of students with disabilities, referring to one or more psycho-medical diagnostic categories (e.g. ASD, Down syndrome, cerebral palsy, Angelman syndrome). Other studies talked about wider disability categories (e.g. intellectual disability, severe learning disabilities). The only reference to medical conditions (e.g. Down syndrome) or to disability categories (e.g. severe and complex disability) did not allow for the classification of these students within the target initially defined – that of students with MSCD. In fact, those categories could aggregate people with a variety of functioning levels, both in cognitive and physical terms, and could also refer to students with mild intellectual disabilities who were not the target of this systematic review.

In order to select the results relevant to our target group, we took into account the information provided by the studies on the severity of the disability. Only one study (Dessemontet, Bless, & Morin, 2012) referred to standardised measures (IQ), while three other studies (de Graaf & de Graaf, 2016; de Graaf & van Hove, 2015; Ferreira, Aguiar, Correia, Fialho, & Pimentel, 2017) reported measures derived from non-standardised instruments (e.g. Abilities Index declared by teachers, IQ reported by parents, IQ in different areas declared by parents and teachers). Others distinguished severe disabilities by categorising students according to administrative categories (e.g. Alexandersson, 2011; Naraian, 2011; Tuersley-Dixon & Frederickson, 2016). The remaining studies could be included by inferring the severity from the diagnostic category (e.g. 'moderate intellectual disability' according to American Psychiatric Association [APA], 2013, as cited in Hardiman, Guerin, & Fitzsimons, 2009).

Outcome Categories

After inclusion, during the coding phase, studies were placed in outcome categories according to the main factors they examined. If a study analysed two factors using different outcome measures, it was placed in the two related groups. We identified three main outcome categories: 'Learning Outcomes', 'Social Outcomes', and 'Psychological Outcomes'. Each category was divided into two subcategories described below.

The first category of Learning Outcomes consisted of: (a) academic learning outcomes, which encompassed studies that evaluated academic results of students with MSCD; and (b) adaptive skills, which concern a wide range of skills, from communication skills to mobility and adaptive behaviour. These are skills which are generally incorporated into the IEP of a student with MSCD, according to his/her current level of competence. The second category of Social Outcomes referred to all interactions taking place during class activities and free activities (e.g. recess). In particular, the subcategory 'activity participation' grouped the interactions happening during academic activities, while 'social interactions' concerned the informal interactions among peers (friendship, acceptance, etc.). The third category consisted of: (a) challenging behaviour, which included all measures or data regarding behaviour that could represent damage to the student himself/herself (e.g. self-injury) or to others (peers or teachers); and (b) well-being, which included studies that investigated students' well-being, emotions, and happiness.

Synthesis of Results

12 studies were classified in more than one subcategory because they investigated different outcomes. Most of the studies fell into the category of Social Outcomes, with seven studies under the subcategory of 'activity participation' and nine studies under 'social interactions'. 13 studies investigated Learning Outcomes; in particular, five of them investigated academic learning outcomes and eight of them adaptive skills. Finally, four studies focussed on Psychological Outcomes; two of them were classified in the 'challenging behaviour' category, and the remaining two studies were placed in the 'well-being' subcategory. Results are presented and discussed following the outcome categories identified (Table 2).

Learning Outcomes

Three out of the five studies placed in the subcategory of 'academic learning outcomes' (de Graaf & de Graaf, 2016; de Graaf & van Hove, 2015; Dessemontet et al., 2012)

Table 2. Categories and subcategories of studies.

Category	Subcategory	n. studies
Learning Outcomes	Academic learning outcomes	5
	Adaptive skills	8
Social Outcomes	Activity participation	7
	Social interactions	9
Psychological or Personal Outcomes	Challenging behaviour	2
	Well-being	2

compared the results of students in special and inclusive education using quantitative methods. All three studies found that students with MSCD in inclusive settings perform better than their peers in special schools or classes in areas such as literacy and reading. No differences were found in progress in mathematics, according to Dessemontet et al. (2012). The other two studies included in this category (Ballard & Dymond, 2016; Harkins, 2013) were case studies in which narrative information was provided on students' achievements, revealing a general satisfaction in academic performance.

In the subcategory of 'adaptive skills', three out of eight studies were single-case studies in which qualitative data on adaptive skills focussed on communication (Alexandersson, 2011; Ballard & Dymond, 2016; Harkins, 2013) and mobility (Harkins, 2013). These studies described the competencies of two individuals in the above-mentioned areas and their challenges (e.g. difficulties in communicating with peers and teachers). Three studies compared adaptive skills of students with MSCD in special and inclusive settings (de Graaf & de Graaf, 2016; Dessemontet et al., 2012; Hardiman et al., 2009) using quantitative data collection. According to Dessemontet et al. (2012), outcomes in global adaptive behaviours were greater for students attending inclusive settings compared to those students attending special education; likewise in computer skills and language, as reported by de Graaf and de Graaf (2016). Using the *Adaptive Behaviour Scale-School*, Hardiman et al. (2009) found no significant differences in social adjustments in the three domains of social behaviour, conformity, nor trustworthiness but significant differences between the two groups in personal and social responsibility in favour of inclusive settings.

Another study by Huck, Kemp, and Carter (2010) reported that the correlation between students' self-perceived cognitive and physical competence and teachers' ratings of students' academic work was negative, indicating that students held a more positive perception of their abilities compared to teachers' evaluations. Furthermore, students with moderate intellectual disabilities were rated much lower than their peers in academic work by their teachers.

Social Outcomes

Results from the first subcategory of 'activity participation' will be described first, followed by 'social interactions'.

The case study presented by Alexandersson (2011) explored student interactions during class activities. The qualitative data collected highlight that the student with MSCD sometimes fully participated, especially when the teacher supported her communication and gave her attention, while at other times, she was not able to interact or express herself.

Studies that compared special and inclusive classes provided information on student participation rates in instructional or academic activities (Matzen, Ryndak, & Nakao, 2010; Taheri, Perry, & Minnes, 2017). Both studies showed that in inclusive settings, more academic opportunities were provided to students with disabilities. Through systematic observations, Matzen et al. (2010) noticed that instructional time for the subjects considered was very high in the inclusive context (85–96%), and in two of the three cases, it was significantly lower in self-contained contexts (48–56%).

Another study (Feldman et al., 2016) showed that the observed students with MSCD were in class during general academic activities an average of 84.2% (range 20% to 100%) of the time. Moreover, during class periods, they were often absent at the beginning (30.9%) and at the end of the lessons (43.8%). These percentages were higher for students with autism than those with intellectual disabilities. The case study by Ballard and Dymond (2016) also reported concerns about the engagement and participation of the student with a disability in the class. The student was often absent or arrived late for the lessons. He often refused to participate in class activities, and the presence of the teachers did not help his relationship with his peers but induced greater adult dependence. Olsson, Dag, and Kullberg (2018) collected the opinions of students with complex disabilities and their peers regarding interactions during class activities, both in segregated and inclusive classes, and found that participation rates were higher in segregated contexts (31%) during discussions compared to inclusive ones (23%). Furthermore, students gave more positive opinions on special schools regarding the ability of teachers to create an adequate learning environment, for example, in explaining lesson content at an appropriate level (54% in the special context versus 31% in the inclusive context). Referring to active participation during classes, Matzen et al. (2010) noticed that students in special settings were much more often in downtime (18–27%) compared to students in inclusive settings (0.3–4%).

Looking at results around social interactions, three main topics emerged. Studies took into account the relationships between students with MSCD and their peers, such as contact during class activities (Ballard & Dymond, 2016; Feldman et al., 2016), friendships (Ballard & Dymond, 2016; Feldman et al., 2016; Ferreira et al., 2017; Harkins, 2013; Naraian, 2011; Olsson et al., 2018; Potter, 2014), and social acceptance by peers (Huck et al., 2010; Leyser & Kirk, 2011; Tuersley-Dixon & Frederickson, 2016), and teachers (Harkins, 2013).

Feldman et al. (2016) looked carefully at the opportunities for interaction during class activities between students with disabilities and their peers. The data showed that students with MSCD spent more time sitting next to a peer with a disability (54.8%) compared to typically developing peers (45.6%). Finally, interactions were more frequent during non-academic moments versus academic ones. In their case study, Ballard and Dymond (2016) observed that the student with a disability experienced fewer interactions with peers and was often isolated during non-academic moments. Naraian (2011) analysed the relationship between a student with a severe disability and a peer. Although it could be described as a friendship, some elements of ambivalence in the peer's behaviour were observed. Moreover, when more peers were involved, the observer noticed that the student with a disability was sometimes teased. Another study by Potter (2014) reported the opinion of a student with a severe disability on friendship. From the interviews, a certain level of social inclusion seemed to emerge. Adults confirmed students' opinions by saying that the student interacted with peers during recess and had also improved his abilities to make new friends and keep them long-term. The subject involved in Harkins (2013) study, however, reported isolation and difficulties in making friendships.

Ferreira et al. (2017) found that the possibility of making friends was related to the type of disability. Children with socio-behavioural problems and severe disabilities, in particular, were less likely to have friends compared to those with mild disabilities, and had a higher risk of social rejection and isolation. According to Olsson et al.'s (2018) study, students with MSCD reported having friends at school with higher percentages in an

inclusive school (47%) than in a special school (31%). Regarding social acceptance, the student with a disability involved in Harkins (2013) study affirmed that, initially, it was difficult to be accepted by teachers in general education classes and that he needed a lot of support from parents and the education department to receive the necessary accommodation.

Huck et al. (2010) measured peer acceptance and found that it was generally positive. Tuersley-Dixon and Frederickson (2016) noticed that social acceptance was significantly lower for the non-visibly disabled group compared to the visibly disabled one (e.g. Down Syndrome, wheelchair use). Moreover, social rejection was higher for the non-visibly disabled compared to the visibly disabled group.

Psychological Outcomes

This category encompassed four studies, two on well-being and two on challenging behaviour. Looking at the well-being and happiness expressed by students with MSCD in inclusive education, Olsson et al. (2018) found that students in special contexts seemed to be happier (62%) than those in inclusive education (33%). For those with a hearing impairment but no additional disability, however, this difference was not detected. Ballard and Dymond (2016) noted that their target student often exhibited a despondent attitude during general class activities. Teachers and parents attributed this behaviour to the student's difficulty in accepting his disabilities.

The limited number of included studies around challenging behaviour, such as self-stimulation, self-injury, conduct problems, and emotional problems, are partially in favour of inclusive settings when compared to special settings. Matzen et al. (2010) compared the rate of self-stimulation in self-contained and inclusive settings and found, for two of the three subjects evaluated, that it was higher in the self-contained setting. Moreover, self-injury did not occur in inclusive settings whilst it was recorded in self-contained settings, although with low incidence. The results collected by Hardiman et al. (2009), based on ratings of teachers and parents, did not detect significant differences between segregated and inclusive contexts for emotional and conduct problems, and in the relationship with peers. In the triangulation between the ratings of parents and teachers, interesting interactions were noticed in relation to the scale of hyperactivity. A higher discrepancy between the two types of informants was noticed in both inclusive and segregated settings. Furthermore, teachers' ratings of hyperactivity were significantly higher in inclusive schools. The authors assumed that in inclusive settings, teachers tend to have higher expectations of the behaviour of children with disabilities, comparing them with their typically developing peers.

Limitations

One of the main limitations of this review is due to the initial exclusion of works which lacked information surrounding the type of disability of the students or because they did not report separate data for students with MSCD; these requirements led to a limited amount of data being available. We included both qualitative and quantitative designs to build up a portrait of the experiences and outcomes of students with MSCD in inclusive contexts. As stated by Dixon-Woods, Fitzpatrick, and Roberts (2001), however, techniques

for synthesising qualitative evidence are underdeveloped in the literature and, although there are some studies delineating the criteria for high-quality qualitative studies, appraising qualitative research remains a big challenge. Finally, as the vast majority of the studies included were carried out in English-speaking countries, the possibility for a culturally-related bias in the discussion of our conclusions should be acknowledged.

Discussion and Conclusion

The limited number of studies selected for this review did not match our initial expectations. This revealed a scarcity of research available on the inclusion of students with MSCD, in particular in relation to academic achievement and adaptive skills, while social interaction and participation received more attention. This paucity of research could also be due to insufficient implementation of full inclusion worldwide, especially with reference to this target group.

Focusing on results, we observed that seven studies compared special and inclusive settings. Inclusive settings seemed to promote better academic outcomes (i.e. reading and literacy), higher scores on some adaptive skills (i.e. social behaviour, personal and social responsibility), and reduced frequency of challenging behaviours (i.e. self-stimulation, self-injury). Results emerging from the category of 'social outcomes' were less reassuring and, in some cases, problematic. Regarding activity participation, although students seemed to have better academic opportunities, such as more instructional time, and underwent less downtime in inclusive settings, they were partially marginalised within the classes and sometimes physically excluded from the class context (i.e. at the beginning and the end of the lessons). With reference to social participation, students in some cases experienced low levels of social acceptance from peers, especially those with non-visible disabilities (Tuersley-Dixon & Frederickson, 2016), and endured social rejection and isolation, especially if they had socio-behavioural problems and severe disabilities (Ferreira et al., 2017).

The small body of selected literature was only moderately in favour of school inclusion concerning learning outcomes and challenging behaviours, while relevant issues emerged in relation to social participation. The limited evidence provided in terms of outcomes represents a state of research inadequate to fully support the principles of inclusive education for students with MSCD.

The secondary objective of this review was to understand and discuss issues pertaining to the conduct of rigorous research in this field and to reflect on their implications for future research and practice. Alongside the problems linked to the definition of inclusive context, which were expected (see D'Alessio & Watkins, 2009; Loreman, Forlin, Chambers, Sharma, & Deppeler, 2014), we had to face other conceptual issues related to the specific target of our review – students with MSCD. Particularly challenging was unifying different types of disabilities and their severity under the category of MSCD. Both the psycho-medical and administrative classifications mentioned in the studies did not provide information regarding the actual functioning of the students. Other more extensive and detailed classifications – such as the International Classification of Functioning (ICF), for example (World Health Organisation [WHO], 2007) – would simplify the comparison and synthesis of data collected in different countries.

In relation to the research design of the included studies, we located 10 studies using quantitative methods, six using qualitative methods, and two using multi-method designs.

Most of the quantitative studies used surveys with the purpose of describing stakeholders' perceptions of school processes for inclusion. These studies, as well as qualitative studies, offer important information related to the context of inclusion from different perspectives. They do not, however, provide information about the effectiveness of inclusion on the considered outcomes. As stated by Cottini and Morganti (2015), the effectiveness of inclusive approaches should be measured in relation to different students' outcomes, using research designs which can control for other factors and isolate the effect of the variable studied. Together with the works of different authors (e.g. Gersten & Smith-Johnson, 2001; Horner et al., 2005), the Council for Exceptional Children has identified the research designs most suitable for conducting studies involving students with disabilities in schools. Since experimental studies comparing groups are often difficult to implement with students with MSCD, single-subject designs are considered one of the most rigorous and reliable means of conducting high-quality research in the field of special education (Cottini & Morganti, 2015). The limited number of experimental studies in this review and in our previous review (Dell'Anna et al., 2019) reflects a more general lack of research overall. As a consequence, the results we have presented cannot be read as effects of the inclusive context but only as information collected in an inclusive context.

Other issues are related to the reliability of information collected in the studies included. Information was often obtained from adults, while students and specifically those with disabilities were frequently less involved. Moreover, in half of the studies, only one type of informant was involved. The absence of triangulation between different informants not only neglects the request made by political disability movements for increasing the direct involvement of people with disabilities within discussions that surround them, but could also produce unreliable information. As seen in other studies (see, for example, Bennett & Gallagher, 2013; lanes, Cappello, & Demo, 2017), relevant discrepancies could be detected between different informants, for example, between students and teachers or parents and teachers.

To conclude, our final purpose has been to suggest epistemological propositions for developing a standard of quality for both research and practice in the field. In our previous review (Dell'Anna et al., 2019), we summarised our reflections in 3 final statements. Here, we widen the suggestions with specific reference to students with MSCD:

Not only is a common definition of inclusive settings needed but also a shared classification system for students with disabilities that is able to represent the complexity of individual functioning and to compare cross-country data;

Within a common set of indicators for the quality of inclusion, a specific section should be dedicated to defining it in relation to students with MSCD (e.g. participation in academic and social activities, support and services provided, etc.);

Regarding the criteria for the quality of research in the field, it is important to ensure coherence between the subject studied and the way research is conducted, paying attention to the inclusivity of both data collection and data analysis procedures (e.g. direct participation of people with disabilities, triangulation between different sources of information, etc.).

Notes

1. This systematic review follows the PRISMA guidelines for conduction and reporting (Moher et al., 2015).

2. We intentionally excluded studies in which the primary variable evaluated was a specific intervention in an inclusive context, since the purpose was to understand the consequences of inclusion on students' outcomes and not the effects of short-term practices.
3. The data extraction form adopted can be found in Online Supplemental Materials.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Open Access Publishing Fund of the Free University of Bozen-Bolzano.

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