Educational placement of students with autism spectrum disorder and its relation to socioeconomic status, intelligence, and diagnosis

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Background: Students with Autism Spectrum Disorder (ASD) have several options for placement within the education system. Placement options typically comprise inclusion, self-contained classrooms in a regular schools, or special education schools.
Objectives: The current study reviewed 210 psychological records of Israeli students with ASD from 1994 to 2011 retrospectively, and sought to examine students' placement in relation to three factors: intelligence, diagnosis and socioeconomic status (SES). In addition, transition periods were examined to detect possible key periods for change in placement.
Results: All three factors were related to educational placement. Specifically, students in special schools had a significantly lower mean intelligence score, and lower SES was associated with less inclusive placements. Additionally, the transition between 6th and 7th grade was found to be a key period for placement change, mainly from more inclusive placements to less inclusive ones.
Conclusions: Implications for policy and practice are discussed.

Keywords: ASD, educational placement, inclusion

Introduction

Students with autism spectrum disorder (ASD) have several options for placement within the education system. Placement options typically comprise inclusion, self-contained classrooms in a regular schools, or special education schools (such as schools for students with autism, multi-disorder students, and students with intellectual developmental disability (IDD)). Current literature and educational policies seem to favor inclusion of children with ASD (e.g. Gomez 2013), but this research focuses on understanding the rationale of educational placement. The focus of this study is on the factors that may be associated with the placement of students with ASD. First, each of the placement options is described, followed by a description of the placement process, and a discussion of the possible factors associated with placement decisions.

Educational placement for students with ASD

Inclusion is generally defined as the integration of students with special needs in a regular classroom with their typically developing peers (Lusthaus *et al.* 1992). The popularity of inclusion has been on the rise since the 1980s, with a big boost following the endorsement of inclusive education by the Salamanca World Conference on Special Needs Education in 1994 (Ainscow and César 2006). Inclusive education has been further acknowledged by international organizations (Office of the United Nations High Commissioner for Human Rights [OHCHR] 2013), national governments (e.g. U.S. Department of Education 2010) and educators (e.g. Gomez 2013, Lusthaus *et al.* 1992) as the most principled way to address the human rights of any individual, including a person diagnosed with ASD (Burack *et al.* 1997). When it comes to students with ASD, some practices of inclusion largely do not meet the requirements to be called 'full inclusion'. One common practice that challenges the notion of full inclusion is that of teacher aides (TAs), sometimes called educational assistants, instructional assistants, one-on-ones, personal care assistants, or therapeutic support staff (TSS). While this can be done in many sensitive ways (some of which will be outlined later), assigning an adult to give special attention to a child with special needs is hardly what the full inclusion philosophy had in mind (Moran and Abbott 2002).

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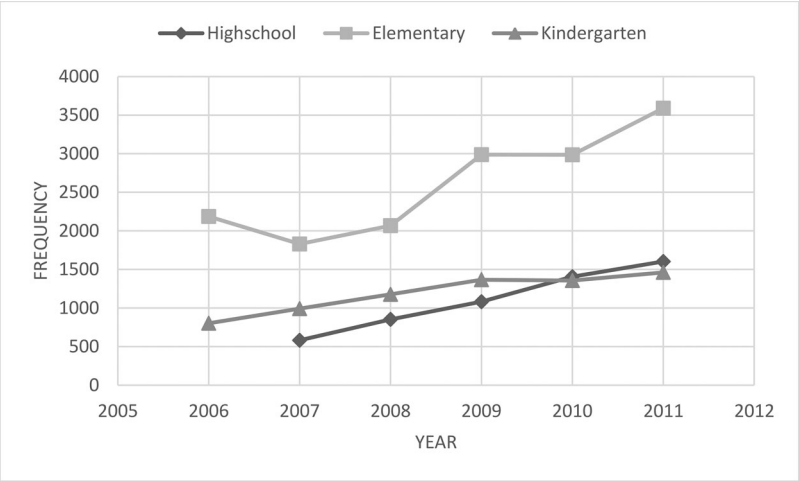

Figure 1 Number of ASD students in the Israeli education system by age groups. Source: Central Bureau of Statistics (personal request under the Freedom of Information Law, 5758-1998)

Small special education classrooms (henceforth referred to as 'special classes') designated for students with ASD are deployed in elementary, middle, and high schools, respectively. These classrooms vary in their level of heterogeneity, and in the students cognitive and learning level. Students in these classrooms are normally included in social learning programs together with students from other classrooms in the school. Additionally, an inter-disciplinary team supports students in individual and group therapy sessions. Life skills programs are also part of the learning curriculum, with increasing emphasis as the children progress through the school years.

Special schools for children with ASD are usually designated for children with lower levels of functioning in terms of cognitive functioning, autistic symptoms, or both. The normalization principle (Wolfensberger *et al.* 1972) or in its later formulation, social role valorization theory (Wolfensberger 1983), guides tailored services for different age groups, with an emphasis on life skills, quality of life, and physical and mental wellbeing (Flynn and Lemay 1999, Keen and Ward 2004, Osburn 2006). Children with yet lower cognitive functioning are sometimes placed in special education schools designated for children with IDD. Depending on diagnosis and functioning level, children with ASD may also be placed in special schools, which specialize in psychiatric disorders and IDD, or in schools for dual diagnosis students.

Differences between elementary, middle, and high school

Educational and social demands change as students transition from elementary to middle school and from middle to high school. Since autism is characterized by deficits in the social domain, social difficulties, exacerbated by puberty, and impede the adjustment of children with ASD during such transitions (Stoddart 2005). Furthermore, adolescent students with ASD are often more aware of their difficulties and are consequently at risk for anxiety disorders, depression, and even suicide (Matson and Nebel-Schwalm 2007, White *et al.* 2009). One interesting study found that students who moved from special classrooms to special schools had higher socialization scores than students who stayed in special classrooms (White *et al.* 2009).

Given these conditions, it may be expected that patterns of placement would differ between elementary, middle and high school, yet this has not been empirically examined until this study.

How is placement decided upon?

Placement in Israel, as in the United States, is decided through a statutory committee known as an Identification, Placement and Review Committee (IPRC). The IPRC is authorized to make decisions regarding the right to special education for students with special needs and discusses the students issues in order to examine their placement needs, including transitions. The IPRC discusses the cases in which it is necessary to change the type of educational institution following changes in diagnoses or significant changes in students functioning level.

Research on student placement decisions in general and placement of students with ASD in particular, has been limited, and are mainly based on data from the United States and the United Kingdom. Previous research revealed that teachers see intelligence as a factor that influences the placement of students with ASD (Segall and Campbell 2014). However, this kind of research has not been conducted based on IPRC protocols. A study by White *et al.* (2007) has shown that students with diagnoses of what was formerly referred to as pervasive developmental disorder not otherwise specified (PDD-NOS) or Asperger's were less likely to be placed in special education classes than those

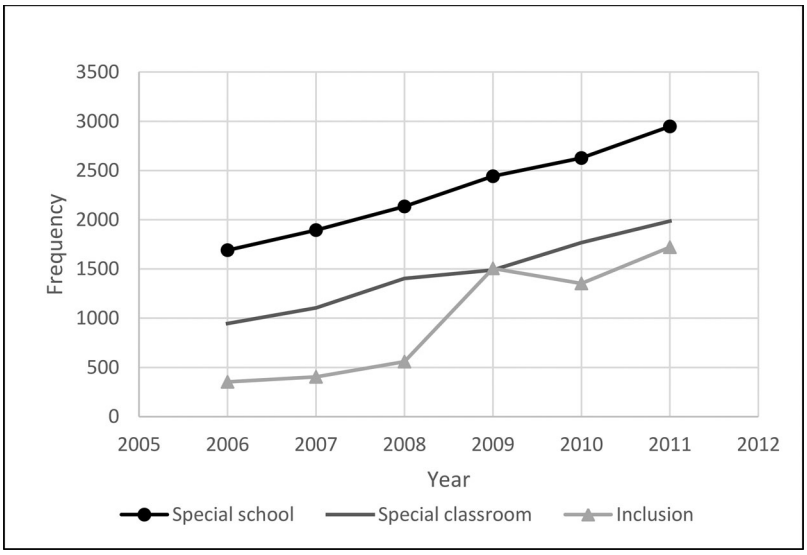

Figure 2 Number of ASD students in Israeli education system by type of educational frame. Source: Central Bureau of Statistics (personal request under the Freedom of Information Law, 5758-1998)

diagnosed with autistic disorder (AD), and that placement in special education was associated with lower intelligence and lower communication abilities. Another study, which found a wide range of intelligence levels in students with ASD in different educational placements, suggested other factors, such as age of diagnosis, behavior, parents preference, and inclusion policies may play a part in placement decisions (Keen and Ward 2004). Kurth (2015) has found that the state of residency within the United States was related to placement patterns, suggesting local policies may also play a role in placement decisions. In a qualitative study regarding the inclusion of high functioning students with ASD, participants main comment on the decision-making process was that 'inclusion is defined on a case-by-case basis' (Sansosti and Sansosti 2012, pp.923).

The process of placement in Israel

The first step in the placement process of a student with ASD is receiving a diagnosis. In 2007, the Israeli Ministry of Education adopted the Israeli Ministry of Health's recommendations that a diagnosis of ASD is acceptable if made by both a psychologist and a physician, using specified standardized tools (Ministry of Health 2007). Since this is a retrospective study, the tools that were used to diagnose the students over the years included Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV (American Psychiatric Association (APA) 1994), DSM-5 (American Psychiatric Association 2013), Autism Diagnostic Observation Schedule (ADOS; Lord *et al.* 2003), and The Childhood Autism Rating Scale (CARS; Schopler *et al.* 2002). Figure 1 shows the Israeli Central Bureau of Statistics data (Central Bureau of Statistics [CBS] 2012) regarding the number of students with ASD in the education system in Israel, according to age groups. In the year 2011, there were approximately 1500 children diagnosed with ASD in kindergarten, while in elementary schools there were approximately 3500, and a little over 1500 students in high schools. These data suggest an increasing trend in the number of children diagnosed with ASD, with the majority of the students at the elementary school age.

The education of children with ASD in Israel has several unique features that need to be considered. The law in Israel determines that any student with ASD who is placed in inclusion is entitled to a TA, subject to a statutory inclusion committee. The inclusion committee establishes the number of TA hours the student will receive per week (Meadan and Gumpel 2002). The committee uses both its professional discretion and statutory guidelines to determine whether the student will receive 1–7, 8–15, 16–23, or 24–30 hours of TA weekly. As mentioned above, the inclusion method of assigning a TA to a specific student within a classroom of 30–40 students may be somewhat contradictory; however, several practices have been developed to harmonize the TAs work with the principles of inclusion.

The first practice was to establish the homeroom teacher as the classroom manager and have the TA subordinate to her for the good of the school, the classroom and the student (Ministry of Education 2011). This was done to overcome incidents where homeroom teachers and TAs had conflicting interests. A second practice that has developed received the mysterious name 'covert aid'. In this practice, the TA is presented as an aide to the classroom and not to a specific student. In some cases, this practice has been expanded to mean that the student with ASD is also unaware that the TA is there due to his or her needs.

Statutory IPRCs are responsible for the placement of students with special needs in Israel. These committees comprise a municipality delegate, a special education

Table 1 Sample description

Variables	N = 210	
Placement[a]		
Special school	107 (50.9%)	
Special classroom	69 (32.8%)	
Inclusion	34(16.2%)	
Missing values	0	
Gender		
Male	184 (87.6%)	
Female	26 (12.4%)	
Missing values	0	
Number of school years	M = 6.41	SD = 3.62
Missing values	0	
Gestational age (weeks):	M = 38.37	SD = 2.68
Missing values	113	
Weight at birth (grams)	M = 3114	SD = 723
Missing values	0	
Type of pregnancy		
Planned	38 (52.1%)	
Unplanned	23 (31.5%)	
After medical treatments	12 (16.4%)	
Missing values	137	
Type of birth		
Natural	88 (68.2%)	
Caesarian	41 (31.8%)	
Missing values	81	
Number of siblings	M = 2.27	SD = 1.03
Missing values	18	
Diagnosing professional		
Psychiatric	72 (61%)	
Psychologist	17 (14%)	
Neurologist	21(18%)	
Pediatrician	9 (7%)	
Missing values	91	
Diagnosis		
ASD	30 (16.0%)	
PDD without further description	44 (23.4%)	
PDD-NOS	77 (41.0%)	
Asperger's	14 (7.4%)	
Autistic Disorder	23 (12.2%)	
Missing values	22	
Adaptive functioning		
Inclusion	3 (M = 66.00, SD = 5.196)	
Special classrooms	10 (M = 69.70, SD = 11.452)	
Special Schools	26 (M = 54.47, SD = 9.424)	
Missing values	171	

[a]Refers to the student's placement upon graduation or in the past year.

inspector, a general education inspector, a school psychologist, a physician, a social worker, and a parent delegate. As previously mentioned, a combined psychological and psychiatric evaluation is a criterion for entering a special classroom or a special school, as well as for getting a TA for included students. Except for this basic criterion and the thumb rule of a 'least-restrictive environment', no clear criteria for placement were ever formulated. Therefore, the IPRCs rely on ambiguous criteria in their decisions regarding the placement of students with ASD. As a result, the placement of children with ASD has become an anxiety-provoking experience for the students and their families (Igell 2006).

Figure 2 presents the distribution of Israeli students with ASD in the different placement categories according to the CBS data (2012). As can be seen, while there is a visible increase in the number of students with ASD in inclusion, most students with ASD in Israel are placed in special schools.

The present study

The purpose of the present study was to better understand the practices of placing students with ASD by investigating the relevant variables for placement. While previous research focused upon teachers opinions on student placement with regards to intelligence and diagnostic label (Segall and Campbell 2014), the present study examined the possible connection between these variables and IPRC decisions. The relationship between student placement and three main variables was examined: intelligence, diagnosis and socioeconomic status (SES). Finally, the study sought to identify key periods in which changes in student placement take place.

Method

The study reviewed psychological records from 1994 to 2011, retrospectively without attempting to collect new data on the subjects. Data collection aimed to reach all the records available to the research team without

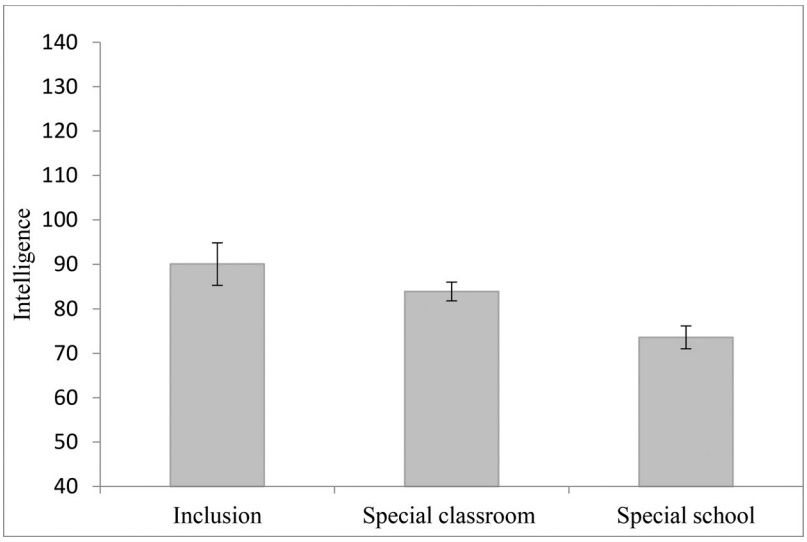

Figure 3 Intelligence score (mean ± SE) by placement type

sampling. The research was conducted with the approval of the municipal psychological services, an Institutional Review Board and the municipalities legal advisers in nine cities and towns in the center of Israel. Students records were made available to the researcher and research assistants reviewed each record. The data were extracted and recorded in Microsoft Excel and later in IBM SPSS 21 (SPSS Inc., Chicago, IL, USA), devoid of any identifying information; each student was assigned an arbitrary number, so as to avoid divulging his or her identity. Intelligence scores were taken from the files and mostly used the Wechsler intelligence tests, and in some cases other tests that use the same scale ($\overline{X}$=100, standard deviation (SD) = 15). Adaptive functioning in all cases was calculated using the Vineland Adaptive Behavior Scales (Sparrow *et al.* 1984; $\overline{X}$=100, SD = 15). Table 1 presents the sample characteristics.

Indices

Some of the data collected were used to produce indices, as follows.

Placement

Types of educational placement from which the students graduated or where they studied during the last year data were available. Categories for this variable are: (1) Inclusion – in a regular classroom; (2) Special classroom – placement in a special classroom in a regular school; or (3) Special school – placement in a special school for students with ASD, IDD, or dual diagnosis. Placement data were available for 210 students, of them 107 in special schools (50.9%), 69 in special classrooms (32.9%), and 34 in inclusion (16.2%).

Intelligence

The intelligence index was generated as a mean of intelligent quotient (IQ) scores from tests taken by the children over the years. Sixteen students had data available from three intelligence assessments, 26 had data from two separate assessments, and 91 had data from one assessment. All in all, data were available for 133 students, whose scores ranged from 31 to 149 IQ points, with a mean of 81.83 and a SD of 20.72.

Socioeconomic status

SES was calculated based on the 'population register statistical areas' of 2008 (CBS 2012). The CBS assesses 3197 different areas in Israel, giving each a comparative Z score (with a mean of 0 and a SD of 1), according to the inhabitants occupations, income, level of education, number of educational institutions in the area, etc. The Z score (henceforth referred to as the 'index value') for each student was extracted according to parents address information. Data were available for 199 households, ranging from an index value of −1.01 to +2.76, with a mean of 0.84 and a SD of 0.98. The SES mean was higher than the Israeli population mean ($Z = 1.22$, $p < 0.001$), which is congruent with CBS data regarding the areas from where the data were collected.

Results

Time trends

Since the data used for this study spans 17 years, statistical analyses were conducted to examine whether there are relevant differences in the distribution and the associations between the variables over the years. Since important legislation integrating inclusion as a primary goal within special education was passed in November 2002 it was decided to split the data into two periods: 1994–2004 (before the amendment came into effect) and 2005–2011 (placement decisions made under the

Table 2. Frequency and percentage of students in the different placement categories according to diagnosis[a]

	Placement						
Diagnosis	Inclusion *n* (%)		Special classroom		Special school		Total
HFA	20	(22%)	32	(35%)	39	(43%)	91
UA	13	(18%)	26	(35%)	35	(47%)	74
LFA	1	(4%)	6	(26%)	16	(70%)	23
Total	34	(18%)	64	(34%)	90	(48%)	188

[a]Percentages relate to diagnostic label.

2002 amendment). A chi-square test indicated significant dependency between time period and placement category, (χ^2 (2) = 7.94, $p < 0.005$). The data suggests that while the percentage of students in special classrooms remained quite constant, the percentage of students in inclusion increased at the expense of the percentage of students in special schools. Nonetheless, when we conducted the analyses of associations between the different independent variables and the dependent variable (placement), we found the same associations across the different time periods.

Relationship between intelligence, adaptive functioning, and placement

Figure 3 presents the mean intelligence score in each placement type. The placement category groups differed in IQ variability, F (2,133) = 6.087, $p = 0.003$, mainly due to higher variability in the inclusion group compared with the special classroom group, F (1, 83) = 12.659, $p < 0.001$ and the special school group, F (1, 75) = 6.442, $p = 0.013$. Due to the difference in homogeneity, a robust one-way analysis of variance (ANOVA) was conducted to examine our hypothesis, namely that less inclusive placements would be associated with lower intelligence mean. The ANOVA revealed a significant effect (Welch's F (2, 60.7) = 6.835, $p = 0.002$). The Tamhane *post hoc* procedure, used in order to locate the source of this effect, indicated that the mean intelligence score for students in special schools was significantly lower than the mean intelligence score for both students in the inclusion condition ($p = 0.02$) and those in special classrooms ($p = 0.007$). No statistically significant difference was found between the mean intelligence of students in special classrooms and the mean intelligence of students in inclusion ($p = 0.573$). In a secondary analysis, we repeated the ANOVA within three school levels (elementary, middle, and high school). The results replicated the findings and the trends that were found in the entire sample, although some of them did not reach statistical significance probably due to smaller sample sizes.

Adaptive functioning scores were available for only 39 students, so while there was a significant difference, F (2, 36) = 9.39, $p < 0.001$, this result should be interpreted carefully. In general, the student's scores on adaptive functioning tests were lower than their intelligence scores. Specifically, the number of students in inclusion for whom adaptive scores were available ($n = 3$) was too low to draw any meaningful conclusion. The mean functioning score for students in special classes was 69.60 and the mean functioning score for students in special schools was 54.47.

Relationship between diagnosis and placement

The third research question concentrated on the possible association between diagnostic labels and placement type. Due to small numbers of students in some diagnostic labels, we combined the diagnostic labels into three categories: Asperger's disorder and PDD-NOS comprised the high functioning autism (HFA) category, as previous research has shown that PDD-NOS was usually included in high functioning autism (Smith *et al.* 2000). ASD and PDD comprised the unspecified autism category (UA) and AD comprised the low functioning autism category (LFA). The possible association between diagnostic label and placement type was cross-tabulated (Table 2) and a Fisher exact test of independence was applied.

The analysis revealed a greater proportion of LFA students in special schools, compared to HFA and UA students (70, 43, and 47%, respectively); however, these differences were statistically insignificant (Fisher exact = 6.2, $p = 0.18$). Replication of the analysis within each school level (elementary, middle, and high school) replicated this trend. In addition, an interesting finding emerged – the proportion of LFA students in special schools was larger as the school level progressed (58% [$n = 7$] in elementary school, 67% [$n = 2$] in middle school, and 88% [$n = 7$] in high school).

Relationship between SES and placement

Figure 4 illustrates the mean SES in each placement category. The third research question aimed to examine the relationship between SES and educational placement type. For that purpose, a one-way ANOVA was conducted, and significant differences were found, F (2, 196) = 11.915, $p < 0.001$. To examine the source of the differences, a *post hoc* comparison using a Scheffe test was conducted and indicated that the SES of students in the special schools condition was significantly lower than the SES of students in both the special classroom

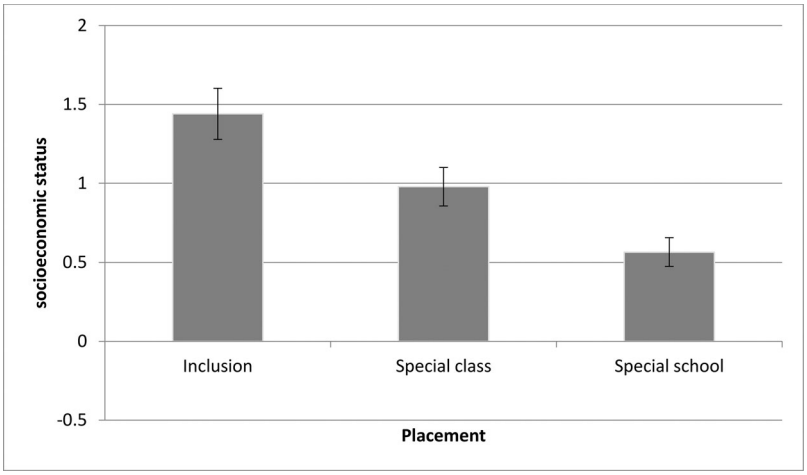

Figure 4 Socioeconomic status (mean ± SE) in relation to placement

Table 3 Changes in placement throughout the class years

Strata	Percentage of change (total *n*)[a]
1st to 2nd	5.1% (175)
2nd to 3rd	3.3% (151)
3rd to 4th	4.5% (134)
4th to 5th	6.0% (116)
5th to 6th	1.2% (85)
6th to 7th	13.3% (75)
7th to 8th	4.2% (72)
8th to 9th	0.0% (67)
9th to 10th	5.5% (55)
10th to 11th	4.3% (46)
11th to 12th	2.6% (38)

[a]Percentages relate to each stratum.

condition and in inclusion. Results indicated that SES was related to placement type: the mean index value score according to the CBS was 1.44 for included students, 0.978 for students in special classrooms within a regular school, and 0.565 for students in special schools. To give an idea of the index value, note that the highest index value (3.145) is given to the high-end prosperous areas. Values of 1.44 include cities with high SES population and reliable accommodations. Areas that score a value of 0.978 include peripheral towns that have more modest services compared with areas more centrally located. Finally, a score value of 0.565 includes underprivileged towns with yet humbler population and less assistance within the community.

In a secondary analysis, we repeated the ANOVA within the three school levels mentioned above. The results replicated the findings and the trends that were found in the entire sample, although some of them did not reach statistical significance, probably due to smaller sample sizes.

Key placement periods

The fourth research question aimed to detect key periods in which changes in student placement occur. In order to do so, we examined the stability of placement categories (inclusion, special classroom, or special school) within each of the 11 pairs of consecutive years (e.g. first to second grade, second to third grade, etc.). The Marginal Homogeneity test (MH), an extension of the McNemar test (Agresti 1990), was used to test change within each pair of consecutive years (with a null hypothesis that the distribution of placement grade groups does not change). Table 3 presents the percentage of cases for which there was a placement change (sample size for each stratum in parenthesis).

Change in placement was statistically significant between the sixth and the seventh grades ($p = 0.002$). No other changes were found ($p > 0.05$ on all tests). The change from the sixth to the seventh grade was predominantly in the direction of a less inclusive placement.

Discussion

The current study was designed to examine the characteristics of students with ASD in various placement settings. Examination of 210 records from 1994 to 2011 (184 boys and 26 girls) revealed that 107 (50.9%) of the students were enrolled in a special school for the last year available, 69 (32.9%) were placed in a special classroom within a regular school, and 34 (16.2%) were included in regular classrooms. These findings are surprising in light of the rise in inclusion of autism, but they are consistent with the CBS figures. One explanation is that the study examined data covering over 17 years and therefore the inclusion trend is less notable. In addition, the psychological records of students in special schools and special classrooms are easier to locate as they are together, while students in inclusion are scattered in different schools and in different classrooms.

These findings have implications for the practice of inclusion. Primarily, it is important to gather information about students in inclusion in a way that is accessible to research, so that research will not be biased toward special classrooms and special schools. It may

well be that the data presented by the CBS (2012) are similarly biased. Furthermore, we observed that psychological records of students in inclusion did not include as much data about students as in special schools or special classrooms. One may argue for the importance of psychological records on the premise that they facilitate psychological and educational work; thus, the scarcity of information in the psychological records of students in inclusion may serve as a warning sign.

In line with the findings from White *et al.*'s study (2009), statistical analyses in the present study have shown that students intelligence (as measured by IQ scores) was associated with placement. Keen and Ward (2004) found that the mean intelligence score of students in the inclusion condition was significantly higher than the mean intelligence score of students in special classes or in special schools. These findings were only partly replicated in the present study. The mean intelligence score of students in special schools was significantly lower than the mean intelligence score of both students in the inclusion and in special classrooms, but no statistically significant difference was found between the mean intelligence score of students in inclusion and students in special classrooms. However, it is noteworthy that intelligence was not equally homogeneous among the three placement categories; specifically, the inclusion group had a wider range of intelligence scores and a larger SD. It therefore seems that functioning scores, such as intelligence, are important in making a decision regarding placement. Nevertheless, these results cannot suggest whether intelligence scores are a significant consideration in IPRC's decisions or that other criteria lead to placing groups with similar intelligence scores in the same type of educational placement.

The student's scores on adaptive functioning tests were generally lower than intelligence scores and the mean functioning score of students in special classes was significantly higher than the mean functioning score of students in special schools. This can be explained by the fact that adaptive functioning tests are often conducted to diagnose IDD or to measure life skills that may require intervention. This creates a bias in the population that takes adaptive functioning tests, which is reflected in the score differences.

Diagnostic labels were validated as a factor distinguishing between the different placement categories. While students with HFA (Asperger's and PDDNOS) were more likely to be placed in inclusion and less likely to be in special schools, students with LFA (AD) were more likely to be placed in special school and less likely to be placed in inclusion. As with the case of intelligence scores, it is impossible to know whether this association is due to a causal link or an artifact. Could diagnoses of Asperger's Disorder or PDDNOS sway IPRC members decision in the direction of an inclusive setting? Alternatively, these diagnoses may reflect higher functioning, that is likewise reflected in placement decisions. Further research into the association between functioning levels in DSM-5's ASD diagnosis (APA 2013) and placement is warranted.

Students SES or more accurately, their families SES, also distinguished between the various placement categories. The results indicated that the mean SES of students in special schools was significantly lower than the mean SES of students in both special classrooms and inclusion. An examination of the mean SES scores according to the CBS index value revealed that less inclusive placement is associated with a lower level of facilities and assistance in the student's community. SES can influence the educational placement of students with ASD in many ways, including the quality and quantity of treatments students receive over the years, parental attitudes and the parents ability to advocate for their children (O'Connor and Fernandez 2006). This finding has significant implications for inclusion practice and policy. It is bothersome to discover that families SES may play such a major role in students opportunity for inclusion. Inclusion is considered the ideal to strive for whenever possible (Florian 2008) and placement decisions should be based on psychological and educational factors rather than financial ones. Policymakers, as well as members of IPRC committees, would do well to be aware of such biases when recommending and determining student placements.

The study corroborated the clinical and educational experience that the key period for transitioning between placement types is between sixth and seventh grade. Moreover, transitions are predominantly from more inclusive placements to more specialized and secure ones. This may be due to a number of factors. First, the social skills discrepancy between students with ASD and their typically developing peers widens as they grow older and reach adolescence. Second, it is possible that peer tolerance for children with special needs decreases in teenage years (White *et al.* 2009).

These difficulties are highlighted by the literal transition from elementary to middle school. To reach a decision, parents and staff are required by law (in Israel, as in many other countries) to undergo a decision-making process that culminates in the assembly of an IPRC, and results in an informed decision. The fact that in Israel a statutory IPRC is required every three years, yet the educational placement remained steady in the transitions between third and fourth grade and between ninth and tenth grade, indicates that the sixth to seventh grade transition is affected by more than just the IPRC's evaluation.

Since the main deficit in autism is social and typically developing students take a great leap forward in their social skills between elementary and middle school (Stoddart 2005), evidence regarding the sixth to seventh grade transition highlight the unique features of

the inclusion of students with ASD compared with, for example, the inclusion of students with learning disabilities. We argue that owing to the increased risks in adolescence, families, and educational teams often prefer to transfer students to settings that can better protect them, even at the cost of other shortcomings. This would explain why in this study both students who were formerly included in regular classrooms and students from special classrooms enrolled in special schools. Clinical and educational practice informs us that parents often feel that the social gaps between their children and their typically developing peers are too great, and that they will be better protected in less inclusive environments. The current study empirically demonstrates this phenomenon for the first time, and inclusion practices would do well to adapt to address these changing needs.

Study limitations

This study is a retrospective one and as a result, causation cannot be inferred. For example, an association was found between SES and placement, but it is impossible to distinguish whether these students were placed due to their higher SES or that a third variable has contributed to both their placement and their SES being higher. Additionally, the source of archival data may have imposed certain biases towards representing the lower SES population, since many of the higher SES families are reluctant to seek public services (Propper 2000). Moreover, since researchers do not necessarily have a sense of the 'Zeitgeist' that characterizes the different periods, there is a risk of ignoring variables that tilt the results in certain periods. As the study is archival, data extraction was difficult and inconsistent; some of the records were missing or did not contain the data in a uniform manner, while others were exemplary. It is apparent that within the sampling method used in this study, some psychological records of students relevant to the study were not available to the research team.

Conclusion

This study reveals several significant differences between students with ASD in various educational placements. Results from the current study suggest that intelligence level, diagnostic label and SES are associated with placement type. The findings regarding SES are disturbing and require changes in the policy and practice of inclusion to prevent discrimination. The findings regarding the sixth to seventh grade transition point to the uniqueness of the inclusion of students with ASD and the importance of tailoring specific practices that can better address students changing competencies and needs in the social domain.

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