

An international study of public contact with people who have an intellectual disability

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Abstract

Background People with intellectual disability (ID) are often socially isolated, and many experience stigma and discrimination. Increased contact with the general public is thought to overcome prejudices. This large-scale international study had three main aims: to determine the type and frequency of contact that the general public has with people with ID; to identify the personal characteristics of those who have greater contact; and to examine the public's level of comfort at the prospect of having contact with people with ID.

Method Self-completed online questionnaires were administered to nationally representative panels of respondents in 17 countries; totally 24 504 persons. Multivariate analyses were used to identify respondents more likely to have had frequent personal contact with persons with ID from those with infrequent or no contact and those respondents who were most comfortable at meeting a person with ID.

Results Internationally around one in four of the general population reports having frequent personal contact with people who have an ID although this varied from 7% in Japan to 46% in Panama. The principal forms of contact were through friendships, neighbours or extended family members. Over all

countries, volunteering and engagement with Special Olympics were the two main predictors of frequent personal contact followed by employment in the education, health or social care field, being a parent of children under 18 years, playing sports and being employed. People who reported frequent personal contact were also more comfortable at meeting a person with ID.

Conclusions This international dataset provides a baseline against which public contact can be compared across countries and changes monitored over time. The findings suggest ways in which greater contact can be promoted and making the public more comfortable at meeting people with ID.

Keywords general public, intellectual disability, international, personal contact, Special Olympics

Background

The stigma and prejudice experienced by people with intellectual disability (ID) has been well documented internationally (Scior 2011). Despite the decline in the institutionalisation of people with ID, an unfortunate legacy of social isolation remains. People with ID commonly report being targets of verbal and even physical abuse (Griffin *et al.* 2019), alongside other more subtle acts of stigma such as feeling unwelcome when out in public, using public transportation or at work (McEvoy and Keenan 2014). Moreover, public opposition has

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prevented the opening of community facilities – such as group homes – for people with ID (Van Alphen *et al.* 2012).

In less affluent nations, many people with ID and their families face more overt discrimination and exclusion (Officer and Shakespeare 2013). Families may hide their child with a disability due to the associated stigma and avoid contact with neighbours and even relatives. Many are then denied education and employment and the families are more likely to experience increased marginalisation due to extreme poverty (McKenzie *et al.* 2013).

Internationally, similar public reactions are found with other societal ‘outgroups’, such as racial and ethnic minorities or those of differing sexual orientation. Over 60 years ago, Allport (1954) proposed that intergroup contact could be the basis for reducing prejudice and increasing the social inclusion of minority groups. Pettigrew and Tropp (2013) conducted a meta-analysis that included over 500 studies, a few of which involved people with ID. They concluded that intergroup contact can be ‘a practical, applied means of improving intergroup relations’ (p. 744).

In an updated review, Paluck *et al.* (2018) asserted that the effects of contact are strongest for reducing prejudice towards those with mental or physical disabilities.

The aforementioned research often lacks global representation, making international comparisons challenging. Further, the data seldom include sufficient information about contact with and attitudes towards inclusion of people with ID in particular. One notable exception was Bardon *et al.* (2006), who compared public contact across 10 countries and found that Brazil and Germany had the highest levels of personal contact (over 60%) with people with ID, compared with China with the lowest levels (25%). Within country, differences may also exist. For example, using a large sample from the UK, Scior *et al.* (2013) reported that White western respondents had increased knowledge, showed less stigma and were more in favour of inclusion of people with ID than were Asian and Black African/Caribbean respondents. However, regardless of ethnicity, prior contact was associated with more favourable attitudes.

Moreover, the nature of the contact between persons has emerged as a significant influence.

Blundell *et al.* (2016) reported that in a sample of over 1000 adults from the UK general public, the frequency, nature and ratings of closeness of contact all contributed to public willingness to engage with people with ID. Similarly, Page and Islam (2015), with an Australian sample of over 400 adults, reported that quality of contact with people with ID – such as it being a pleasant or positive experience – was the most important factor in predicting more positive attitudes, and more so than frequency of contact. The promotion of quality interactions is more important than increased contact per se. Likewise, Morin *et al.* (2018) in a study of 367 randomly selected healthcare providers in Quebec, found that those who reported higher quality contacts or interactions with persons with ID expressed attitudes that were more favourable towards social inclusion.

The present study was commissioned by Special Olympics to understand the general public’s attitudes towards people with ID. Moreover, an international perspective using representative samples of the general population was needed regarding the contact with people with ID. The three main research objectives regarding contact were as follows:

- To determine the type and frequency of contact that the general public has with people with ID in 17 countries world-wide;
- To identify the personal characteristics of those who have greater contact; and
- To examine the public’s level of comfort at the prospect of having contact with people with ID.

Method

Questionnaire development

Special Olympics Inc. (SOI) partnered with the international market research firm Kantar Millward Brown to implement a global survey of public attitudes. Online, self-completion surveys were chosen as the most efficient way of obtaining information from samples that were stratified to be representative of the age and gender distribution of the participating country.

Special Olympics personnel, with advice from an advisory panel of international researchers, developed the questionnaire, which covered attitudes towards people with ID as well as questions relating to Special

Olympics and the type and frequency of contacts with people who had ID.

The questionnaire was translated by Kantar staff using their usual protocols and cognitively tested for clarity of understanding through interviews. The proposed items were checked by Special Olympics personnel in each participating country for accuracy of meaning. The survey was available in the language(s) appropriate to the country.

In relation to the present study, respondents were asked the following questions about contacts with people with ID.

- 1 'Are there people with intellectual disability living in your community or neighborhood?' Options were yes, no and don't know.
- 2 'Do you personally know anyone with an intellectual disability?' Options were yes, no and don't know.
- 3 If yes to question 2. 'Which, if any, of the following people do you personally know with an intellectual disability? Please select all that apply' (see Table 2 for choices provided).
- 4 'How often are you in contact with someone with intellectual disabilities?' (see Table 3 for choices provided).
- 5 'For the following question, please imagine an adult with an intellectual disability named Michael moves into your neighborhood/community. (The name was changed to one commonly used in the country). Imagine yourself in the following situations, and rate how comfortable you would be with the following statements'. Table 5 lists the eight alternatives that were rated on a five-point Likert scale ranging from very uncomfortable to very comfortable.

At the outset of the survey, respondents were provided with this definition. 'Intellectual disability (or ID) is a term used when a person has certain limitations in intellectual functioning and skills, including communication, social and self-care skills. These limitations can cause a child to develop and learn more slowly or differently than a typically developing child. Intellectual disability can happen any time before a child turns 18 years old, even before birth. People with certain conditions like Down Syndrome, Fragile-X, and others will have intellectual disabilities. Dyslexia and mental illness are not intellectual disabilities'.

Additional demographic information was collected from respondents in line with past research (Table 1). These details would also aid the profiling of persons who were more likely to have contact with persons with ID, such as whether they were employed in health, social care or education settings or if they were involved in any form of volunteering activities or in playing sports and not just with people with ID. Engagement with Special Olympics was defined as a personal or family involvement in sporting activities or seeing Special Olympics on television (refer to McConkey *et al.* 2020 for further details).

Table 1 The characteristics of respondents across the 17 countries ($N = 24\ 504$)

	Number	%	95% CI
Gender			
Female (0)	11 845	48.3	47.5 to 49.2
Male (1)	12 659	51.7	50.8 to 52.6
Age bands			
18–34 years (1)	8245	33.6	32.9 to 34.4
35–54 years (2)	8936	36.5	35.7 to 37.2
55+ years (3)	7323	29.9	29.2 to 30.6
University educated			
No (0)	11 859	48.4	47.5 to 49.3
Yes (1)	12 632	51.6	50.7 to 52.5
Marital status [†]			
Married/partner (0)	15 766	65.5	64.5 to 66.6
Single/widowed/divorced (1)	8291	34.5	33.7 to 35.2
Parent with children at home			
No (0)	15 889	64.8	63.8 to 65.9
Yes (1)	8615	35.2	34.4 to 35.9
In employment			
No (0)	8212	33.5	32.8 to 34.3
Yes (1)	16 292	66.5	65.5 to 67.5
Type of employment			
Other (0)	21 001	85.7	84.5 to 86.9
Health, social care or education (1)	3503	14.3	13.8 to 14.8
Engagement with Special Olympics			
Not active (0)	13 394	54.7	53.7 to 55.6
Active (1)	11 110	45.3	44.5 to 46.2
Involved in volunteering			
No (0)	14 027	57.2	56.3 to 58.2
Yes (1)	10 477	42.8	41.9 to 43.6
Plays sports			
No (0)	11 321	46.2	45.6 to 47.1
Yes (1)	13 183	53.8	52.9 to 54.7

Note: Coding used for the regression analyses are shown in brackets. CI, confidence interval.

[†]Missing data $n = 447$.

Table 2 Percentage of yes responses to each contact item with 95% confidence intervals (CIs) ($n = 24\,504$)

Item	% Yes	95% CI
I have a neighbour with an intellectual disability.	18.1	16.8 to 19.5
I have a friend with an intellectual disability.	17.3	15.9 to 18.7
I have an extended family member (e.g. a grandparent, an aunt/uncle, or cousin) with an intellectual disability.	12.3	10.9 to 13.7
I have a co-worker with an intellectual disability.	6.1	4.56 to 7.64
I have an immediate family member (e.g. a parent, child, or sibling) with an intellectual disability.	5.8	4.26 to 7.34
I have a schoolmate/classmate with an intellectual disability.	5.6	4.06 to 7.14
I volunteer for an organisation that supports people with intellectual disabilities.	4.2	2.64 to 5.76
I provide services, such as direct support, professional support, social support, or healthcare to people with intellectual disabilities.	3.9	2.33 to 5.47
I have a sports teammate with an intellectual disability.	2.1	0.51 to 3.69
I have an intellectual disability.	1.1	0.00 to 2.71
Other contact.	6.9	5.38 to 8.42
I do not know anyone with an intellectual disability.	40.4	39.4 to 41.4

Table 3 Percentage of respondents reporting frequency of contact with someone with an intellectual disability with 95% confidence intervals (CIs) ($n = 24,504$)

Frequency of contact	%	95% CI
Daily or almost daily	13.2	13.0 to 13.4
Weekly	17.9	17.8 to 18.0
Monthly	11.5	11.4 to 11.6
Every 2–3 months	9.7	9.61 to 9.79
Less often	33.5	33.3 to 33.7
Never	14.3	14.1 to 14.5

Country selection and research design

The SOI staff selected the locations in which samples would be recruited bearing in mind the countries in which Kantar had panels. The locations chosen were ones in which Special Olympics had a particular interest because of the activities and programmes underway or planned for them. As well as the USA, nine European countries were selected: Austria, Belgium, Finland, Germany, Ireland, Malta, Poland, Romania and the UK. In addition, seven countries were selected from other Special Olympics Regions – Central America (Mexico and Panama), Africa (South Africa), Middle East (United Arab Emirates)

and Asia-Pacific (India, Japan and China). In total, surveys were conducted across 17 countries with a target sample of 1500 respondents in each, except for Malta, which, because of its small size, included a sample of 500. Overall, 24 504 members of the public participated.

Procedure

Kantar, or their associates in certain countries, were responsible for the recruitment of participants, the presentation of the questions online and recording responses. The questionnaire was delivered mostly online but through individual interviews in Panama because of limited Internet access.

In each country, Kantar or their associates had enrolled on to their panels members of the public who were willing to participate in market research. For each survey, repeated waves of invitations were sent out until the sample sizes were attained, and the samples were stratified by national gender ratios and age groups.

Panel members were not given any specific information about the content of the questionnaire: the invitation email stated it was a survey of social attitudes. Prospective participants first had to confirm their gender, age and provide a zip code (or equivalent). An estimated 27 850 persons were invited to take part in the survey across the 17

countries. Overall, 7% of initial respondents dropped out at this point with a further 5% failing to complete the survey having commenced it. Thus, the overall response rate was 88% ($n = 24\ 504$ respondents).

Questions relating to contact and engagement with Special Olympics came after a series of questions about attitudes towards people with ID. Example items included 'Have you heard of Special Olympics'; 'Have you a friend or family member who participates in Special Olympics' (McConkey *et al.* 2020).

The respondents had to record a response before they could move on to the next question. Hence, there were no missing data on the main variables included in the questionnaire although a very small proportion of respondents chose not to disclose certain personal details.

Ethical approval

In line with the standard market research practice, formal ethical approval was not sought for the surveys. However, Kantar and their associates fully subscribed to the industry's code of practice. All responses were anonymous so no one could be identified through their participation. Respondents could freely choose to take part and to drop out without having to give a reason. The only incentive provided was the award of points to Kantar panel members for taking part in a survey. They were not given any type of extra or direct incentive, which would make this survey any more 'appealing' than any other survey.

Participants

Table 1 summarises the demographic characteristics of the participants across the total sample of 24 504 respondents.

Additional demographic information was collected from respondents in line with past research. These details would also aid the profiling of persons who were more likely to have contact with persons with ID, such as whether they were employed in health, social care or education settings or if they were involved in any form of volunteering activities or in playing sports. Engagement with Special Olympics was defined as a personal or family involvement in sporting activities or seeing Special Olympics on television (refer to McConkey *et al.* 2020 for further details).

Of note in Table 1 is the high percentage of university-educated respondents, which may reflect the bias arising from using online panels for the surveys.

Approach to data analysis

Kantar and their associates undertook the data cleaning and anonymised the complete dataset, which was made available to the authors who undertook the statistical analyses using SPSS (vers 25) and MPLUS 6.0. Descriptive statistics were first calculated for each individual item followed by bivariate analyses using chi-squared tests between items relating to contact and possible predictor variables. A binary logistic regression analysis was used to identify the variables that best predicted persons who had frequent personal contact. In order to correct the standard error, clustering effects within countries were adjusted in the analysis.

A principal component analysis was undertaken of responses to the eight items relating to comfort at meeting a person with ID. This identified one main factor that accounted for 68.5% of the variance on responses. The factor loading was highest for the item 'becoming friends with' (0.876) and lowest for 'employing as a home help' (0.728).

An overall comfort score was then calculated by summing the responses to each item with 1 (*very uncomfortable*) to 5 (*very comfortable*). The scores ranged from 8 (*very uncomfortable*) to 40 (*very comfortable*) with a mean of 30.77 ($SD\ 5.88$) and skewness of -0.445 . The internal reliability as measured by Cronbach's alpha across the eight items was 0.930. A linear regression was undertaken to identify predictors of comfort scores and again clustering effects within countries were adjusted in the analysis.

Results

Respondents were first asked if people with ID lived in their community or neighbourhood, 39.6% [confidence interval (CI) 39.4% to 39.8%: $n = 9712$] stated they did, and 34.2% (CI 34.5% to 35.1%: $n = 8379$) stated they did not, but 26.2% (CI 26.0% to 26.4%: $n = 6413$) indicated that they did not know. Countries with the highest percentage of people reporting people with ID living in their neighbourhood

were India, Romania and Poland (51%) whereas Japan had the lowest percentage (22%). The countries with the highest percentage of 'Don't knows' were the UK (45%) and the USA (43%). Fuller details are available from the authors on request.

A further question asked if they personally knew someone with ID: 54.0% (CI 53.8% to 54.2%: $n = 13\ 329$) stated they did; 40.4% (CI 40.2% to 40.6%: $n = 9904$) that they did not know anyone; and 5.6% (CI 5.5% to 5.7%: $n = 1361$) responded that they were unsure or did not know. The highest levels of personal knowledge were found in Mexico (67%), South Africa and Panama (63%) and the lowest in Japan (19%).

Table 2 gives the percentage of respondents selecting each option listed in the questionnaire relating to the type of contact they had with people with ID across all surveys (more than one response could be selected). The list has been re-ordered in terms of percentage of yes responses.

Respondents were further asked how frequently they were in contact with someone with ID. Table 3 summarises the responses with nearly one third claiming to have daily or weekly contact.

To assist with further statistical analyses, responses to the type and frequency of contact were combined to form three groupings in line with previous literature (Blundell *et al.* 2016). These were as follows:

- *Frequent personal contact*: Daily or weekly contact with any of those listed in Table 2. This grouping formed 28.6% (CI 28.4% to 28.8%) of the total sample ($n = 6849$).
- *Infrequent personal contact*: Monthly to less often contact as shown in Table 3 with those listed in Table 2. This grouping formed 30.1% (CI 30.0% to 30.2%) of the total sample ($n = 7219$).
- *No personal contact*: Those with no contact in Table 2 or who reported never being in contact with a person with ID. This grouping accounted for 41.3% (CI 41.1% to 41.5%) of the total sample ($n = 9904$).

Table 4 summarises the number and percentage of respondents in each country falling into these three categories. The highest proportion of respondents who had frequent personal contact with people with ID was in Panama and the lowest in Japan.

Predictors of contact

Bivariate analyses using chi-squared tests were undertaken to identify the demographic variables that were significantly related ($P < 0.01$) to the three contact groupings (Table 1). All but level of education was significantly related to contact, and these variables were then entered as a block into a binary logistic regression that contrasted persons who reported frequent personal contact ($n = 6749$) with all others ($n = 16\ 782$) (3.9% missing data). The standard errors were adjusted for clustering within country, using the Huber–White procedure in MPLUS.

The overall model explained 18.1% of the variance (S.E. 0.018, $P = 0.001$). As Table 5 shows, respondents with volunteer experience or an active involvement in Special Olympics had higher odds ratio of being in frequent personal contact with persons with ID as did those who worked in health, social care and education, who were parents of children, who were university educated and who were employed. Also, those under 55 years of age were less likely to have frequent personal contact. Playing sports, marital status and gender did not contribute significantly to the model.

Comfort at meeting a person with intellectual disability

Respondents rated eight items relating to their personal comfort at meeting a person called 'Michael': 'An adult with an intellectual disability ... (who) moves into your neighborhood/community' using a five-point Likert scale from *very uncomfortable* to *very comfortable*. (The name was changed to one commonly found in each country.) Table 6 gives the percentage of respondents selecting each option but with all uncomfortable or neutral ratings summated under *not comfortable*.

Computed comfort scores

A summary score was calculated across the eight items. A linear regression analysis was undertaken of the comfort scores with the predictor variables entered as a block, and the standard errors were adjusted for the effects of clustering within country. Although the overall model was significant (est. 0.083/

Table 4 The number and percentage of respondents in each country by contact grouping

Country	Frequent personal contact	Occasional personal contact	No personal contact
Panama	665 45.8%	327 22.5%	459 31.6%
Mexico	564 38.5%	452 30.8%	450 30.7%
India	562 38.2%	404 27.4%	507 34.4%
Ireland	506 34.4%	474 32.2%	491 33.4%
UAE	491 33.5%	470 32.1%	503 34.4%
South Africa	464 31.8%	546 37.4%	451 30.9%
USA	450 31.3%	438 30.4%	551 38.3%
Poland	447 30.9%	450 31.1%	551 38.1%
Malta	146 30.5%	147 30.7%	186 38.8%
Romania	444 30.0%	486 32.8%	552 37.2%
Germany	397 26.8%	426 28.7%	660 44.5%
United Kingdom	385 26.3%	323 22.1%	756 51.6%
Austria	356 24.0%	607 41.0%	518 35.0%
Belgium	332 22.6%	426 29.0%	713 48.5%
China	282 19.1%	355 24.0%	842 56.9%
Finland	248 16.7%	632 42.6%	602 40.6%
Japan	110 7.4%	256 17.3%	1112 75.2%
Total	6,849 28.6%	7219 30.1%	9904 41.3%

UAE, United Arab Emirates.

S.E. 0.013; $P < 0.001$), only a modest amount variance was explained (8.3%).

Table 7 summarises the variables that were significantly related to comfort scores. Respondents who had frequent personal contact with people with ID were more comfortable at meeting them (moderate effect size 0.40) as were respondents with an active engagement with Special Olympics (small effect size 0.26). Female respondents (small effect size

0.07), those with volunteer experience (small effect size 0.16) and parents with children (small effect size 0.09) tended to have higher comfort scores. The other variables did not contribute significantly to the regression model. The low amount of variance explained by the model suggests that there are other influences affecting the general public's comfort at meeting people with ID.

Discussion

This is the largest international study to date that examines the general public's contact with people with ID. Specifically, this study examined the type and frequency of contact, characteristics of respondents who reported having frequent, personal contact, and the public's comfort meeting people with ID.

Results indicated that one in four respondents from the general population internationally reports having frequent personal contact with people who have an ID although this varied markedly across countries, as is discussed more fully later. The principal forms of contact were through friendships, neighbours or extended family members: a pattern that was broadly similar across countries. Such person-to-person contacts provide a firm basis for reducing intergroup conflict, and as Pettigrew and Tropp (2013) have argued, these contacts can extend beyond the personal with generalisation to all members of the 'outgroup', in this instance, people with ID.

The best predictors of frequent, personal contact were volunteer experience and active involvement with Special Olympics. Although the study was commissioned by Special Olympics, there was no mention of the organisation until after respondents had answered the questions relating to contact, and it is unlikely then that they were biased to give this response. Rather it would seem that Special Olympics has played a major role in bringing ID to the attention of the general public internationally as reflected in the 45% of people sampled in this international study who were aware or engaged with the organisation, although this did vary across nations. (McConkey *et al.* 2020). In addition, the other variables that discriminated respondents with frequent personal contact, such as parents of children, are ones that can also be linked to Special Olympics and through which

Table 5 The variables related to having frequent personal contact with people with intellectual disability

Predictor variables	Regression weight	S.E.	P value	Odds	95% CI	
Active involvement Special Olympics	0.705	0.094	0.001	2.024	1.685	2.432
Volunteer experience	0.508	0.094	0.001	1.662	1.383	1.996
Works in health, social care and education	0.381	0.108	0.001	1.464	1.185	1.809
Parent with children 18 and under	0.379	0.086	0.001	1.460	1.234	1.727
In employment	0.284	0.074	0.001	1.328	1.149	1.535
Aged 55+ years(reference)						
Aged 18–34 years	−0.375	0.084	0.001	0.687	0.582	0.811
Aged 35–54 years	−0.269	0.050	0.001	0.764	0.692	0.844
University educated	−0.292	0.094	0.002	0.746	0.620	0.898
Plays sports	0.179	0.070	0.011	1.196	1.042	1.373
Marital status	−0.025	0.058	0.665	0.975	0.871	1.092
Gender	0.058	0.046	0.209	1.060	0.968	1.161
Comfort	0.084	0.008	0.001	1.088	0.074	0.105

CI, confidence interval.

personal friendships can emerge with people who have ID (Harada *et al.* 2011).

Special Olympics seems to embody the three mediators identified by Ramiah and Hewstone (2013) through which contact can reduce prejudice, namely, reducing the anxiety and discomfort associated with intergroup meetings; creating empathy and shared feelings; and increased knowledge and understanding. Indeed various small-scale intervention studies around ID have confirmed the efficacy of these approaches with children (Armstrong *et al.* 2017) and with adults (Lawson *et al.* 2017). Of course, within countries, there could be other national organisations that serve a similar purpose of creating personal contacts between the general public and people with intellectual disabilities to which comparisons could be made of their impact.

However, such organisations are unlikely to have an international presence.

The study also sought to determine how the general public would react to meeting a person with ID in their neighbourhood. Not surprisingly, those members of the public who had frequent personal contact were also more comfortable interacting with a ‘new person’ with ID. However, the small proportion of variance accounted by the regression models for both contact with people with ID and comfort at meeting them, suggest that additional influences remain to be discovered beyond the personal attributes of respondents.

The intercountry differences in public contact is worthy of further enquiry beyond an individual’s characteristics. This could include the extent of stigma associated with ID, the type and availability of

Table 6 The percentage of responses to each item overall (with 95% confidence interval) ($n = 24\ 504$)

	Not comfortable	Comfortable	Very comfortable
Speaking to <i>N</i> when seeing him on the street	23.0 (22.7 to 23.3)	45.7 (45.6 to 45.8)	31.3 (31.0 to 31.6)
Sitting next to <i>N</i> on a train or bus	26.1 (25.9 to 26.3)	42.6 (42.4 to 42.8)	31.3 (31.2 to 31.4)
Having <i>N</i> as a neighbour	26.6 (26.3 to 26.9)	45.1 (45.0 to 45.2)	29.0 (28.7 to 29.3)
Becoming friends with <i>N</i>	27.5 (27.2 to 27.8)	45.5 (45.4 to 45.6)	27.1 (26.8 to 27.4)
Having <i>N</i> as a co-worker	30.9 (30.6 to 31.2)	44.9 (44.8 to 45.0)	24.2 (23.9 to 24.5)
Playing sports with <i>N</i>	31.3 (31.0 to 31.6)	44.4 (44.3 to 44.5)	24.3 (24.1 to 24.5)
Accepting <i>N</i> as a relative’s boyfriend	46.2 (46.0 to 46.4)	35.1 (34.8 to 35.4)	18.7 (18.4 to 19.0)
Employing <i>N</i> as home help	47.3 (47.0 to 47.6)	35.4 (35.2 to 35.6)	17.3 (17.1 to 17.5)

Table 7 The variables related to comfort at meeting people with intellectual disability from the multiple regression analysis ($n = 23\ 531$, missing = 973)

	Estimate × Negative	S.E.	Significance	95.0% Confidence interval	
				Lower 2.5%	Upper 2.5%
(Constant)	30.832	0.813	0.000		
Frequent personal contact	2.456	0.294	0.000	1.879	3.033
Active involvement with SO	1.513	0.261	0.000	1.002	2.025
Gender	-0.423	0.132	0.001	-0.682	-0.164
Volunteer experience	0.912	0.323	0.005	0.280	1.544
Parent with children 18 and under	0.527	0.201	0.009	0.133	0.921
University educated	-0.564	0.341	0.098	-1.233	0.105
Married	0.053	0.206	0.798	-0.350	0.456
Age 18–34 years (vs. 55+ years)	-0.310	0.270	0.250	-0.839	0.219
Age 35–54 years (vs. 55+ years)	-0.375	0.178	0.035	-0.723	-0.026
Works in health, social care and education	0.222	0.230	0.335	-0.229	0.673
Plays sports	-0.177	0.274	0.518	-0.715	0.361
Employed	-0.207	0.208	0.320	-0.614	0.201

SO, Special Olympics.

services and supports provided to persons with ID, and the levels of socio-economic development and inequality experienced within countries (Fisher and Purcal 2017). It is also possible that these as well as other factors may account for intracountry variations in public contact. Nevertheless, it may be that a great deal of individual variation exists among the public in all countries given their personal characteristics and circumstances as well as the particular opportunities provided to them to have contact with people with ID and their differing perceptions of this disability. At a minimum though, these data are a reminder that findings from national surveys in one country may not be applicable to other nations.

Further analyses of the international dataset examined the relationships that prior personal contact with people with ID and their comfort at having contact has on public attitudes to the rights of people with ID, their acceptance in local communities as well as their perceptions of their capabilities (Slater *et al.* 2020). Also, the complete dataset is available from Special Olympic Inc. to researchers wishing to undertake further analysis of country differences.

Nonetheless, several limitations about the study need to be noted. Because of the online administration of the survey, respondents were required to have internet access, and although the

samples were representative of their country in terms of age or gender, they were biased towards university-educated respondents. A second limitation is that selected countries were those in which Special Olympics had strong programmes or ones in which major events were planned, which could have contributed to greater awareness of people with ID. A further limitation is that most of the countries fell within the World Bank definition of ‘high income’ with no representation from low-income nations. Future studies might also focus more explicitly on the nature and quality of contact reported by the public (McManus *et al.* 2011).

In conclusion, this international dataset on public attitudes towards ID provides a baseline against which public contact can be compared across countries and changes can be monitored over time. For example, examining changes that may occur due to the implementation of new policies, based on the United Nations Convention of the Rights of Persons with Disabilities (2006), or national intervention programmes aimed raising public awareness of and engagement with people with ID. It also provides some clues as to how positive contacts can be encouraged using the strategies of Special Olympics such as positive media presentations and engaging the public in viewing or participating in pleasurable shared activities with a range of persons with ID.

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Conflict of interest

Roy McConkey and Paul Slater were commissioned by Special Olympics Inc. to analyse the data from the global surveys. Lindsay Dubois, Amy Shellard and Ashlyn Smith are employed by Special Olympics Inc. in their Research and Evaluation Division.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Headlines

Across 17 countries worldwide, three in four people report little or no personal contact with people with intellectual disability (ID). Persons who have frequent personal contact with individuals with ID tended to be involved in volunteer work or were actively involved in Special Olympics. Self-reports from the general public indicate that their comfort towards meeting a person with ID was highest with those who had some prior personal contact.

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