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Published in:
Disability and Rehabilitation

DOI:
[10.1080/09638288.2019.1630678](https://doi.org/10.1080/09638288.2019.1630678)

Publication date:
2021

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Pelleboer-Gunnink, H. A., van Weeghel, J., & Embregts, P. J. C. M. (2021). Public stigmatisation of people with intellectual disabilities: A mixed-method population survey into stereotypes and their relationship with familiarity and discrimination. *Disability and Rehabilitation*, 43(4), 489-497.
<https://doi.org/10.1080/09638288.2019.1630678>

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To cite this article: Hannah A. Pelleboer-Gunnink, Jaap van Weeghel & Petri J. C. M. Embregts (2019): Public stigmatisation of people with intellectual disabilities: a mixed-method population survey into stereotypes and their relationship with familiarity and discrimination, *Disability and Rehabilitation*, DOI: [10.1080/09638288.2019.1630678](https://doi.org/10.1080/09638288.2019.1630678)

To link to this article: <https://doi.org/10.1080/09638288.2019.1630678>



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Published online: 26 Jun 2019.



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Public stigmatisation of people with intellectual disabilities: a mixed-method population survey into stereotypes and their relationship with familiarity and discrimination

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ABSTRACT

Purpose: Stigmatisation can negatively affect opportunities for people with intellectual disabilities to participate in society. Stereotyping, a first step in the process of stigmatisation, has been insufficiently explored for people with intellectual disabilities. This study examined the general public's set of stereotypes that is saliently attributed to people with intellectual disabilities as well as the relationship of these stereotypes with discriminatory intentions and familiarity.

Materials and methods: A mixed-method cross-sectional survey within a representative sample of the Dutch population ($n=892$) was used. Stereotypes were analysed with factor analysis of a trait-rating scale, and qualitative analysis of an open-ended question. The relationship between stereotypes and discrimination as well as familiarity with people with intellectual disabilities was explored through multivariate analyses.

Results and conclusions: Four stereotype-factors appeared: "friendly", "in need of help", "unintelligent", and "nuisance". Stereotypes in the "nuisance" factor seemed unimportant due to their infrequent report in the open-ended question. "Friendly", "in need of help", "unintelligent" were found to be salient stereotypes of people with intellectual disabilities due to their frequent report. The stereotypes did not relate to high levels of explicit discrimination. Yet due to the both positive and negative valence of the stereotypes, subtle forms of discrimination may be expected such as limited opportunities for choice and self-determination. This may affect opportunities for rehabilitation and might be challenged by protest-components within anti-stigma efforts.

ARTICLE HISTORY

Received 27 November 2018
Revised 7 June 2019
Accepted 8 June 2019

KEYWORDS

Intellectual disabilities; stigma; stereotypes; discrimination; familiarity; social distance

► IMPLICATIONS FOR REHABILITATION

- There is currently sparse input for anti-stigma campaigns regarding people with intellectual disabilities.
- Anti-stigma interventions may benefit from adopting protest elements: education of the general public about inequalities that are experienced by people with intellectual disabilities.
- Especially support staff should be informed about the experienced and/or anticipated stigma of people with intellectual disabilities.
- As a way of opposing stigma, support staff should empower people for example by conducting strategies to disclose their (intellectual) disabilities.
- People with intellectual disabilities can challenge stigma by learning to tell a positive narrative on the lives they lead, using their strengths and coping with their limitations.

Introduction

The United Nations' Convention on the Rights of Persons with Disabilities declares full and active participation in society as a fundamental right of persons with disabilities [1]. People with intellectual disabilities, however, experience disadvantages in various areas of life that limit their possibilities for rehabilitation and participation in society. These can be barriers concerning access to mainstream healthcare ([2,3], entrance to competitive employment [4,5], taking up family roles [6], making independent/

individual housing choices [7,8], or participation in mainstream leisure activities [5].

Stigma is one of the main reasons for these limited opportunities to people with intellectual disabilities (e.g., [9–11]). For example, negative attitudes of employers may pose a challenge for people to gain competitive employment [12]. Moreover, people in the general public using condescending language or making them feel embarrassed may have negative effects [9,13]. People with intellectual disabilities may have difficulty

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establishing or preserving positive social identities due to their awareness of belonging to a stigmatized group [14,15]. This may have negative consequences for both their mental health and their aspirations concerning participation [14,15].

Stigmatisation refers to people's experience of a devalued identity because of certain (assumed) distinguishing characteristics [16,17] in a context where the power situation allows stigma to occur [18]. The present study focused on processes of stigma in the general public, referred to as public stigma. From a social-psychological perspective, public stigma originates from negative cognitions followed by negative affective reactions and consequent discriminatory behaviour [16]. Hence, public stigmatisation is a triadic process whereby stereotypes are a first, cognitive component that refer to a specific set of characteristics that is assumed to exist among people with intellectual disabilities [19]. These stereotypes can be followed by prejudice (i.e., affective reaction) and discrimination (i.e., behaviour) [20].

Although an increasing number of studies try to disentangle processes of stigma, research into stereotypes, prejudice, and discrimination of people with intellectual disabilities is still scarce [21]. Within the field of intellectual disabilities, the neutral term "attitudes" dominates research; attention to the negative term "stigma" is yet limited (e.g., [22,23]). Notwithstanding the fact that attitudes and stigma are often intermingled, attitudes do not cover the full stigma construct [24]. A focus on stigma is important because addressing a negative phenomenon (i.e., stigma) promotes research into its causes, while studying positive phenomena such as 'attitudes towards participation' promotes research into consequences [25,26]. In this way, research into stigma enhances our understanding about the causes of inequality, as opposed to exploring the consequences of participation. Moreover, the ultimate reason for conducting research into stigmatization of people with intellectual disabilities is to find effective ways to contest the stigma. In order to do so, there needs to be evidence about the determinants of stigma that should be addressed in interventions.

Because stereotypes are the initial cognitive component of stigma, it is essential to document the general public's salient stereotypes of intellectual disabilities [26]. Currently, the question concerning the nature of this set of stereotypes remains unsettled [21,26]. Preliminary available studies that examined stereotypes of intellectual disabilities used an inadequate sample (i.e., small sample of university students; [27] or studied stereotypes regarding a sub-group of people with intellectual disabilities (i.e., people with Down syndrome; [28]). More recently, Werner studied stereotypes of intellectual disabilities, with a seven-item stereotype trait-rating scale in a selective sample of the general public. She based the scale on an attitude scale for people with physical disabilities and pilot interviews with 6 people from the general public [22]. This indicates that evidence about the stereotypes of people with intellectual disabilities can still benefit from additional research.

In addition to exploring the stereotypes, it is important to determine how stereotypes can result in discriminatory treatment. For other minority groups, such as ethnic minorities, it has been clearly demonstrated that stereotypes are used to explain discrimination at the individual, group, and system level [19,29,30]. Also, for people with mental illness, negative stereotypes have been shown to provoke discrimination, expressed as avoidance, withholding help, or imposing restrictions (e.g., [30–33]). For people with intellectual disabilities, studies into stereotypes and discrimination are scarce, but similar effects may be expected. For example, stereotypes may relate to less adherence to the value of

inclusion [28] or to avoidance of people with intellectual disabilities [22]. Furthermore, positive contact and familiarity with people with intellectual disabilities, or with any other minority group, is seen as an important factor in tackling stigma ([21,34–36]). Especially the closeness of a relationship (i.e., familiarity) has been found particularly important when studying stigma of people with intellectual disabilities [35].

Research aims and questions

Given the limited evidence about salient stereotypes of people with intellectual disabilities, this paper aimed to extend existing studies by using different sources to initiate a trait-rating scale of stereotypes, and using an open-ended question to (a) explore any stereotypes complementary to the trait-rating scale as well as to (b) address the salience of the stereotypes, in a representative sample of the general population. Moreover, the paper aimed to extend the limited knowledge about the association between contact with people with intellectual disabilities and stereotypes, as well as between discrimination and stereotypes. Specifically, higher levels of familiarity/closeness with people with intellectual disabilities were hypothesised to be related to weaker stereotypes. The aims of this study lead to the following questions:

- What are the main stereotypes of intellectual disabilities among the Dutch general public?
- Is the strength of the stereotypes related to levels of discrimination (i.e., social distance and withholding help) towards people with intellectual disabilities?
- Is the level of familiarity with individuals with intellectual disabilities related to the strength of the stereotypes?

Method

Procedure

In February 2015, responses from a nationally representative sample were collected in the Netherlands using the – Longitudinal Internet Studies for the Social Sciences – panel. The panel was based on a true probability sample of households drawn from the population register and was developed in cooperation with Statistics Netherlands. The panel consists of 5600 households with 8735 panel members age 16 or older. Full information about the panel can be found at www.lissdata.nl. The panel is administered by CentERdata (Tilburg University, The Netherlands), a research institute specialising in quantitative data collection. CentERdata abide by the Dutch "protection of personal data" act (Wet Bescherming Persoonsgegevens), consistent with and derived from European law (Directive 95/46/EC).

During recruitment, participants consented to become panel members and participate in monthly internet surveys. Participants are rewarded for each completed questionnaire. People not included in the original sample could not otherwise participate. Potential participants without a computer or internet connection were provided with the necessary devices to participate. For this study, a questionnaire was sent to a random selection of 1093 panel members. A response rate of 81.6% ($n = 892$) was obtained. Five participants (0.5%) did not complete the questionnaire.

Participants

A total of 892 members of the Dutch general public participated in this cross-sectional survey. In the sample, 50.8% were female and 49.2% male participants; 90.5% reported a Caucasian

background, 6.0% reported a non-Caucasian background or did not report on background (3.5%). Reported education concerned low (25.7%), middle (38.1%), or higher (33.7%) education, or was missing (0.2%). Reported age groups concerned < 20 years (4.9%), 20–40 years (26.2%), 40–65 years (43.8%), 65–80 years (22.1%), or >80 years of age (2.9%). Demographics of the study sample are similar to demographics within the Dutch population according to Statistics Netherlands, yet with a slight underrepresentation of participants with a non-Caucasian background (i.e., 12.1% within the Dutch population).

Measures

Stereotypes: Trait-rating scale

A unipolar trait-rating format was used to enable participants to respond to 18 stereotypes as found in literature and a pilot study. Participants were asked to rate their agreement (ranging from 1 = completely disagree to 5 = completely agree) about statements describing people with intellectual disabilities; for example, "People with intellectual disabilities are happy." Eleven stereotype-items were extracted from intellectual disabilities literature [27,28,37]. In a pilot study among a convenience sample of the general public ($n=90$), the present authors corroborated these stereotypes. People were asked to note five words in answer to the question: "What comes first to your mind when you think about people with intellectual disabilities?" All 11 stereotypes that emerged in the literature were also found within the pilot study and thus included within the scale. To ensure similar meanings across languages, a bilingual speaker of Dutch and English was involved in translating the items from relevant literature in English to Dutch language. To verify the completeness of the scale, seven items (i.e., "are to be trusted", "can be aggressive", "neglect themselves", "are able to work in a paid position", "give nuisance", "are criminal", "are intelligent") were derived from previous studies into stereotypes towards people with mental illness within the Dutch population [38,39].

Stereotypes: Open-ended question

Using an open-ended question, participants were asked to type their answer to the following question in a text box: "Finally, can you give us, in a few sentences, a characterisation of people with intellectual disabilities? What comes first to your mind when you think about people with intellectual disabilities?" This question was asked for two reasons: first, to determine whether complementary stereotypes were apparent that were not yet described in the literature (i.e., to ask whether the trait-rating scale is exhaustive and what items might need to be added). Note that in an open-ended question, participants are not restrained by the particular stereotypes provided by the researcher. The second reason was to assess the frequency with which stereotypes are reported to examine the salience of the stereotypes [40]. Previous studies have demonstrated that participants are adequate in producing words and phrases that represent valid stereotypes about a group [40,41].

Familiarity: Level of contact report

Familiarity was measured by the Level of Contact Report [42] and refers to varying degrees of closeness that the general public has with people with intellectual disabilities [30,42]. Participants were asked to check all of the situations on a 12-item list that best depicted their exposure to people with intellectual disabilities. Example items are: (1) "I have worked with a person who had an intellectual disability at my place of employment" and (2) "I have never observed a person that I was aware had an intellectual

disability." The index of familiarity was the rank score of the closest situation indicated by the participant. Because of the non-normal distribution of the rank scores, three categories were created based on the content of the items, indicating low familiarity (rank-items 1–4; $n=273$), average familiarity – not in private life (rank-items 5–8; $n=338$), and high familiarity – in private life (rank-items 9–12; $n=281$).

Discrimination: Social distance

Social distance is frequently used as an indicator for discrimination and refers to the tendency of people to avoid contact with individuals with certain conditions [43]. To measure social distance, participants were asked to rate how willing they would be with regard to the following interactions with a person with intellectual disabilities (1 = definitely not to 5 = definitely): (1) to move next door to the person, (2) to spend an evening socializing with the person, (3) to make friends with the person, (4) to start working closely with the person, and 5) to have the person marry into the family. These items were replicated from a previous study (Link et al., 1999). The internal reliability of the scale is good (Cronbach's $\alpha = 0.84$). Items were recoded so that a higher score indicates a greater desire for social distance.

Discrimination: Withholding help

Helping behaviour, another frequently used indicator for discrimination, refers to people's tendency to provide or to avoid helping people with certain conditions [31]. Participants were asked to what degree they would agree with a set of statements (1 = totally disagree to 5 = totally agree). The statements were: (1) "If I were an employer, I would interview someone with an intellectual disabilities for a job", (2) "I would share a car pool with someone with an intellectual disabilities each day", (3) "If I were a landlord, I probably would rent an apartment to someone with an intellectual disabilities", and (4) "I am certain I would help someone with an intellectual disabilities." Items were replicated from a previous study in the field of psychiatry (2003) [31]. The internal reliability of the scale is satisfactory (Cronbach's $\alpha = 0.79$).

Analyses

The analysis consisted of four steps. First, exploratory Principal Axis Factoring was used to explore whether factors of stereotypes could be found in the trait-rating scale. The factorability of the correlation matrix was examined and the likely number of factors was assessed based on scree-plot and Eigenvalues >1 [44]. Based on the assumption that the stereotype factors are to some extent inter-correlated and not independent, an oblimin rotation with Kaiser Normalization and delta 0 was used. Factor loadings of 0.40 and greater were interpreted [45]. The test reliability of the factors was inspected by examining the Cronbach's alpha (α), McDonald's omega (ω), greatest lower bound, and average inter-item correlations [46,47]. Mean scores were calculated for the items categorized within the stereotype factors and used in subsequent analyses.

Second, multivariate analysis of covariance was used to assess the differences among categories of familiarity on the mean scores of the stereotype factors. Age, gender, and education level were added as covariates. Effect sizes (η^2) for univariate between subjects' effects were interpreted as: 0–0.10 small effect, 0.10–0.30 modest effect, 0.30–0.50 moderate effect, and >0.50 large effect. Post-hoc pairwise comparisons were conducted using Bonferroni correction to correct for the Type I error rate.

Table 1. Descriptives of stereotypes and structure matrix of principal axis factoring with direct oblimin ($n = 888$).

Item	Factor loading	h	M (SD)	Agree (%)	Neutral (%)	Disagree (%)
Friendly ($\alpha = .746$; $\omega = .754$; $glb = .780$; $avg_iic = .427$)						
... are friendly	0.745	0.567	3.67 (0.66)	59.9	38.6	1.5
... are sociable	0.683	0.497	3.40 (0.62)	40.1	57.1	2.8
... are happy	0.651	0.435	3.48 (0.61)	44.8	53.7	1.5
... are to be trusted	0.479	0.296	3.34 (0.70)	37.3	56.2	6.5
... are affectionate	0.425	0.226	3.44 (0.68)	44.3	51.7	4.1
In need of help ($\alpha = .571$; $\omega = .582$; $glb = .610$; $avg_iic = .306$)						
... are in need of help	0.599	0.366	3.53 (0.69)	53.7	41.3	5.0
... have difficulty functioning in society	0.553	0.379	3.52 (0.68)	53.7	40.7	5.6
... are vulnerable	0.542	0.341	3.95 (0.63)	80.8	19.3	1.6
Give nuisance ($\alpha = .687$; $\omega = .690$; $glb = .698$; $avg_iic = .356$)						
... give nuisance	0.644	0.428	2.49 (0.74)	5.0	47.9	47.1
... are sad	0.597	0.344	2.29 (0.81)	6.7	30.2	63.1
... neglect themselves	0.574	0.367	2.69 (0.70)	8.1	56.5	35.4
... are criminal	0.547	0.424	1.84 (0.78)	1.0	19.9	79.1
... are childlike	0.437	0.328	3.19 (0.76)	35.1	50.3	14.5
Unintelligent ($\alpha = .57$; $avg_iic = .273$)						
... are intelligent	0.718	0.555	2.81 (0.72)	11.1	60.0	27.9
... have difficulty learning	-0.446	0.269	3.58 (0.70)	57.2	38.6	4.2
Remaining items						
... are able to work in a paid position	-	-	3.56 (0.69)	56.8	37.8	5.3
... can be aggressive	-	-	3.65 (0.62)	68.2	34.2	2.6
... are looking physically different	-	-	3.27 (0.76)	37.3	50.8	11.8

Remaining items lacked any factor loading higher than .40. h (communality) refers to the sum of the squared factor loadings of that variable. Glb: greatest lower bound; Avg iic: average inter-item-correlation.

Third, hierarchical linear regression with a stepwise approach was used to predict the levels of discrimination. In step 1, the demographic covariates of gender, age, and education level were added. In addition, in step 2, familiarity was added, and in step 3, the stereotype factor mean scores were added as predictors.

Lastly, responses to the open-ended question were analysed qualitatively by using the program Atlas.ti, version 7.5. For all responses, quotations were divided in single quotation-units by the first author. Two researchers then independently categorized the single quotations ($n = 1227$) in three steps. First, quotations that were literally similar to items under one of the factors were coded as belonging to that factor. Second, quotations that were synonyms of items under one of the factors were labelled as belonging to that factor. In the first two steps we thus used a selective-deductive approach whereby quotations were labelled on the basis of factors from the trait rating scale. In the third step, we followed an open-inductive approach to categorize the remaining quotations ($n = 565$) into meaningful categories. In all three steps, the coding and categorization were discussed until consensus was reached, after which a third researcher checked the coding and provided critical feedback. Following, all categories were discussed with all authors. The categories referring to stereotypes of people with intellectual disabilities (i.e., characteristics; $n = 9$ categories) are included in this article. Other categories ($n = 7$) referring to values (e.g., attitudes towards inclusion) or to knowledge (e.g., causes of intellectual disabilities) are not discussed in this article, but can be obtained from the first author. Finally, to get an impression about the salience of the different stereotypes that were reported, the frequency of quotations referring to the stereotypes was reported.

Results

Prior to Exploratory Factor Analysis, the data were screened to explore whether the normal distribution assumption was satisfied. As the kurtosis (max. = 1.249) and skewness (max. = -0.563) of the observed variables were within the range of ± 7 and ± 2 , respectively, normal distribution was assumed [48].

Exploratory factor analysis: Exploring stereotype factors

Several significant correlations between stereotype-items upheld the factorability of the observed correlation matrix (NB matrix can be retrieved from the first author). Additionally, a Kaiser-Meyer-Olkin's measure of sampling adequacy value of 0.814 and an anti-image correlation matrix with mostly small values among the off-diagonal elements supported this conclusion [44].

Next, Table 1 presents the mean scores, standard deviations, test reliabilities, and results of Principal Axis Factoring with oblimin rotation of the stereotype items. Four factors with an Eigenvalue >1 were extracted, which was supported by visual inspection of the scree plot. Items with a factor loading ≥ 0.40 were selected (Field, 2009), resulting in a model that explained 54.45% of the total variance. Over 30% of the people scored the neutral option (do not agree/do not disagree) for all items except for "criminal" and "vulnerable". Based on the "Cronbach's alpha if item deleted" and "McDonald's omega if item deleted", deleting the items "affectionate" (α increased from 0.723 to 0.746 and ω from 0.740 to 0.754) and "childlike" (α increased from 0.677 to 0.687 and ω from 0.685 to 0.690) would improve test reliabilities. However, due to the minor increase in test reliabilities, the items were retained.

Concerning the first factor (Friendly), the majority of participants indicated that people with intellectual disabilities are friendly, sociable, and happy. For items in this factor, more than a third to almost two-thirds of participants (37.3%–59.9%) agreed with these statements, whereas a small number (1.5%–6.5%) disagreed with these items. Regarding the second factor (In need of help), most participants indicated that people with intellectual disabilities are in need of help, vulnerable, and have difficulty functioning in society (53.7%–80.8%), and a small percentage of participants disagreed with the items (1.6%–5.6%). The third factor (Give Nuisance) consists of items that mainly described negative traits. In general, people did not find these items characteristic for the studied population (35.4%–79.1% disagreed and 1.0%–8.1% agreed), except for the item "childlike" (14.5% disagreed and 35.1% agreed). Finally, the factor Unintelligent describes the

difficulty with learning experienced by people with intellectual disabilities (i.e., the item 'intelligent' was recoded during calculation of the mean score). More than half (57.2%) of the participants agreed that people with intellectual disabilities have difficulty learning, but for the item 'intelligent', most participants scored the neutral option (60%). The relationships between the mean factor scores suggest that the factors represent sufficiently distinct stereotypes. That is inter-correlations between the factors were respectively .093, -.441, -.102, -.003, .275, .035.

Multivariate analysis of covariance: Familiarity and stereotypes

Non-significant Levene's tests for all four stereotype factors support the tenability of the assumption of homogeneity of variances; significance levels were $p = 0.190, 0.105, 0.476,$ and $0.334,$ respectively. There was a statistically significant multivariate effect of familiarity on the four stereotype factors, which was corrected for the effects of gender, age, and education level ($\Lambda = 0.970, F(8, 1754) = 3.328, p = 0.001$). Significant but small between-subjects effects of familiarity were found for Friendly ($F(2, 880) = 3.110, p = 0.045, \eta^2 = 0.007$), In need of help ($F(2, 880) = 3.058, p = 0.048, \eta^2 = 0.007$), and Give Nuisance ($F(2, 880) = 9.118, p < 0.001, \eta^2 = 0.020$). Further exploration of these between-subjects effects with pairwise post-hoc Bonferroni comparisons revealed no significant differences among the three familiarity levels on mean Friendly scores. For the In need of Help factor, the low-familiarity group demonstrated significantly lower mean scores than the high-familiarity group ($M_{dif} = -0.10, SE = 0.042, p = 0.042$). Concerning mean Give Nuisance scores, the low-familiarity group scored higher compared to both the average ($M_{dif} = 0.17, SE = 0.041, p < 0.001$) and the high-familiarity group ($M_{dif} = 0.13, SE = 0.043, p = 0.006$).

Hierarchical linear regression: Relationship with discrimination

Two linear regressions were performed to determine if the strength of the stereotypes predicted levels of social distance ($M = 2.62; SD = 0.74$) and helping behaviour ($M = 3.66; SD = 0.61$). Demographic variables predicted 0.2% of the variance in social distance and 1.8% of the variance in withholding help (see

Table 2). Only the age of participants seemed to be predictive for withholding help, suggesting that an older age was related to more intention toward helping behaviour. After controlling for gender, age, and education level, adding familiarity to the model improved prediction of the variance with 2.6% and 2.7%, respectively, with more familiarity being related to less preferred social distance and more intention to helping behaviour. The stereotype factors predicted an additional 19.7% and 18.5% of the variance.

The stereotype factors Friendly, Give Nuisance, and Unintelligent emerged as predictors of both social distance and helping behaviour. A higher mean score on the Friendly factor was related to less preferred social distance and a higher intention to helping behaviour. In contrast, a higher mean score on both the Give Nuisance and Unintelligent factors was related to more preferred social distance and less intention toward helping behaviour.

Qualitative approach: Complementary stereotypes and salience of stereotypes

To categorize the data from the open-ended question a qualitative approach was used with both selective-deductive and open-inductive elements. There were missing data for 25 participants (2.80%) on the open-ended question. Data from the 867 remaining participants, which was divided into 1227 quotations, varied from a few words (e.g., "Down syndrome, different behaviour, innocence") to longer phrases or even several sentences (e.g., "I think of people who can be just as happy or unhappy as other people and who generally behave socially and like to do things. They are freer in their behaviour and they know less shyness").

Concerning complementary stereotypes, the quotations that were not similar to items in one of the four factors ($n = 565$) were open coded. A threshold of 10 quotations per stereotype was held; the stereotypes that upheld this threshold are presented in Table 3. Thereby, 66 quotations were not categorized; for example, only four quotations indicated that people with intellectual disabilities are musically gifted, and this stereotype thus did not uphold the threshold of 10 quotations. Complementary stereotypes mainly referred to areas of dependence (e.g., less independent) and incompetence (e.g., low levels of social skills, impairments in thinking).

Table 2. Predicting social distance and intention towards helping behaviour.

Predictor variables	Social distance				Helping behaviour			
	B (SE)	β	p	ΔR^2	B (SE)	β	p	ΔR^2
<i>Step 1 – controls</i>				.002				0.018
Constant	2.798 (0.131)		0.000		3.516(0.108)		<0.001	
Gender	-0.037 (0.050)	-0.025	0.453		0.050(0.041)	-0.041	0.227	
Age	-0.017 (0.015)	-0.039	0.244		0.045(0.012)	0.123	<0.001	
Education level	-0.010 (0.017)	-0.020	0.558		0.001(0.014)	0.002	0.958	
<i>Step 2 – familiarity</i>				.026				0.027
Constant	3.060 (0.140)		<0.001		3.295 (0.115)		<0.001	
Gender	-0.025 (0.049)	-0.017	-0.606		-0.060(0.040)	-0.049	0.141	
Age	-0.017 (0.015)	-0.040	0.234		0.045(0.012)	0.124	<0.001	
Education level	-0.003(0.016)	-0.006	0.848		-0.005(0.014)	-0.012	0.721	
Familiarity	-0.151 (0.031)	-0.162	<0.001		0.128(0.026)	0.165	<0.001	
<i>Step 3 – stereotype factors</i>				.203				0.192
Constant	2.723 (.324)		<0.001		2.973 (0.268)		<0.001	
Gender	-0.016 (0.044)	-0.011	0.717		-0.064 (0.036)	-0.053	0.077	
Age	-0.013(0.013)	-0.031	0.309		0.039 (0.011)	0.109	<0.001	
Education level	-0.026(0.015)	-0.053	0.081		0.010 (0.012)	0.025	0.410	
Familiarity	-0.115(0.028)	-0.123	<0.001		0.094(0.023)	0.122	<0.001	
Mean friendly	-0.349(0.051)	-0.231	<0.001		0.333(0.042)	0.266	<0.001	
Mean in need of help	-0.005(0.047)	-0.003	0.924		0.047(0.039)	0.038	0.228	
Mean nuisance	0.339(0.045)	0.253	<0.001		-0.255(0.037)	-0.229	<0.001	
Mean unintelligent	0.212(0.041)	0.164	<0.001		-0.108(0.034)	-0.101	0.001	

Significant regression coefficients are marked in boldface type.

Table 3. Complementary stereotypes based on quotations and codes analyzed from the open question.

Stereotypical category	Illustrations / subcategories	Example quotations	# quotations
<i>Less independent</i>	Less independent More reliant on others Specific examples or areas of (in)dependence Having difficulties in making decisions and taking responsibilities.	"not the capacity to develop as an independent individual" "more reliant on others for support and attention" "some can work and take care of themselves, others are dependent"	166
<i>Low levels of social skills</i>	Socially smart people ($n = 6$ quotations) Lacking social skills Having difficulties with communication living in their own world	"social people, perfectly fine to have contact with" "less socially skilled" "difficulty in making contact with other people" "people who very much live within themselves"	81
<i>Impairments in thinking*</i>	A child's way of thinking Specific impairments in thinking	"most of them have the mind of a child and not of an adult" "they forget that you asked them something"	64
<i>Visibility</i>	A visible impairment or a reference to specific visible symptoms ($n = 43$ quotations) Some specifically mentioned Down syndrome as a visible intellectual disabilities. Not visible ($n = 8$ quotations)	"Spasms" "wheelchair" "from the outside you do see nothing sometimes"	51
<i>Naïve/open</i> <i>Can be aggressive</i>		"pure" "spontaneous" "I know that people with intellectual disabilities can also be aggressive"	39 37
<i>Slow</i>		"slow", "they need more time to do something"	37
<i>Disinhibited</i>		"people without inhibitions like normal people" "impulsive"	24
<i>Not categorized</i>	($n = 66$ stereotype codes) were mentioned infrequently (<10 times) and therefore not categorized.	E.g., "humorous" ($n = 6$), "musically gifted" ($n = 4$), "in need of attention" ($n = 10$).	<10

Table 4. Frequency of quotations in the free response question referring to stereotype-items used in the trait rating scale.

Factor ^a	# Literal	Example literal	# Synonym	Example synonym	Total frequency	Proportional frequency ^b
Friendly (5 items)	110	'friendly persons'	173	'agreeable in contact'	283	52
In need of help (3 items)	32	'they need help'	179	'in need of care'	211	70
Nuisance (5 items)	18	'nuisance to the neighbourhood'	33	'someone who stays a child'	51	10
Unintelligent (2 items)	18	'very low IQ'	84	'people who are behind in their mind'	102	51

^aThe factors refer to the all the items under this factor.

^bProportional frequency refers to the number of quotations divided by the number of items under the factor.

With respect to the salience of the stereotypes, the frequency with which stereotypes were reported was investigated. Table 4 shows the frequency of quotations that belong to items under one of the four factors ($n = 647$ quotations). Because the number of items differed per factor, the proportional frequency with which the stereotypes were reported was calculated. Looking into this proportional frequency, the "in need of help" stereotypes were most frequently reported, followed by the stereotypes "friendly" and "unintelligent". The stereotypes regarding "nuisance" were infrequently reported, and thus seem to be less salient. Moreover, when looking into the frequency with which the complementary stereotypes were reported, "being less independent" was the most frequently reported stereotype, with half the quotations, followed by "low levels of social skills" and "impairments in thinking".

Discussion

This study examined a prominent cognitive component of stigmatization of people with intellectual disabilities, namely the appearance and salience of stereotypes of people with intellectual

disabilities within a population sample of the Dutch general public ($N = 892$). Also, the relationships of these stereotypes with (1) levels of familiarity with intellectual disabilities, and (2) discrimination were explored. First, four main stereotype-factors were found: "friendly", "in need of help", "unintelligent", and "a nuisance". The factors "friendly", "in need of help", and "unintelligent" were demonstrated to be salient stereotypes due to their above average scores (trait rating scale) and frequent report in the open-ended question. Of these three, "in need of help", was the most frequently reported. In accordance, expressed stereotypes complementary to the trait-rating scale mainly referred to areas of dependence and incompetence; being "less independent" was the most frequently reported complementary stereotype. Contrarily, "nuisance" was not found to be a salient stereotype for people with intellectual disabilities within the present study context. Stereotype-items in the "nuisance" factor (e.g., "are criminal", "are a nuisance") received low average scores and were infrequently reported in the open-ended question. Second, concerning the relationship of stereotypes with familiarity, participants who were unfamiliar with people with intellectual disabilities considered them to be less "in need of help" and more of "a

nuisance” compared to participants who were familiar with people with intellectual disabilities. Third, low levels of discriminatory intentions were reported by participants (i.e., low levels of social distance and a high intention to show helping behaviour); whereby a stronger “friendly” stereotype predicted lower levels of discrimination, while, contrarily, a stronger “nuisance” or “unintelligent” stereotype predicted higher levels of discrimination.

Clearly, people with intellectual disabilities seem to experience a different form of stigmatization than people with mental illness, a field upon which researchers of intellectual disabilities stigma have based many of their concepts [26]. Nuisance stereotypes are commonly assigned to people with mental illness or substance use disorders [38,39], though, as the present findings illustrate, not to people with intellectual disabilities. Similarly, the “friendliness” stereotype that was found to be salient for people with intellectual disabilities, is hardly assigned to people with substance use disorders or other mental illnesses. Notably however, there is frequent comorbidity of intellectual disabilities and criminal offending, substance use, and psychopathology [49] and therefore also a frequent use of psychiatric services by people with intellectual disabilities. It is questionable whether the general public is aware of this frequent comorbidity. Moreover, future research may examine which stigma experiences are stronger for people with intellectual disabilities and psychiatric comorbidity (i.e., the psychiatric or intellectual disabilities stigma). Also, both in anti-stigma campaigns as well as in rehabilitation programs there seems to be the need to pay specific attention to the unique stigma of people with intellectual disabilities.

It should be noted that some stereotypes (i.e., unintelligent, in need of help), seem to relate to the criteria that are often used to diagnose intellectual disabilities (i.e., deficits in intellectual functioning, deficits in adaptive functioning) [50]. There is a complex and intricate relationship between diagnostic labels and public stereotypes (e.g., [51–53]). One of the risks of stereotypes, irrespective of their congruity with diagnostic criteria, is that members of stereotyped out-groups are seen in a more homogeneous way than in-groups [51]. For example, the range of Intelligence Quotients in people with intellectual disabilities (<20–70) is equally wide as the range of Intelligence Quotients in the average population (70–130). Concerning people with intellectual disabilities, the stereotype ‘unintelligent’ can convey the hazard that they might be seen as homogeneously unintelligent which potentially relates to pessimistic views about peoples capabilities. Therefore, the main point of these stereotypes is that they partly define inter-personal contact. The challenge is to interpret the other (with or without intellectual disabilities) with respect for his/her authenticity [54].

A subtle effect of stereotyping on people’s ability to realize valued life and rehabilitation goals such as employment, independent housing, or a valuable and strong social network may be expected. The demonstrated main stereotypes of intellectual disabilities comprise both positive (i.e., “friendly”) and negative (e.g., “unintelligent”, “less independent”) traits which were related to levels of discrimination; but these levels were generally low (i.e., low levels preferred social distance and withholding help). The low levels of explicit discrimination are in accordance with previous studies [22,53,55]. However, the ambivalence of stereotypes may lead to more subtle forms of discrimination (e.g., [22]). For example, due to stereotypes of being not independent, in need of help, and friendly, people with intellectual disabilities may be tolerated in the community but, not be taken seriously, not receiving possibilities for self-determination, or not having the

opportunity to make their own choices (e.g., [7,56,57]). Moreover, the stereotypes referring to incompetence of people with intellectual disabilities might justify the denial of many opportunities to participate in mainstream society [19]. Existing measures with respect to benevolence (people are childlike and need to be cared for) or authoritarianism (people are irresponsible, so life decisions should be made by others) may (partially) capture these experiences and therefore might reveal more stigmatization than do measures of social distance ([15,58,59]). Moreover, one of the key foci of professionals, when keeping in mind the stereotypes of intellectual disabilities, might be to enhance and support guided decision-making regarding valued life goals as to enable people to experience agency within their own life [60].

A second potential effect of ambivalent stereotyping that may inform anti-stigma interventions concerns the opportunities of people with intellectual disabilities to advocate for their own rights. When addressing groups with ambivalent stereotypes, people have the tendency to address only positive stereotypes and omit negative stereotypes (i.e., stereotyping by omission; [61]). Addressing only positive stereotypes may increase the perceived harmony between groups (i.e., “We are having fun together”, “Everything is fair and ‘cosy’”) while making it more difficult to address intergroup inequalities [62]. People with intellectual disabilities seem to experience difficulties asserting their rights (e.g., [63]). For example, people with intellectual disabilities continue to be of low priority in government policy and programs, and they often are not well represented in the disability rights movement [11]. Ambivalent stereotypes may undergird this situation, making it especially challenging for people with intellectual disabilities and their advocates to evaluate inequalities critically. Therefore, protest components may make a valuable contribution to anti-stigma interventions where intergroup contact is proposed as a main strategy, with promising results for tackling stigmatization towards people with intellectual disabilities [20,64]. Protest, that is, the education of the general public about inequalities experienced by people with intellectual disabilities, has been demonstrated to generate stronger emotional reactions and improvement in their support of empowerment and discouragement of sheltering than an intervention that focused on the similarity between people with and without intellectual disabilities [65].

Although this study has considerable strengths, there are also limitations that need to be addressed. The stereotype items of the stereotype trait-rating scale may have influenced the answers on the open-ended question (i.e., priming), as the open-ended question was asked at the end of the questionnaire. However, the prior items may also have made participants’ beliefs more accessible [66]. In addition, the open-ended question provided information about the salience of stereotypes and input to determine if the Likert-type scale should be complemented with stereotypes in future research. Moreover, this study has not included a social desirability measure. Yet, in a review, social desirability has been shown to be only weakly correlated, if at all, with stigma, as measured on direct scales in studies into public stigma of intellectual disabilities [21]. Also in this individual anonymous internet survey with the possibility of backtracking, we would expect no large effects of social desirable answering [67].

People with intellectual disabilities are judged by the general public with an ambivalent set of stereotypes. These ambivalent stereotypes may lead to the experience of subtle forms of stigma, such as not being taken seriously and not being granted rights, which can induce inequality and limited opportunities for participation. Continuing exploration of experiences of stigmatization by

people with intellectual disabilities is needed in an effort to discover social factors that inhibit their freedom to act on what they perceive as valuable. This may provide input for the development and sophistication of anti-stigma interventions and thereby potentially contribute to rehabilitation programs and participation opportunities for people with intellectual disabilities.

Acknowledgements

The authors are grateful to Jolanda Habraken for her support in setting up the study, Elsbeth Taminiua for providing feedback on the analysis of the open-ended question, and to Anne Beenackers for conducting the analysis of the open-ended question as a second researcher. This paper made use of data of the LISS (Longitudinal Internet Studies for the Social sciences) panel administered by CentERdata (Tilburg University, The Netherlands).

Disclosure statement

No potential conflict of interest was reported by the authors.

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