



Short report: Autistic adults' recommendations on how to improve autistic portrayals in TV-series and movies

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ABSTRACT

Background: TV-series and movies are important sources of knowledge about autism for the general public. **Aims:** This study's purpose was to elicit autistic adults' opinions on portrayals of autistic characters in film and television productions and how this can be improved.

Methods and procedure: In this study, we examined the recommendations of autistic adults ($n = 798$, $M_{age} = 30.3$, 48% female) and non-autistic adults ($n = 1463$, $M_{age} = 35.0$, 62% female) from 90 countries on how film and television productions can improve autistic portrayals.

Outcomes and results: Autistic adults rated three improvement factors as most important: (1) Appointing autistic writers, (2) Having an autistic consultant, and (3) Representing greater diversity in autistic characters. Compared to the non-autistic groups, autistic adults rated "Appointing autistic writers" as more important. Autistic participants also endorsed "Having an autism-expert consultant" and "Making the character display all relevant diagnostic criteria" significantly less than non-autistic groups.

Conclusions and implications: Participants strongly endorsed that autistic adults should to a much larger extent be included as writers, consultants and actors to enhance the making of autistic characters in film and TV.

1. Introduction

Autistic portrayals in popular media are increasing, and so are scientific inquiries into this topic (Conn & Bhugra, 2012; Dean & Nordahl-Hansen, 2021). By reaching audiences beyond those with a specific interest in autism, autistic representations have great potential to impact general knowledge of and attitudes toward autism (Nordahl-Hansen et al., 2018b). Anecdotal evidence (e.g., Bogen-Straume, 2020) suggests that autistic portrayals in TV-series and movies are watched by audiences who are familiar with autism, including autistic adults themselves, as well as their family members and friends. TV-series and movies including autistic portrayals also reach a large number of people who are unfamiliar with autism and who may not have met any autistic individual in person (Nordahl-Hansen & Øien, 2021). For these people, autistic portrayals may be their only connection to autism, and audiences may form personal perceptions and attitudes toward autism based on these portrayals (Dean & Nordahl-Hansen, 2021). Thus, these portrayals represent important sources by which public perceptions of, and attitudes towards, autistic individuals are shaped.

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Concerns have been raised about the representativeness of autistic portrayals in TV-series and movies (Berger, 2015; Dean & Nordahl-Hansen, 2021; Garner, Jones, & Harwood, 2015; Jones, 2022; Jones, Gordon, & Mizzi, 2023; Lopera-Mármol, Jiménez-Morales, & Jiménez-Morales, 2023; Nordahl-Hansen, 2017; Nordahl-Hansen, Øien, & Fletcher-Watson, 2018b; Nordahl-Hansen, Tøndevold, & Fletcher-Watson, 2018a; Rajan, 2021). On the positive side, autistic portrayals raise awareness and can potentially increase acceptance of autistic people (Nordahl-Hansen, Øien, & Fletcher-Watson, 2018b; Stern & Barnes, 2019). Studies have shown that autistic portrayals can be useful in educational settings to promote knowledge of autism (Lopera-Mármol & Malet, 2022; Nordahl-Hansen, Øien, & Fletcher-Watson, 2018b; Stern & Barnes, 2019). On the negative side, however, autistic portrayals have been criticized for being too homogenous, i.e., in the vast majority of cases representing young adult white males with stereotypical profiles (Dean & Nordahl-Hansen, 2021; Prochnow, 2014; Tharian et al., 2019). In some cases, portrayals may be actively misleading (Nordahl-Hansen, 2017; Nordahl-Hansen, Øien, & Fletcher-Watson, 2018b; Nordahl-Hansen, Tøndevold, & Fletcher-Watson, 2018a). For example, studies have found autistic portrayals to be stereotypical in the sense that the characters display canonical features from the diagnostic manual descriptions, which is rarely the case in real life (Lopera-Mármol et al., 2022; Nordahl-Hansen et al., 2018a). For instance, Garner and colleagues (2015) scored a sample of 15 autistic characters on film using the Childhood Autism Rating Scale (CARS2; Schopler et al., 2010) and reported the characters to display “very high” to “extreme levels” of autism related symptoms. Similar results of very high symptom scores was found in a sample of 26 film and TV-series where autistic characters were scored through a checklist based on DSM-5 criteria for Autism Spectrum Disorder (Nordahl-Hansen et al., 2018a). Furthermore, although it has been discussed that the display of savant skills in autistic characters is overrepresented (Nordahl-Hansen et al., 2018a) research on this topic is inconclusive. Nevertheless savantism is a common feature in several of the most viewed portrayals of autistic characters (e.g. Rain Man, The Good Doctor, and Mercury Rising) —which can mislead people to think that these features are a hallmark of autism, when in fact, fewer than one in three autistic people have these skills (Howlin, Goode, Hutton, & Rutter, 2009; Nordahl-Hansen, Tøndevold, & Fletcher-Watson, 2018a).

A recent systematic review of research on autism in TV-series and movies identified a lack of studies examining the perspective of autistic people on autistic portrayals (Dean & Nordahl-Hansen, 2021). Autistic adults are experts in their own lived experience (Gillespie-Lynch et al., 2017) and will have first-hand experience of how autistic portrayals affect the general public’s perceptions of and attitudes about autism. Therefore, there is a need for research investigating autistic adults’ opinions of autistic portrayals, and specifically collecting autistic adults’ opinions about autistic portrayals can be improved. The purpose of the current paper is to provide the field with knowledge about how autistic portrayals can be improved, gathered through a quantitative, international survey.

2. Material and methods

2.1. Participants and procedure

The researchers recruited participants through social media (e.g., Facebook, Twitter, Reddit), professional and personal networks, and autism associations all over the globe in the period from May 2021 to August 2021. The survey was shared on the authors personal and professional social media sites, relevant groups for autistic adults, family/friends, and professionals/students, and by autism associations in different countries. No incentives were offered the participants and the survey was shared in English only. The study was reviewed and approved by the Norwegian Center for Research Data (NSD/SIKT) in accordance with privacy protection regulations. An autistic researcher was involved in the research team and contributed to all stages of the current study, from conceptualization and data collection to analysis and dissemination of findings. The research team also discussed the study with autism associations who disseminated the survey, and with autistic adults on social media.

In total, 2261 adults between the age of 18 and 79 years responded. Participants had to select a single category explaining their personal link to autism. Based on these responses, 798 participants identified as autistic (47.6% female, 35.5% male, 16.9% non-binary, $M_{\text{age}} = 30.31$, $SD = 10.15$), 652 participants identified as family and/or friends of an autistic individual (57.8% female, 38.2% male, 4.0% non-binary, $M_{\text{age}} = 35.49$, $SD = 10.97$), 486 participants identified as professionals or students in an autism-relevant profession or subject (78.8% female, 21.0% male, 0.2% non-binary, $M_{\text{age}} = 36.01$, $SD = 10.07$), and 183 participants had not met any autistic individual in person (41.5% female, 57.4% male, 1.0% non-binary, $M_{\text{age}} = 30.13$, $SD = 10.22$). There were also 142 respondents with “other”, non-specified relationship to autism. These individuals were excluded from the current paper since their relationship could not be categorized in the above-mentioned categories. The participants were from 90 different countries, the most-represented countries were Norway ($n = 564$), USA ($n = 560$), UK ($n = 136$), and the Netherlands ($n = 91$).

2.2. Survey

The survey included (1) demographic information (age, gender, education, country, relation to autism) and (2) opinions on how to improve autistic portrayals in TV-series and movies. In the last section, to get opinions as to what were the key factor(s) that might improve autistic portrayals, the participants were asked (i) How can autistic portrayals in TV-series and movies improve? And also (ii) To what extent would the following factor improve autistic portrayals in TV-series and movies? Thereafter eight improvement factors were available to be scored on a Likert-scale from (0) not at all to (7) substantially. These eight improvement factors were presented in the same order for all participants, as follows; (1) Casting autistic actors, (2) Appointing autistic writers, (3) Having an autism-expert consultant (i.e., experienced researcher or clinician), (4) Having an autistic consultant (i.e., a person who has autism), (5) Making the character display all relevant diagnostic criteria, (6) Representing greater diversity in autistic characters (e.g., gender, ethnicity), (7)

Including more autistic people with intellectual disability, and (8) Making autism incidental and not central to the plot.

2.3. Data analyses

SPSS version 27 was used for data analyses. Since analyses were conducted on single-items on an ordinal scale, we used non-parametric Kruskal-Wallis one-way analysis of variance (ANOVA) to compare opinions between groups. Because of the large sample size and the number of pairwise comparisons, we set the significance level at $p \leq .001$. The Kruskal-Wallis ANOVA was also used to perform all pairwise comparisons (*post-hoc*). We emphasize the differences between autistic adults and other groups in the result presentation. To aid in the interpretation of practical and clinical significance (Nordahl-Hansen et al., 2018c), we estimated Cohen's *d* for all significant comparisons between autistic adults and the other groups.

3. Results

For all improvement factors there were significant group differences in mean rating (all *p*-values <0.001; see Table 1). The following improvement factors were more strongly endorsed by autistic people, compared with two or more of the other groups surveyed: (1) Casting autistic actors, (2) appointing autistic writers, (3) representing greater diversity in autistic characters, and (4) making autism incidental and not central to the plot. The following improvement factors were less strongly endorsed by autistic people, compared with two or more of the other groups surveyed: (1) Having an autism-expert consultant and (2) making the character display all relevant diagnostic criteria.

Compared only to professionals and students, autistic adults more strongly endorsed the following improvement factors: (1) Appointing autistic writers ($d = 0.46$), (2) making autism incidental and not central to the plot ($d = 0.41$), and (3) casting autistic actors ($d = 0.13$). In contrast, professionals and students more strongly endorsed the following improvement factors, compared with autistic adults: (1) Making the character display all relevant diagnostic criteria ($d = 0.74$), (2) having an autism-expert consultant ($d = 0.63$), and (3) including more autistic people with intellectual disability ($d = 0.32$).

Compared only to individuals who hadn't met any autistic individual, autistic adults more strongly endorsed the following improvement factors: (1) Appointing autistic writers ($d = 0.75$), (2) casting autistic actors ($d = 0.53$), (3) representing greater diversity in autistic characters ($d = 0.47$), and (4) having an autistic consultant ($d = 0.29$). In contrast, individuals who hadn't met any autistic individual more strongly endorsed the following improvement factors, compared with autistic adults: (1) Having an autism-expert consultant ($d = 0.76$) and (2) making the character display all relevant diagnostic criteria ($d = 0.74$).

4. Discussion

This study's purpose was to elicit autistic adults' opinions on how autistic portrayals on screen can be improved. The results showed that autistic adults recommend that movie and television productions should leverage autistic peoples' expertise in the development and enactment of autistic portrayals. Of note is that we did not distinguish between televisual and cinematographic representations. There might be differences in how characters in film and TV-shows are perceived as more complexity and in-depth character depictions (Lopera-Mármol & Pintor Iranzo, 2022) can often be more suitable in a TV-show format over several episodes and seasons. Specifically, autistic adults in this study strongly endorsed that autistic adults should be included as writers, consultants and actors, compared with friends/family, professionals/students, and people who had not met an autistic individual.

Table 1
Attitudes towards the different improvement factors across the four groups.

	Autistic adults ¹ (n = 798)		Family and friends ² (n = 652)		Professionals and students ³ (n = 486)		Not met any autistic ⁴ (n = 183)		Group difference	Post-hoc
	M	SD	M	SD	M	SD	M	SD		
a. Appointing autistic writers	6.4	1.2	5.8	1.6	5.8	1.4	5.3	1.7	$p < .001$	1 > 2 > 4; 1 > 3
b. Having an autistic consultant	6.2	1.2	6.0	1.3	6.1	1.2	5.8	1.5	$p < .001$	1 > 4
c. Representing greater diversity in autistic characters	6.0	1.5	5.7	1.8	5.9	1.3	5.2	1.9	$p < .001$	1 > 2 > 4; 3 > 4
d. Making autism incidental and not central to the plot	5.9	1.4	5.6	1.5	5.3	1.5	5.6	1.5	$p < .001$	1 > 2 > 3
e. Casting autistic actors	5.8	1.6	5.3	1.8	5.6	1.5	4.9	1.8	$p < .001$	1 > 2, 3 > 4
f. Having an autism-expert consultant	5.0	1.9	5.9	1.4	6.0	1.2	6.2	1.2	$p < .001$	2,3,4 > 1
g. Including more autistic people with intellectual disability	4.9	1.6	5.1	1.6	5.4	1.5	4.9	1.7	$p < .001$	3 > 1,4
h. Making the character display all relevant diagnostic criteria	3.0	1.7	3.9	1.9	4.3	1.8	4.3	1.8	$p < .001$	3 > 2 > 1 4 > 1

Note. Significance level set at $p \leq .001$. Effect sizes for a. 1 > 2 ($d = 0.42$), 1 > 3 ($d = 0.46$), 1 > 4 ($d = 0.75$). Effect sizes for b. 1 > 4 ($d = 0.29$). Effect sizes for c. 1 > 2 ($d = 0.18$), 1 > 4 ($d = 0.47$). Effect sizes for d. 1 > 2 ($d = 0.21$), 1 > 3 ($d = 0.42$). Effect sizes for e. 1 > 2 ($d = 0.29$), 1 > 3 ($d = 0.13$), 1 > 4 ($d = 0.53$). Effect sizes for f. 2 > 1 ($d = 0.54$), 3 > 1 ($d = 0.63$), 4 > 1 ($d = 0.76$). Effect sizes for g. 3 > 1 ($d = 0.32$). Effect sizes for h. 2 > 1 ($d = 0.50$), 3 > 1 ($d = 0.74$), 4 > 1 ($d = 0.74$).

The emphasis on including autistic people in the making of TV series and movies with autistic characters is in line with the slogan of the disability rights movement, “nothing about us without us”. There has been a lack of inclusion of individuals with disabilities in film and television production (Annenberg Inclusion Initiative, 2020), and this finding also parallels calls to recognize autistic expertise in research knowledge production (Milton, 2014). This reflects that autistic people have historically been placed on the sideline when it comes to decisions about research, practice development, and the development of autistic characters and their subsequent storylines and character arc. Despite being left out of the decision-making process, autistic people are the ones that have to live with the consequences of these decisions, such as experiencing stigma resulting from improper and stereotyped portrayals of autism in TV series and movies (MacLeod et al., 2013).

Fear of stigmatization may lead to autistic individuals to exert great effort to distance themselves from their diagnosis. For example, recent research shows that autistic adults often feel the need to mask or camouflage their autistic features to fit in (Hull et al., 2017); yet, camouflaging is associated with increased mental health difficulties (Cook et al., 2021). Thus, the perpetuation of stereotypical and narrow autistic portrayals may exacerbate autistic individuals’ need to avoid potential stigmatization. Although some of the motivation for including autistic characters is doubtless based on the dramatic potential of these characters, film and television productions that choose to include autistic characters, we argue, have a responsibility to create realistic portrayals and to contribute positively to autistic people’s lives (Prochnow, 2014). Thus, it should be in all stakeholders’ interests to form autistic characters that are authentic, and avoid misconceptions and stereotypes about autism.

The non-autistic groups placed a greater emphasis on including an autism-expert in film and television productions compared to autistic adults. Professionals/students and those who had not met any autistic persons also seemed to value “making the character display all relevant diagnostic criteria” considerably more than autistic adults, with medium to large effect size difference for both comparisons. The first finding could be because non-autistic people have a higher confidence in the knowledge and expertise non-autistic people can have about autism. Of course, family/friends and professionals/students may feel confident that they themselves have good insights into autism, and therefore trust other non-autistic people to have the same insights. However, autistic people might emphasise lived experience over non-autistic professional expertise. The second finding may be explained by professionals/students and individuals who had not met any autistic individual think that an authentic portrayal have to include all relevant diagnostic criteria, and/or by placing a greater emphasis on the potential educational impact such characters can have by increasing

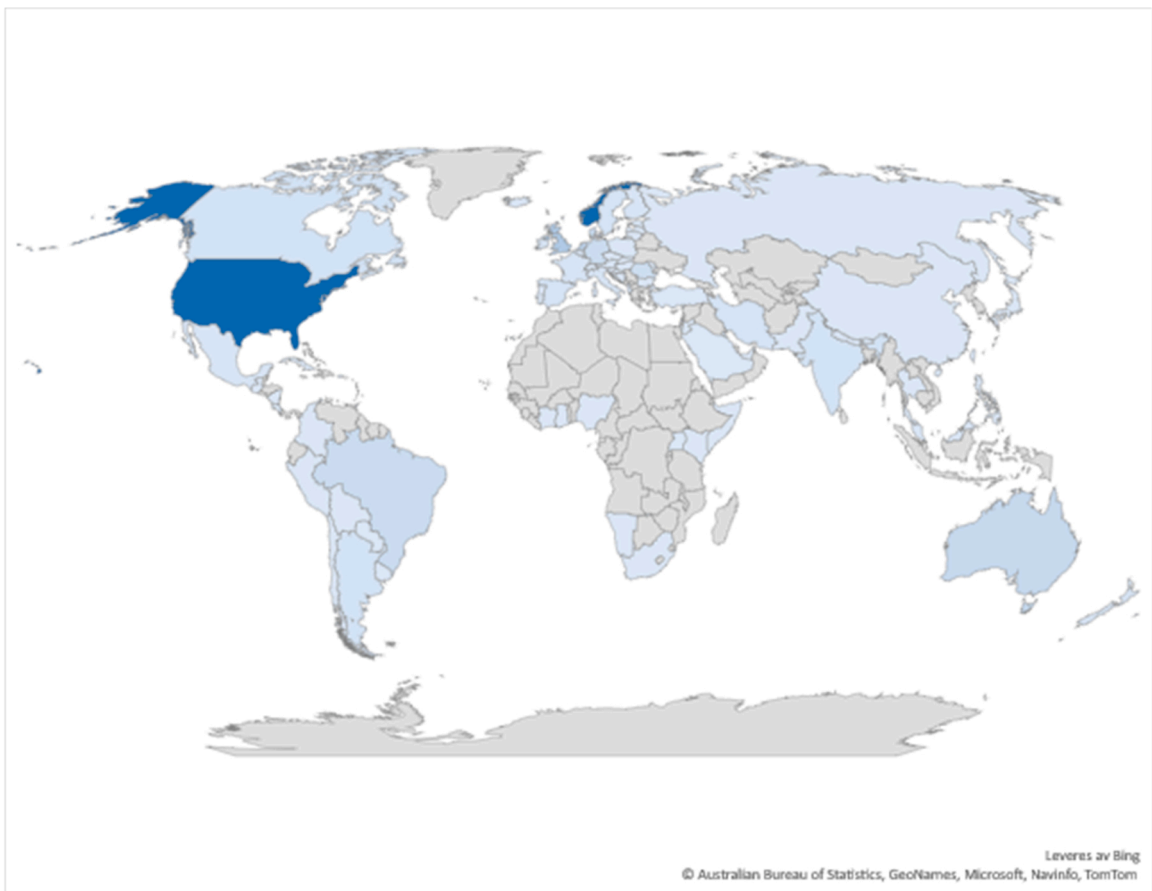


Fig. 1. Geographical Map of responders from light filling (low responding countries) to dark filling (high responding countries).

the knowledge about autism in the general population (Nordahl-Hansen, Øien, & Fletcher-Watson, 2018b; Stern & Barnes, 2019).

Based on the results from this study, we suggest including autistic people in the creative process for future TV-series and movies, as well as striving for greater diversity in autistic portrayals. An important limitation of the current study is the subgroup of autistic adults sampled, who had the communicative and cognitive abilities necessary to find and complete an online survey. Thus, we only have partial representation of the autistic community in our study (McCoy et al., 2020). This limitation is particularly notable in the context of the finding that our autistic sample rated “including more autistic people with intellectual disability” as less likely to improve autistic portrayals on TV and film, compared with our sample of professionals and students. Importantly, this does not mean that our autistic sample did not value these portrayals – and indeed the mean score from the autistic group was 4.9 out of a maximum of 7, indicating support for this measure. Rather, given the fact that a high proportion of portrayals of autism include intellectual disability (Nordahl-Hansen et al., 2018a), we conjecture that our sample were, rightly, unconvinced that under-representation of autistic people with intellectual disability was a significant problem. Nonetheless, the opinions of this subgroup of autistic adults cannot be presumed to represent those of the community as a whole, and this prevents wide generalizations from our findings.

Another limitation of the current study was the reliance on closed-ended questions, where the improvement factors listed were limited to the ones chosen by the research team consisting of autistic and autism researchers. This list was not exhaustive and some improvement factors were probably missed. Furthermore, we could have collected more data on demographic variables such as years of working experience, experience working with individuals with intellectual disability etc. for professionals and students, to get a clearer understanding of where their opinions come from. Future research could focus on collecting qualitative data (see e.g. Jones, 2022 and Jones et al., 2022 for examples) and also examining cases where autistic people have been involved in film and TV productions, to see what can be learned from those experiences. Fig 1.

What this paper adds?

This study is the first to examine peoples’ attitudes on how to improve autistic portrayals in TV series and movies. To give voice to the autistic community, a large sample of autistic adults from across the globe have been sampled, and their opinions are emphasized in the paper and their values are used as a reference for the opinions of other groups. Since autistic people are the ones who may be most affected by how autism is portrayed by the media, an important task is to systematically gather their opinions on how these portrayals can be improved and disseminate these findings to the broader scientific community and the general population, including film and movie makers.

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None of the authors have relevant conflict of interest.

Data Availability

Data will be made available on request.

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