Mental health on screen: a DSM-5 dissection of portrayals of Autism Spectrum Disorders in film and TV

1. Introduction

The mass media is considered the general public's most significant source of information about mental illness and psychiatric disorders (Cloverdale et al., 2001). Fictional portrayals of persons with psychiatric disorders on film have contributed to mystification of various disorders leading to misconceptions in the society at large (Butler and Hyler, 2005). As early as 1936 an annotation in *The Lancet* stated, "*In the talking cinema, we suggest, psychiatry has an instrument not only for entertaining the mentally afflicted, but also for educating the uninitiated.*" (Annotations, 1936). The accuracy of the portrayals is central to this distinction between beneficial and detrimental representations in the media.

Autism spectrum disorders (ASD) is recognized as one of the more common neurodevelopmental disorders (Baird et al., 2006). However, most people will not have substantial or direct contact with people on the autism spectrum and, as a result, must draw their understanding from other sources. Even when personal experience is available, people may rely on media representations to understand how experience relates to the broader range of presentations contributing to the stereotyped attitudes that are prevalent (Draaisma, 2009). Specifically, it has been proposed that savant skills, while being more prevalent in autism than in the general population (Howlin et al., 2009), are over-represented among fictional autistic characters on screen (Belcher and Maich, 2014).

We continue to lack systematic data on the accuracy of representations of autism on screen, evaluated by experts in the field using up to date diagnostic criteria. Here we use DSM-5 (APA, 2013) criteria in addressing to what degree such characters display features and behaviours that are typical for people with an ASD diagnosis. We explore this with a view to determining how portrayals of ASD on screen might influence public opinion and / or be used in education.

2. Methods

This study reports on a total of 26 films (*n=22*) and TV-series (*n=4*). The sample consists of fictional portrayals where the character's ASD diagnosis was clearly stated,

but also includes portrayals where characters have not necessarily been described as such by the original filmmaker, but where an ASD diagnosis has been linked to a character in popular media and in academic discourse.

2.1. Procedures

A researcher and a health care professional each with a minimum of 16 years of experience in working with people with ASD rated characters from the sample. Coding of the portrayals was done separately in order to assess inter-rater reliability between the two raters. A coding-scheme influenced by Miller and Ozonoff (1997) was developed[1] to extract the core symptoms criteria for an ASD-diagnosis in DSM-5 (APA, 2013). Additionally, the coding scheme included an item as to whether any "savant-like skills" were present or not.

2.2. Statistical analyses

Inter-rater reliability between the two coders was assessed using intraclass correlation coefficent for the 12 items (ICC= .981). Raters showed 100% agreement regarding whether autistic characters displayed savant skills or not and is reported as frequency.

3. Results

Characters typically demonstrated a very high match to diagnostic characteristics found in the DSM-5 descriptions, with seven characters scoring at the maximum possible on the total symptom scale (Figure). The prevalence of savant-like skills was reported in 12 of the 26 characters (46%), which is somewhat higher than estimates from the real-world population of people with ASD (Howlin et al., 2009).

[insert figure about here]

4. Discussion

The large majority of the characters evaluated obtained a very high score against DSM-5 criteria for ASD. Even the lowest scoring character scored at 50% of the possible total

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[1] The coding-scheme is available from the first author upon request

in both domains. This raises the question of whether meeting all diagnostic criteria (7 portrayals scored at the maximum possible) can be described as 'accurate'. Instead, the characters portrayed on screen might be better described as 'archetypal' in relation to diagnostic criteria. This could in itself lead to difficulty if people form a stereotypical view of persons with ASD.

Previous authors have suggested that savant skills are apparent in virtually all fictional characters with ASD (Belcher and Maich, 2014). In contrast, we do not find a clear trend that savant skills are over-represented on screen, relative to what is thought to be the case in the clinical population. While our data fall above upper limits of prevalence estimates (Howlin et al., 2009), they can be characterised as being within the bounds of confidence. One reason for inclusion of savant skills in TV and film may be that these skills give the character value within the dramatic narrative (Draaisma, 2009). Of more concern may be the choice of skill, which is depicted in this category, as in the example of the character of Zen in *Chocolate* who is shown having exceptional martial arts skills from a very young age. Our findings that portrayals of ASD on screen closely meet diagnostic criteria for the condition suggests that screen representations do have potential educational value. However some concerns undermine this conclusion. One is that some individual representations may be highly misleading. The film *Molly* depicts experimental brain surgery that cures her autism, at least for a while. Regardless of accuracy in terms of clinical criteria, such portrayals cannot increase understanding nor contribute to positive societal attitudes.

Some characters in long-standing TV series seem to be immune to many of the difficult consequences of autism. The tone of a sitcom like *The Big Bang Theory* would be disrupted by inclusion of realistic information about how autistic people regularly struggle with mental health conditions. This means films will have more educational potential when curated (e.g. as part of a University course) rather than for the general public.

Another factor is whether screen representations can be considered authentic in relation to an autistic experience. In an ideal world screen representations would not only be diagnostically accurate but also do justice to the obstacles faced by people on the spectrum, while illustrating how people with ASD can achieve great things in a supportive environment. There are examples of both of these representations in our sample, but it is impossible to represent in an individual character the heterogeneity of

the autism spectrum (Conn and Bhugra, 2012). This may contribute to the frequent objections raised towards characters with ASD on screen. Therefore a goal for the community might be to encourage larger numbers of incidental characters with ASD on screen, in order to present a more nuanced picture of the multiple facets of the condition.

4.1. Concluding remarks

This study reports on a modest but representative international sample of films and TV-series from four different continents. It is the first study to investigate empirically and quantitatively how ASD character-portrayals in films and TV-series relate to DSM-5 diagnostic criteria. The inclusion of portrayals of characters from highly popular TV-series in addition to films is also important as these characters are more long-standing in people's perceptions and may be seen as influencing public awareness on a day-to-day basis.

The representations evaluated in this study do align well with DSM-5 diagnostic criteria. In fact, in some cases this could be described as unrealistically perfect alignment. However, a single film or TV series cannot capture the richness and variety of experience that resides within the autism spectrum. Thus we conclude that for portrayals of ASD on screen to have true value in developing public understanding of the condition, a larger and more varied number of autistic characters need to be included in the cultural canon.

Declaration of interests:

None of the authors declare any conflict of interests.

Ethical approval:

No ethical approval was sought as data only included fictional characters.

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