



# A Review Update on Gender Dysphoria and ASD and Response to Corrections

Anders Nordahl-Hansen<sup>1</sup> · Domenic V. Cicchetti<sup>2</sup> · Roald A. Øien<sup>3,4</sup>

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## Abstract

Here we address the earlier published review by Øien et al. (J Autism Dev Disord, <https://doi.org/10.1007/s10803-018-3686-7>, 2018) and the subsequent comments by Zucker and VanderLaan (J Autism Dev Disord, <https://doi.org/10.1007/s10803-018-3748-x>, 2018). The current commentary is a response to the corrections put forth by the latter authors where aspects related to diagnostic criteria of Gender Dysphoria and corrections to the existence of a control group were noted. Additionally, to highlight that research on Gender Dysphoria and ASD is becoming a very fast and growing field we also present an update of the original review which show a 13% increase of empirical studies published only in the past few months.

**Keywords** Autism · Gender dysphoria · Gender identity · Sexuality

Our systematic map review on Gender Dysphoria, sexuality and Autism spectrum disorder (Øien et al. 2018) was published online in Journal of Autism and Developmental Disorder earlier this year. The publication is part of a special issue on Gender and ASD in this journal. Our main aim of this map review was to provide an overview of published empirical studies in the field. Hence, both qualitative and quantitative papers were of interest. A broad search was conducted in regard to search terms, time period, and through

the use of multiple databases. A total of 148 publications were included for title and abstract screening, which in turn led to 47 studies meeting inclusion criteria of presenting empirical data in one way or another that were related to the combined topics of ASD, Gender Dysphoria and sexuality. Map reviews or similar types, like scoping reviews have their weaknesses in that they typically do not go deep into the assessment of quality for each study included (Grant and Booth 2009). However, for giving an overview of what exists within a certain field such types of reviews may be very helpful. Further, and sometimes overlooked, is that the whole genre of review-type methods also gives information about what has not been done and can hence point to gaps in the research field.

In their letter to the editor Zucker and VanderLaan make note of the above when stating that future research initiatives may make use of our publication in that it provides an overview of published empirical research in the field (Zucker and VanderLaan 2018). They also note that there are two elements that require clarification/correction. The first element is related to *distress* in the diagnostic criteria, and since the map review did not have time-restrictions, various studies reported the use of different diagnostic manuals as well as different versions. Zucker and Vanderlaan here note that in the fourth and the fifth version of DSM (Ref to DSM-IV and DSM-5) the diagnoses of Gender Identity Disorder (DSM-IV) and Gender Dysphoria (DSM-5) both “distress and/or impairment are required to meet criteria for a diagnosis”. We

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✉ Anders Nordahl-Hansen  
anders.nordahl-hansen@hiof.no  
  
Domenic V. Cicchetti  
dom.cicchetti@yale.edu  
  
Roald A. Øien  
roald.a.oien@uit.no

<sup>1</sup> Faculty of Education, Østfold University College, B R A Veien 4, P.O. 700, Halden, Norway

<sup>2</sup> Department of Biometry, Yale University School of Medicine, Box 317, North Branford, CT 06471, USA

<sup>3</sup> Department of Education, UiT – The Arctic University of Norway, 9037 Tromsø, Norway

<sup>4</sup> Child Study Center, Yale University School of Medicine, New Haven, CT 06520, USA

**Table 1** Published studies (n = 6)

Authors and year published	Study type	Focus	No of cases and gender at birth	Control group	Age cohort	Country of study origin
Cooper et al. (2018)	Group comparison factorial design	Sex differences in gender identity	486 ASD (118 male, 101 female)	267 (114 male, 153 female)	Adolescents and adults	UK
Kuvalanka et al. (2018)	Interview with mothers	Experience with raising a transgender and nonconforming child	3 mothers with transgender and nonconforming children	No	Childhood	USA
Nobili et al. (2018)	Case-control study	Autistic traits in transgender population	656 Transgender (396 male, 260 female)	656 matched controls	Mainly adults (above 17)	UK
Strang et al. (2018)	Interview	Experiences and perspectives of autistic transgender and gender diverse persons	22 Autistic gender-diverse adolescents (6 transgender male, 14 transgender female, 2 gender non-binary)	No	Adolescents	USA
Van der Miesen et al. (2018)	Case-control	Adolescents and adults wish to be of opposite gender	Adolescent ASD group: 573 (469 male, 104 female) Adult ASD group: 807 (616 male, 191 female)	Adolescent control: 1016 (495 male, 521 female) Adult control: 846 (381 male, 465 female)	Adolescents and adults	Netherlands
Walsh et al. (2018)	Questionnaires	Gender identity in autistic persons	669 ASD (322 male, 347 female)	No	Adolescents and adults	Netherlands

thank Zucker and VanderLaan for their clarification on the criteria in the DSM-IV. As we move away from the concept of a disorder, it might also be of interest for future studies to investigate if distress is the appropriate term to use. It might be that there are a range of feelings about one's sex that might describe this continuum and provide a broader understanding of how individuals experience this condition.

The second element noted by Zucker and VanderLaan in their corrections letter was about the number of cases in the study by VanderLaan et al. (2015). In the original publication we made available the complete excel-sheet of information from the various studies. We add the excel-sheet with the corrections for the VanderLaan 2015 study here.

In the original review we found a total of 47 empirical studies focusing on ASD, Gender Dysphoria as well as sexuality. Although this is a modest amount of studies, we reported trending data showing the relative increase in number of studies published over time. In particular the rise in empirical studies has been substantial the past 3 years. Out of the total 47 studies published starting with Abelson's paper in 1981 (Abelson 1981), 22 were published in 2015 up until early April 2018. To underscore the rise and interest in the field of Gender Dysphoria and ASD we here provide an updated search conducted September 25th 2018. The same methods in terms of Boolean operators, inclusion and exclusion criteria as in the original review (Øien et al. 2018) were used, and the same databases were consulted (EMBASE, MEDLINE, PubMed, PsycINFO, and ERIC). The results of the updated search are listed in the Table 1 below.

The search resulted in six new studies (Cooper et al. 2018; Kovalanka et al. 2018; Nobili et al. 2018; Strang et al. 2018; van der Miesen et al. 2018; Walsh et al. 2018). This means that the full total of empirical studies increased by 13% only in the past 6 months and increases the total amount of empirical studies published on the topic from 47 to 53. In addition, this means that the total body of available empirical studies on Gender Dysphoria and ASD have more than doubled during the past 3 years (52% since 2015). The particular increase during 2018 may have something to do with the special issue on the topic in this journal but researchers and advocates within this field are getting more attention now than before as exemplified with specified panel discussions at the conferences like INSAR. A special note should be made about the study by Strang et al. (2018) that provides first hand perspectives from Autistic transgender and Gender-Diverse adolescents.

The increase in studies as well as the scientific rigour combined with more attention in social media due to salient Actually Autistic advocated with GD give promise to a continued growth in knowledge and awareness of these conditions.

**Author Contributions** ANH and RAØ conceptualized and designed the study. ANH and RAØ drafted the initial manuscript. ANH carried out the search and ANH and RAØ did the analysis. RAØ, DVC, and ANH reviewed and revised the manuscript, and approved the final manuscript.

## Compliance with Ethical Standards

**Conflict of interest** None of the authors declare any conflict of interests.

**Research Involving Human and Animal Participants** This article does not contain any studies with human participants or animals performed by any of the authors.

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