SciMedCentral

Annals of Psychiatry and Mental Health

Review Article

Social Pragmatic Communication Disorder and Autism Spectrum Disorder: Two of a Kind? A Narrative Review

Visser S[1] and Tops W[1,2]*

[1]Department of Neurolinguistics, University of Groningen, The Netherlands
[2]Center for Language and Cognition, University of Groningen, The Netherlands

*Corresponding author
Wim Tops, Center for Language and Cognition Groningen, University of Groningen, PO Box 716, 9700 AS Groningen, The Netherlands, Tel: 31 50-3636038; Email: w.tops@rug.nl

Submitted: 01 October 2017

Accepted: 27 November 2017

Published: 29 November 2017

ISSN: 2374-0124

OPEN ACCESS

Keywords
- Autism spectrum disorder
- Social pragmatic communication disorder
- Pragmatic
- Social communication
- Diagnosis

Abstract

Recently, Diagnostic and Statistical Manual of Mental Disorders (DSM-5) introduced social pragmatic communication disorder (SPCD) as a new neurodevelopmental communication disorder. There is a longstanding debate on the validity of this new communication disorder. SPCD has been criticized due to a lack of empirical evidence showing that SPCD is distinct from autism spectrum disorder (ASD). Indeed, SPCD shows clear overlap with symptoms of ASD in the domain of social communication.

We present a selective overview of the evidence so far that has attempted to differentiate between SPCD and ASD. The aim of this study is to investigate if there is evidence in th e literature to distinguish symptoms of SPCD to that of ASD. The outcomes of this study can contribute to the development of a more valid instrument for the diagnostic assessment of SPCD.

We were able to isolate differentiating features for both SPCD and ASD in the social interaction and communication domain, as well as in the domain of repetitive and stereotype behaviours. Nevertheless, it was shown that these deficits fall along a continuum, rather than being discrete categories, with the ASD group demonstrating greater levels of impairment than the SPCD group in all domains.

INTRODUCTION

The Diagnostic and Statistical Manual of Mental Health Disorders (DSM) is one of the most used diagnostic frameworks by clinicians and researchers all over the world. It aims to reliably diagnose psychologic/psychiatric disorders presenting classification criteria and more information about for instance, prevalence, differential diagnosis, cultural differences etcetera.

The latest version of the DSM, the DSM-5 [1] introduced Social Pragmatic Communication Disorder (SPCD) as a new subcategory of neurodevelopmental communication disorders. Although still under research, preliminary findings estimated the prevalence of SPCD to be around 0.5% (Kim et al., 2014). The introduction of this new diagnosis in DSM-5 is associated with changes in the classification of autism diagnosis. In contrast to the previous version, DSM-5 replaces pervasive developmental disorders by a new overarching category that of autism spectrum disorder (ASD) (Swineword et al., 2014). ASD now represents a continuum from mild to severe autism characteristics, rather than a set of distinct subtypes of a broad disorder.

With this change, the diagnostic criteria for ASD also changed. The previous diagnostic criteria were based on impairments in a triad of symptoms: (1) social impairment, (2) communicative impairment and (3) impairment in creativity, flexibility of thinking, and generalization [2]. In DSM-5 communication and social interaction were brought together in one category, defined as social communication deficits. The second pillar of the ASD dyade comprised restricted and/or repetitive interests and behaviours (RRIBs). The prevalence of ASD is estimated around 1% of the child population [3].

As a consequence, there is overlap in the diagnostic criteria of SPCD and ASD, more precisely problems with social communication. It seems that the presence of restricted and/or repetitive interests and behaviours is crucial in the differential diagnosis between both disorders, in that they must be absent in the diagnosis of SPCD and present in the diagnosis for ASD. This has implications for clinical assessment protocols where ASD needs to be ruled out before a diagnosis of SPCD can be confirmed. However, although recently installed as a diagnostic category in DSM-5, there has been critique on the validity of the diagnostic value of SPCD [4-7]. First, empirical evidence showing that the disorder is indeed distinct from ASD is lacking. Second,

there seems no reliable nor valid instruments for the diagnostic assessment for SPCD.

[8,9] are concerned that SPCD diagnoses are often missed in children. As a consequence, these children do not receive the help they need. This points to the urgent need to establish the symptom profile of SPCD and differentiate this with the symptom profile of ASD and arguably with that of other developmental disorders.

In this review, we give an overview of studies focusing on the differentiating features of SPCD and ASD. By investigating the validity of SPCD as a distinct communication disorder and by isolating differentiating features for SPCD and ASD, we expect to contribute to a clearer distinction between both disorders, which can facilitate the development of a valid diagnostic assessment of SPCD.

METHODS

The present study is a narrative review. A first challenge in differentiating between SPCD and ASD is the lack of golden standard diagnostic tools for SPCD. Therefore, we discuss briefly the inclusion criteria for SPCD in the different studies. Next, different terms for pragmatic language disorders are used, for instance Pragmatic Language Impairment (PLI). In this study, we consequently refer to this clinical group with the term SPCD to avoid confusion, even if the studies we used were published before the introduction of DSM-5. Moreover, different assessment tools are being used to measure social communication/interaction and restricted and/or repetitive interests and behaviours. If the validity of an assessment tool is questioned, the reader should bear in mind that this was not the scope of the present paper and that selection was based on earlier research.

SOCIAL COMMUNICATION AND INTERACTION

Social communication and interaction problems are noted as one of the two core features in ASD, but they are also present in children with language impairments for instance. Nonetheless, these pragmatic problems are often missed in conventional language assessments. Reliable assessment of social communication or pragmatic language abilities is notoriously difficult because it is both contextually and culturally dependent and because few assessment tools are available [5,8,10]. Several authors have attempted to differentiate SPCD from ASD using different methods measuring pragmatic language abilities, such as parent's and teacher's report questionnaires and (semi-) structured observation scales. These studies yielded different outcomes [11] administered the Children's Communication Checklist [12] and concluded that the CCC could not differentiate the profiles of SPCD and ASD sufficiently. However, using the second version of CCC, the CCC-2 [13] the profiles of SPCD and ASD could be differentiated, suggesting that the latter was a better instrument to identify differences related to the different diagnostic groups [9] compared the difference in mean profile scores on the CCC-2 between children with SPCD and ASD. These results revealed that children with SPCD had more difficulty with the structural aspects of language, but had fewer problems with initiation, stereotyped language, non-verbal communication and restrictions of interest than the children with ASD [14] found similar results showing that children with ASD scored significantly lower on the overall language scales of the CCC-2 [13], with the exception of the Social Interaction Deviance Composite (SIDC) scale.

In the same study, [9] administered the Clinical Evaluation of Language Fundamentals, fourth edition [15] in both the children with SPCD and ASD. The children with SPCD's receptive language index score (RLI) was significantly higher than their expressive language index score (ELI). Moreover, their ELI was significantly higher than that of the children with ASD, indicating that expressive language is continuously impaired. The children with SPCD obtained higher score that the children with ASD. [9] concluded that better expressive language skills seemed to be associated with the SPCD group, whereas more impaired communication skills seemed more associated with the ASD group.

More recently, [16] investigated the validity of SPCD and its relation with ASD. Administering the first version of the CCC [12], the authors seemed unaware of the earlier findings of [11] that the CCC-2 [13] is more suitable for differentiating the profiles of SPCD and ASD than the CCC [12]. Next to the CCC [12], [16] administered the Developmental, Dimensional and Diagnostic Interview 3Di; [17] and Strengths and Difficulties Questionnaire [18]. [16] Concluded that SPCD is not qualitatively distinct from ASD. It seemed that children with SPCD fell just below the threshold for ASD.

Another interesting study in this regard, is that of [19]. Using CCC-2 [13] the authors investigated the influence of scale structure and gender on parental reports of children with SPCD. [19] not only concluded that girls obtained higher scores than boys on the CCC-2 [13] but they also failed to find failed to find a unique factor structure for social (pragmatic) communication. The authors argued that SPCD can be poorly differentiated from other language and socio-emotional behavioural difficulties.

Besides the communication problems, it was shown that both individuals with SPCD and ASD had problems with social interaction [7,9,14,20]. Using the Autism Diagnostic Observation Scale [21] and the Social Communication Questionnaire (SCQ), [14] investigated social functioning in children with SPCD and ASD. More problems in the sub domains communication and reciprocal social interaction were reported in the group of children with ASD than in the SPCD group. As a measure for social interaction [9] used the Manschester Inventory for Playground Observation [22]. The ASD group showed more problems with successful interaction, poorer quality of observed interactions and friendships and a higher presence of unusual behaviours in comparison to the SPCD group. [9] argued that the nature and the extent of difficulties in social interaction with peers is a key factor in differentiating children with SPCD from children with ASD. Children with SPCD showed mild difficulties in basic social interaction skills, whereas the difficulties in social interaction of children with ASD had a greater impact on peer relationships. This claim was already made earlier by [23] and [7]. In their longitudinal studies, these authors concluded that both children with ASD and SPCD continued to have difficulties in the social and language domains. However, severity of these problems seemed a differentiating factor. The children with ASD did not seem to

develop as many close friendships into adulthood as the children with SPCD.

RESTRICTED, REPETITIVE INTERESTS AND BEHAVIOURS

Several studies have addressed the question if children with SPCD - as is the case for children with ASD - show restricted, repetitive interests and behaviours (RRIBs) and if so, how these RRIBs of children with SPCD can be differentiated from those of children with ASD.

In the literature, however, most comparisons of RRIBs were between children with SPCD and typically developing children and between children with ASD and typically developing children. Only very few comparisons are done between children with SPCD and children with ASD and these findings are inconclusive. Some studies used standardized diagnostic measures for ASD, such as the ADOS [21] and the SCQ [24] to quantify RRIB. [11,14,25,26] could not distinguish SPCD from ASD on the basis of RRIBs. In all these studies children with ASD showed more RRIBs than children with SPCD but these differences did not reach significance.

[27] argued that different instruments should be used to search for RRIBs because there is a lot of circularity in research. When for instance ADOS [21] is used to quantify RRIBs, but children were prior diagnosed with ASD based on ADOS [21], results could be heavily biased by the choice of the instrument. RRIBs will be found because the children were diagnosed with the same instrument. So, when using ADOS [21] and SCQ [26] to define diagnostic groups in a study, one should use different measures to investigate differences in RRIBs. [27] therefore developed the Repetitive Behaviour Questionnaire (RBQ).

[9,20] measured RRIBs with the RBQ-2 [27]. The RBQ includes a wider set of items dealing with resistance to change, stereotyped movements, sensory interests and preoccupations with patterns of restricted interests. Based on the RBQ [27], both studies could distinguish children with SPCD from children with ASD, showing that the ASD group did more repetitive behaviours than the SPCD group.

Standardized diagnostic measures for ASD are designed to capture behaviours related to the profiles of ASD but are often not detailed enough to capture all relevant behaviours associated with RRIBs that could distinguish the profiles of SPCD from ASD. [25] failed to find a difference between SPCD and ASD based on RRIBs measured by ADOS [21] but the authors were able to distinguish both groups based on the number of different types of abnormal behaviours and interests using the SCQ [26]. SCQ was shown to have a more detailed rating scale for RRIBs.

All together it was demonstrated that ASD can be differentiated from SPCD when a more detailed measure of RRIBs is administered focused on current functioning in everyday contexts. Both RBQ [28] and SCQ [26] seemed suitable for his purpose.

CONCLUSION

There is an ongoing debate regarding the validity of SPCD as a diagnostic entity. The term has been criticized due to clear overlap with ASD with regard to social communication. For now, gold standard diagnostic tools for SPCD are still lacking. The goal of the present paper was therefore double: (1) to find potentially differentiating features in order to distinguish between SPCD and ASD, and (2) to guide future research in valid assessments for SPCD.

Research findings indicated that overlap between ASD and SPCD is most apparent in the social communication domain and related impairments. The language profiles of SPCD and ASD indicated that both groups have pronounced problems with pragmatic aspects of language. However, ASD and SPCD could be distinguished in terms of severity when the expressive language of both groups was taken into account. Children with SPCD had better expressive language skills than children with ASD. Differences in expressive language abilities seemed a first important differentiating feature for SPCD and ASD [29-32].

Second, differences in the nature and the extent of social peer relationships also seemed meaningful in differentiating SPCD from ASD. Although both groups demonstrated impairments in social interaction, children with SPCD and children with ASD could again be distinguished in terms of severity. Children with SPCD showed milder difficulties in basic social interaction skills than children with ASD.

Finally, there was also an important discriminating factor between SPCD and ASD outside the domain of social communication. It was found that differences in RRIBs also function as a differentiating feature. Although RRIBs were found in both children with SPCD and children with ASD, the ASD group showed more RRIBs than the SPCD group.

With this review, we isolated three differentiating features for SPCD and ASD. In contrast to what is generally accepted and also stated in the diagnostic criteria of DSM-5, impairments of children with SPCD are not limited to social communication. Also examples of RRIBs were found in this group. This makes differential diagnosis between SPCD and ASD even more challenging.

Moreover, it was shown that for all features, children with ASD were more impaired than children with SPCD. Expressive language, social peer relations and RRIBs are skills with great variation in the general population, as there is variation in intelligence and reading. Both children with SPCD and children with ASD fall in the left tale of the bell curve (the normal distribution) but children with ASD seem more impaired than children with SPCD on features.

Furthermore, some current diagnostic tools failed to reveal the fine-grained differences between SPCD and ASD, as was the case for ADOS [21]. Although some instruments like SCQ and RBQ seemed more suitable for differentiating between SPCD and ASD, there is a dire need for more valid tools to carefully assess social communication and RRIBs. Current standardized assessment of social communication and pragmatic language often fail to identify different profiles that align with the current diagnostic labels of DSM-5 such as SPCD and ASD. Standardized assessment should therefore be fine-grained in order to capture small differences in the targeted behaviours that are associated

with the different diagnostic categories. With this study, it was shown that standard diagnostic tools for ASD are in sufficient to differentiate between SPCD and ASD.

This brings us to the important question if SPCD is really a distinct diagnostic category. There seems large overlap with the dyadic symptoms of ASD and not only in social communication. Based on our findings, we could carefully argue that SPCD can be considered as a milder manifestation of ASD. SPCD and ASD fall along a continuum, rather than being discrete categories, with the ASD group demonstrating greater levels of impairment in all domains than the SPCD group. Nonetheless, more research is needed to disentangle the overlap between SPCD and ASD.

As is the case with all studies, this study also has limitations. The aim of the study was not to give an exhaustive overview of the literature but to look into differential features between ASD and SPCD. So, we had to make choices which can be criticized. Maybe we overlooked a valuable study. This review contributes however to the ongoing debate on the validity of SPCD and its relation with ASD.

REFERENCES

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: Author; 2013.
2. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author; 1994.
3. Baird G, Simonoff E, Pickles A, Chandler S, Loucas T, Meldrum D, et al. Prevalence of disorders of the autism spectrum in a population cohort of children in South Thames: the Special Needs and Autism Project (SNAP). Lancet 2006; 368: 210-215.
4. Botting N, Conti-Ramsden G. Autism, primary pragmatic difficulties and specific language impairment: can we distinguish them using psycholinguistic markers. Dev Med Child Neurol. 2003; 45: 515- 524.
5. Baird G, Norbury CF. Social (pragmatic) communication disorders and autism spectrum disorder. Arch Dis Child. 2017; 101: 745-751.
6. Brukner-Wertman Y, Laor N, Golan O. Social (Pragmatic) Communication Disorder and Its Relation to the Autism Spectrum: Dilemmas Arising From the DSM-5 Classification. J Autism Dev Disord. 2016; 46: 2821-2829.
7. Whitehouse AJ, Watt HJ, Line EA, Bishop DV. Adult psychosocial outcomes of children with specific language impairment, pragmatic language impairment ant autism. Int J Lang Commun Disord. 2009; 44: 511-528.
8. Norbury CF. Practitioner review: Social (pragmatic) communication disorder conceptualization, evidence and clinical implications. J Child Psychol Psychiatry. 2014; 55: 204-216.
9. Gibson J, Adams C, Lockton E, Green J. Social communication disorder outside autism? A diagnostic classification approach to delineating pragmatic language impairment, high functioning autism and specific language impairment. J Child Psychol Psychiatry. 2013; 54: 1186-1197.
10. Adams C. Assessment and intervention for children with pragmatic language impairment. In: Hwa-Froelich DA, editor. Social communication development and disorders. New York: Psychology Press; 2015: 141-170.
11. Bishop DV, Norburry CF. Exploring the borderlands of autistic disorder and specific language impairment: a study using standardized diagnostic instruments. J Child Psychol Psychiatry. 2002; 43: 917-929.
12. Bishop DV. Development of the Children's Communication Checklist (CCC): A method for assessing qualitative aspects of communicative impairment in children. J Child Psychol Psychiatry. 1998; 39: 879-891.
13. Bishop DV. Children's Communication Checklist second version (CCC-2). Oxford, United Kingdom: Pearson Assessment; 2003.
14. Reisinger LM, Cornish KM, Fombonne E. Diagnostic differentiation of Autism Spectrum Disorders and Pragmatic Language Impairment. J Autism Dev Disord. 2011; 41: 1694-1704.
15. Semel E, Wiig EH, Secord WA. Clinical Evaluation of Language Fundamentals, fourth edition (CELF-4). Oxford, United Kingdom: Pearson Assessment; 2003.
16. Mandy W, Wang A, Lee I, Skuse D. Evaluating social (pragmatic) communication disorder. J Child Psychol Psychiatry. 2017; 58: 1166-1175.
17. Skuse D, Warrington R, Bishop D, Chowdhury U, Lau J, Mandy W, et al. The developmental, dimensional and diagnostic interview (3di): A novel computerized assessment for autism spectrum disorders. J Am Acad Child Adolesc Psychiatry. 2004; 43: 548-558.
18. Goodman R. The strengths and difficulties questionnaire: A research note. J Child Psychol Psychiatry. 1997; 38: 581-586.
19. Ash CA, Redmond SM, Timler GM, Kean J. The influence of scale structure and sex on parental reports of children cosocial (pragmatic) communication symptoms, Clinical Linguistics & Phonetics. 2017; 31: 293-312.
20. Barrett S, Prior M, Manjiviona J. Children on the borderlands of autism. Differential characteristics in social, imaginative, communicative and repetitive behaviour domains. Autism. 2004; 8: 61-87.
21. Gotham K, Risi S, Pickles A, Lord C. The Autism Diagnostic Observation Schedule: Revised Algorithms for Improved Diagnostic Validity. J Autism Dev Disord. 2007; 37: 613-627.
22. Gibson J, Hussain J, Holsgrove S, Adams C, Green J. Quantifying peer interactions for research and clinical use: the Manchester Inventory for Playground Observation. Res Dev Disabil. 2011; 32: 2458-2466.
23. Mok PL, Pickles A, Durkin K, Conti-Ramsden G. Longitudinal trajectories of peer relations in children with specific language impairment. J Child Psychol Psychiatry. 2014; 55: 516-527.
24. Rutter M, Bailey A, Lord C. Social Communication Questionnaire. United States of America: Western Psychological Services; 2003.
25. Noterdaeme M, Sitter S, Mildenberger K, Amorosa H. Diagnostic assessment of communicative and interactive behaviours in children with autism and receptive language disorder. Eur Child Adolesc Psychiatry. 2000; 9: 295-300.
26. Foley-Nicpon M, Fosenburg SL, Wurster, KG, Assouline SG. Identifying High Ability Children with DSM-5 Autism Spectrum or Social Communication Disorder: Performance on Autism Diagnostic Instruments. J Autism Dev Disord. 2016; 47: 469-471.
27. Leekam S, Tandos J, Mc Conachie H, Meins E, Parkinson K, Wright C, et al. Repetitive behaviours in typically developing 2-year-olds. J Child Psychol Psychiatry. 2007; 48: 1131- 1138.
28. Bishop DVM. Pragmatic language impairment: a correlate of SLI, a distinct subgroup or part of the autistic continuum? Speech and language impairments in children: Causes, characteristics, intervention and outcome. Hove, UK: Psychology Press; 2000: 99-113.
29. Ketelaars MP, Jansonius K, Cuperus J, Verhoeven L. Pragmatic language impairment and associated behavioural problems. Int J Lang Commun Disord. 2010; 45: 204-214.
30. Miller M, Young GS, Hutman T, Johnson S, Schwichtenberg AJ, Ozonoff

S. Early pragmatic language difficulties in siblings of children with autism:implications for DSM-5 social communication disorder. J Child Psychol Psychiatry. 2015; 56: 774-781.

31. O'Neill DK. The Language Use Inventory for Young Children: A Parent-Report Measure of Pragmatic Language Development for 18- to 47-Month- Old Children. J Speech Lang Hear Res. 2007; 50: 214-228.

32. Taylor LJ, Whitehouse JO. Autism Spectrum Disorder, Language Disorder, and Social (Pragmatic) Communication Disorder: Overlaps, Distinguishing Features, and Clinical Implications. Australian Psychologist 2016; 51: 287-295.

Cite this article

Visser S, Tops W (2017) Social Pragmatic Communication Disorder and Autism Spectrum Disorder: Two of a Kind? A Narrative Review. Ann Psychiatry Ment Health 5(6): 1121.