

Social competence as the centrality of intervention for autism spectrum disorder (ASD): why and how?

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Abstract

Social impairments have long been associated with autism spectrum disorder (ASD). Drawing on evidence from current theoretical and research advances, it is posited that the deficits play a centrality role in defining ASD. Thus, social intervention should be a core and basic focus in treating the disorder. Ways to move forward along this direction are discussed and suggested with the hope that the treatment effectiveness of ASD may further improve.

Keywords: Social competence, Autism Spectrum Disorder (ASD), Social impairments

Introduction

Since the publication of the paper “autistic disturbances of affective contact” by Leo Kanner in 1943, over the past seventy years, it is undeniable that there have been an increasing awareness and recognition of autism spectrum disorder (ASD). However, it is fair to say, our understanding of ASD is far from our expectation. Though we know its etiology is genetically related as revealed by twin studies, however, specific genes involved in the process have been elusive (Dawson & Faja, 2008). We also understand some of the neurobiological functioning of ASD are atypical such as under activation of the medial prefrontal cortex (Dawson et al., 1998) and yet there is very limited

knowledge how the abnormalities come together to contribute to the disorder. More disappointedly, both professionals and parents are continuously grappling with what are the effective treatments for ASD. From time to time, there are anecdotes about different effective interventions and yet almost all of them could not be sustained when subjected to vigorous testing. Randomized control trials (RCT) on treatment effectiveness on ASD remain scarce. So far, behavioural training (e.g. applied behavioural analysis) applied in very young children with ASD has produced the most impressive results (Lovass, 1987; McEachin et al., 1993). However, the recovery rate of these studies are only in the range of 50% and the training demands forty hours per week and has to last over a period

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of at least two years. Thus, the intervention though effective, is only partial at its best and it entails heavy resources. In sum, our search for a better understanding of ASD will have to be continued despite decades of recognizing the disorder. This paper attempts to address the question of what would be the effective treatments for ASD. Drawing on the theoretical propositions and research evidence from recent studies, it is posited that social deficits is the basic core problem of ASD and thus social competence training (SCT) should be the centrality and not just a component of intervention, which is now a common practice. Social competence is defined as using one's skills and knowledge in behavior, emotion and thinking to achieve optimum functioning in different social situations. Thus it is more encompassing than social skills which comprise mainly training on appropriate behavior. Social aloofness has always been regarded as a defining feature of ASD from very early on; however, its relative importance in diagnosis has fluctuated across times.

Changes in DSM-5

With the recent publication of Diagnostic Statistical Manual of Mental Disorders, Fifth edition –DSM-5 (American Psychiatric Association, 2013), there have been some major changes in regard to the significant role of social impairments in defining ASD. In DSM-5, there are a few major changes in defining autism. Perhaps, replacing Pervasive Developmental Disorders (PDD) with Autism Spectrum Disorder (ASD) and doing away all subsumed disorders (e.g. Asperger syndrome, Rett syndrome) listed under PDD, is the most significant change. This recognizes that ASD represents a common expression of different possible etiologies, and it is a disorder with various possible severities. The other significant change is taking out delay in language development as a defining signature of ASD as language problems can exist in

various childhood disorders and not specific to ASD. With this deletion, the current two major diagnostic criteria of ASD are social and behavioural difficulties. Onset of symptoms before three years old used to be a diagnostic requirement and in DSM-5, the chronological age is replaced by failing to meet the demands of the developmental social contexts. This implies referencing to social situations rather than age is more sensitive in making the diagnosis. Failing to adapt to various social contexts along the developmental trajectory regardless of age is underlined as a consistent defining feature of ASD. Lastly, ASD is now under neurodevelopmental disorders, implying an early onset with substantial atypical neurological findings. In sum, the adopted changes in DSM-5 on ASD have shown a more emphasis and elaboration on social difficulties as the core deficit of the disorder. This is in line with the proposition that though there is a “triad (social, language and behavior) of impairment” in autism, social impairments may be foundational, as longitudinal studies suggest that early social deficits provide near perfect classification of later diagnosis (Dawson & Bernier, 2007).

Social Deficits of ASD

Social impairments of ASD may present themselves quite differently, e.g. totally withdrawal versus indiscriminately over-friendliness. Nonetheless, they can be grouped into three major deficit clusters (American Psychiatric Association, 2013):

- i) Fail to reciprocate to others' sharing of interests, emotion and affect and conversation;
- ii) Unable to use non-verbal communicative behaviours to regulate social interactions;
- iii) Lack of interest, knowledge or skills to develop, maintain and understand relationships.

All these social failures in ASD are developmental in nature and all of them

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are related to earlier failures in some of the basic social competence commencing from infancy or toddlerhood. Thus, from very early on, there are significant compromises in social orienting such as responding to naming (Swettenham et al., 1998); social referencing and joint attention (Dawson et al., 1998); processing of facial information such as looking at eyes of approaching adults (Jones et al., 2006) and motor imitation (Colombi et al., 2009). In normal children, all these skills which are fundamental to regulate social interactions are developed in the first two years of life. Yet, many children with ASD show a significant delay in developing these basic skills for social purposes. It is posited that all these accumulative failures of early development may also lead to a delay in social cognitive development such as theory of mind. Baron-Cohen (1995) has proposed it is the prior failure of the eye-detection device (EDD) and shared joint-attention mechanism (SAM) that have contributed to mind blindness (i.e. inability to take perspectives of others) often found in ASD.

Thus the social deficits in sharing, non-verbal communication and relationship building of ASD listed in DSM-5 represent a result reflective of early compromises in social development and which continue to impact on the individual's functioning in multiple contexts. This is supportive of the centrality of basic social information process in the multiple aspects of syndrome development in ASD (Klin and Jones, 2008).

Social brain of ASD

Coupling with these social cognitive developmental expositions in understanding the etiology of ASD, more and more research findings are suggesting an atypical development in the "social brain" of persons with ASD. The social brain refers to a network which facilitates social cognition and behavior across a range of functions of

varying complexity (Neuhaus et al., 2010). This network is comprised of:

- i) Superior temporal sulcus (STS): Process socially-relevant sensory information such as the motion of hands, face, eyes, and body (Zilbovicius et al., 2006) and for attributions about others' mental states (Castelli et al., 2002).
- ii) Fusiform gyrus: Selective response to human faces (Kanwisher et al., 1997).
- iii) Amygdala: Assign emotional significance to stimuli; involve in face processing, identification of emotion, perspective taking, social judgment, empathy, and threat detection (Adolphs, 2003; Bachevalier & Loveland, 2006; Schulkin, 2007; Vollm et al., 2006).
- iv) Prefrontal cortex (PFC): Involve in empathy, theory of mind and discrimination of emotional expression (Vollm et al., 2006).

In these brain areas, people with ASD have been found to have significant problems in structure (e.g. reduction in grey and white matters in STS), function (e.g. less activation in PFC during mental state attribution task), or connectivity between regions (e.g. weak connectivity between frontal, occipital, and temporal lobes) (Neuhaus et al., 2010). These research findings have supported the proposition that the social deficits of ASD have not only a behavioural, cognitive but also a neurological basis. This has given further weight to the centrality role of social impairments in defining ASD.

Social interventions for ASD

The gathering evidence has indicated social deficits as a very core syndrome of ASD. How far and how effective this primary problem has been addressed? Traditionally, remediation of social

impairments in ASD is done with social skills training embedded as part of a treatment package. Thus it is very difficult to isolate its effectiveness (Reichow & Volkmar, 2010). On the other hand, teaching of social skills (e.g. eye contact) with a behavioural approach has always been used in helping individuals with ASD. However, such training has always been conducted for other purposes such as a learning skill (e.g. make eye contact in order to get the visual cues to identify correct answers) rather than to improve social functioning per se. Thus the social impairments of ASD have seldom been treated as a core problem on its own right. It is only in recent decade that this has been changing as there is a steady progression in the development and implementation of intervention programmes addressing the social deficits of ASD per se. However, this improvement is seen more in targeting adolescents with high cognitive functioning rather than other age or ability groups (Reichow & Volkmar, 2010). For pre-school age group, more and more trainings on basic social skills such as joint attention (Kasari et al., 2006) and imitation (Ingersoll & Schreibman, 2006) have been developed. However, most of these trainings are often conducted without a background of a comprehensive intervention programme or a theoretical model on the social deficits of ASD.

Recent advances in social interventions for ASD

In recent years, there have been an increasing number of studies focusing on social skills per se as an intervention for ASD. Some of these group training programmes have been manualized (e.g. Lopata et al., 2010) to facilitate replication and evaluation. A large number of arrays of social competence such as communication, emotion recognition, problem solving, social behavior have been covered by different training protocols. In regard to research design, apart from using single subject

designs, more use of group designs has been reported (Reichow & Volkmar, 2010). In a recent meta-analysis of social skills groups for people with ASD (Reichow et al., 2012), a great number of quasi-experimental studies and only five randomized control trial (RCT) studies were identified. In these RCT studies, the ages of the participants were from 6 to 21 years old, with most in the 13 years old range and of normal intelligence. The analysis results indicate there is some evidence that social skills groups improve overall social functioning and friendship quality but not emotional recognition and social communication (as related to understanding of idioms) for this population.

On the other hand, there has been a growing proposition of training the “thinking” part of social competence in ASD (e.g. Winner, 2005). The theoretical basis for this approach is related to the identified delay in the development of theory of mind in ASD (Baron-Cohen, 1989 & 1995) and the proven efficacy of cognitive behavioural therapy (CBT) in treating different psychiatric disorders. The cognitive approach in social skills training in ASD has been gaining an increasing attention. Some of the behavioural approach training programmes have included perspective taking questions as part of their training (e.g. Laugeson & Frankel, 2010). Nonetheless, the cognitive approach per se in social competence training has received little experimental testing and it is an area that awaits further development and confirmation.

The ways forward

Social deficits have long been regarded as a defining feature of ASD. With the changes in DSM-5, social impairments have assumed an increasing centrality position. However, traditionally, the social deficits of ASD have never received an emphasis

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in intervention that parallels with their signatory role in defining the disorder. Now, it is an opportune time to call for change. With this shift in underlining the importance of treating social impairments as an intervention priority, it would be exciting to see the effects on the proposed intervention.

In regard to training contents, it is posited that optimum social functioning in different contexts calls for knowledge and skills in three interrelated psychological domains, i.e. mastery of appropriate behavior, perspective taking and emotional regulation. This is in line with the basic tenet of cognitive behavioural therapy which has demonstrated efficacy in treating different psychological disorders. The delay in theory of mind found in people with ASD is also supportive of including a cognitive element in the social competence training of ASD. Currently, there are no well-established curricula for the three domains in particular in the cognitive and emotional parts. However, examples based on developmental psychology and individual studies are available. For instances, in the behavioural domain, the training may include skills ranging from eye contact to making refusal. For the cognitive part, it may cover training in awareness of self-thought to taking group perspective. In regard to the emotional component, the teaching may start from recognizing facial expression up to sharing of intimacy.

In the past, most of the social trainings for people with ASD have focused on appropriate behavior. This is considered to be partly a historical legacy of the development of treatment for ASD which started with a heavy focus on young children or people with intellectual disability. As the social competence training moves into different age (such as adolescent and adult) and ability (such as normal intellectual functioning) groups, the necessity of taking cognition and emotion into consideration is

both theoretically and practically inevitable. Good control studies on emotion (Reichow and Volkmar, 2010) and cognition as an integral part of social competence training for ASD are limited. Thus the inclusion of emotion and cognition as essential parts of a comprehensive social competence training programme for ASD needs further experimentation.

Like their normal counterparts, people with ASD also have different social needs in different life stages. Thus it is necessary to take their respective developmental needs and challenges into consideration when designing social competence training for them. Apart from the age consideration, a significant proportion of people with ASD also have developmental delay (31%) or borderline intelligence (23%) (United States Centers for Disease Control and Prevention, 2014). Historically, the remediation of social deficits of this double-diagnosis group has often been relegated to a back-seat position as there seems to be more important issues such as daily living skills, behavioural problems that need to be addressed. There are very limited research findings on social competence training for people with ASD and intellectual difficulty in regard to its practicality and efficacy. It is posited that this co-morbid group like their normal counterparts, would also benefit from a comprehensive social competence training that helps to ameliorate their social interaction difficulties and hence their quality of life. In view of the high prevalence of this group among ASD, their needs in social training deserve to be systematically studied and addressed.

Apart from the importance of addressing the training needs in social functioning in different age and ability groups, social training programmes should also be developed into standardized protocols. Recent examples in adolescent group with normal intellectual functioning (e.g.

The PEERS Treatment Manual, Laugeson & Frankel, 2010) are good attempts towards this direction. The availability of standardized manuals would facilitate replication and evaluation studies in furthering the knowledge and skills in identifying effective treatments.

Conclusions and Implications

There has been increasing evidence to support the centrality role of social impairments in defining ASD. However, the intervention for ASD has not been developed with this in focus. Social skills training has often been included only as a part of a treatment package along with other intervention elements. It is until in recent years that social skills training programmes for ASD per se have been developed. Thus we are now entering an exciting time to focus our effort to address the core deficits of ASD which hopefully would bring a better treatment outcome than the current practice. Ways to move forward along this exciting path, such as adopting a social competence model, have been discussed and proposed.

摘要

為什麼建立社交能力是介入自閉症的核心？怎樣做？

長久以來，社交障礙被確認與自閉症相關。本文根據最新的理論及研究，提倡社交缺損為界定自閉症的最重要徵狀。故此，社交訓練應作為治療自閉症的核心焦點。在此前提下，本文討論及建議向前推進的方法，以祈望治療自閉症的效能可向前更跨進。

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