

## Developing social competence among high-functioning youth with autism spectrum disorders: A pilot experience in Hong Kong

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### *Abstract*

*Social interaction deficit is the central characteristic among individuals with diagnosis of Autism Spectrum Disorders (ASD). There is growing evidence on effectiveness of social competence intervention (SCI) for high-functioning youth with ASD. Services and programmes adopting the SCI approach for working with high-functioning youth challenged by ASD, however, are limited in Hong Kong. Local experience and literature for evidence-informed practice with these individuals are yet to be established. A pilot project – “iLinks Social Enrichment Project for Teens with Autism Spectrum Disorders” was launched, with a social competence training group as the core intervention component. Using the Social Responsiveness Scale and a self-developed assessment to measure the effectiveness of the training group, the study showed that participants indicated significant improvement on social competence through systematic training in cognitive, emotional and behavioural aspects. Greater enhancement was found among participants whose parents also attended the training group on social competence. In this paper, the authors will give an outline of the pilot initiative and report the outcomes found from the community-based social competence training groups. Implications for practices will also be drawn and discussed.*

*Keywords: Social competence, high-functioning autism spectrum disorders, youth*

### **Introduction**

Social competence deficits manifested with difficulties in emotion recognition, theory of mind and executive functioning are the key challenges to social interactions and relationships among individuals with Autism Spectrum Disorders (ASD) (Stichter et al.,

2010). The undesirable impacts of their social competence impairment including negative responses and judgments by others, inability to develop and sustain peer relationships, and social isolation were widely reported (Merrell & Gimpel, 1998; Ozonoff et al., 2000; Bauminger et al., 2003). Peer victimization and bullying were also common among adolescents

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with ASD, putting them more at risk to mental health challenges of depression and suicide (LeBlanc, Riley & Goldsmith, 2008). Given these characteristics and difficulties, they are often unable to benefit from the social opportunities provided in schools and other social settings as they fall short to socialize with their peers. Social skills impairment also poses challenges to their development of intimate relationship.

While individuals with ASD demonstrate an increase in social skills development and interest in social relationships in adolescence, they also report higher level of emotional and social loneliness. They face particular struggles as they become more aware of their social deficits and coping with isolation, rejection and bullying experience in schools (Laugeson et al., 2009). Such difficulty would be complicated by mental health challenges including depression and anxiety co-occurring with ASD. In a study with 62 young persons aged between 12 and 23 diagnosed with Asperger Syndrome, Quek et al. (2013) found that anger was commonly experienced by these individuals and was correlated with anxiety and depression.

Evidence on intervention to enhance the social competence and social skills of high-functioning youth with ASD is scattered but growing. Crooke, Hendrix and Rachman (2007) found significant increases in expected verbal and non-verbal behaviours and decreases in unexpected verbal and non-verbal behaviours through teaching social thinking to six male children with Asperger Syndrome (AS) or High Functioning Autism (HFA). In another study, Stichter et al. (2010) found that group-based Social Competence Intervention (SCI) indicated significant improvement of social skills and executive functioning among youth with high functioning ASD. In a systematic review, Reichow et al. (2010) also reported that previous work on social skills group and video modeling had demonstrated

much empirical evidence for improving the social deficits of children and youth with ASD.

The prevalence rate of ASD as reported by the Centre for Disease Control & Prevention in 2010 was 11.3/1000. If projected to the Hong Kong population census 2013, there would be about 18,000 children and youth with ASD. In 2012/13, the number of persons diagnosed with ASD under age 18 and treated in the specialty of psychiatry of the Hospital Authority was 6,148 while the figure for aged 19 or over was 1,145. With the increasing number of children with ASD, it is projected that potential service population would grow at the same rate.

In Hong Kong, existing psychosocial, educational and medical services for individuals challenged by ASD in both public and private sectors are mostly offered during their childhood and become scarce as they enter into adolescence. Specialized service for high-functioning youth with ASD was absent in the current health care, education or social services systems. On the other hand, systematic training and education on professional expertise for working and supporting young persons and adults challenged by ASD is underdeveloped, leaving a vacuum of clinical experience, knowledge, and research in this arena for evidence-informed services to this population.

Reports in other countries, however, have highlighted the substantial implications of ASD for health, social and employment services but needs of individuals with autism were generally unmet (Barnard et al., 2001). A study also found that individuals with ASD and their families are often deprived of their rights and entitlements in society and concluded that immediate investment in appropriate support services could reduce the long-term costs of this developmental challenge (Broach et al., 2003).

## Pilot Project for High-Functioning Youth with ASD

### Overview

In response to the above mentioned service needs and gaps and the gaining evidence in SCI, New Life Psychiatric Rehabilitation Association, a mental health service provider, has initiated a pilot project – “iLinks Social Enrichment Project for Teens with Autism Spectrum Disorders” (iLinks), funded by The Community Chest of Hong Kong in June 2011. The core aim of the 3-year project is to facilitate the social integration of high functioning youth with ASD through enhancing their social competence and self-efficacy. To achieve this end, the project team has initiated a wide range of services including a 15-session social competence training group, boost-up training programme and graduates alumni for the high-functioning youth with ASD, buddy scheme with neuro-typical youth, 9-session training group on social competence for parents, family wellness programmes, individual consultations for youth and caregivers, education and training programmes for schools.

Recovery orientation was utilized as the overarching framework for service delivery and SCI was applied in the training group for high-functioning youth with ASD. With the paradigm of mental health recovery as the backbone of the service orientation, iLinks valued individual strengths, participation and self-direction, personal responsibility, peer support, family involvement, respect and hope, holistic and non-linearity for supporting the high-functioning youth with ASD to live beyond the challenges of the diagnosis and to develop a fulfilled life in the community. Focus of intervention was given to their growth and development rather than to the elimination of symptoms.

With the proven effects of parent-assisted social skills training (Laugeson et al., 2009), the project team has also adopted the systemic perspective to initiate education, intervention and support to the different systems including families and schools in which the youth lead their lives. General youth in the community were also recruited to become the buddies of the young persons with ASD with an aim to cultivate social network and social integration between the two groups. Figure 1 presents the systemic orientation that iLinks adopted in its service delivery.

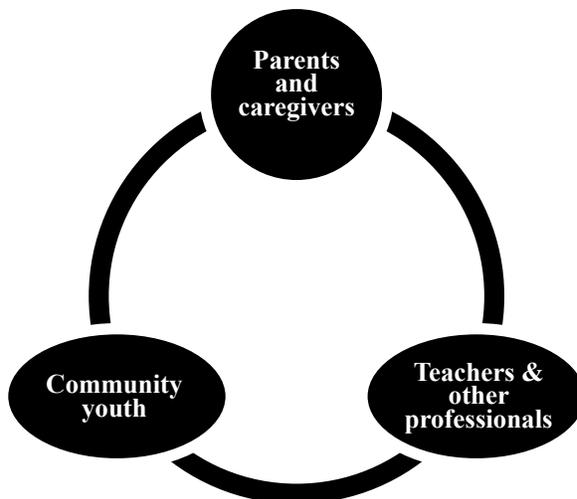


Figure 1: Systemic orientation in service delivery

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### ***Social Competence Training Group***

Social competence is using one's knowledge and skills in regulating behaviour, emotion and thinking to achieve optimal functioning in different social situations. As reported by Stichter et al. (2010), group-based SCI using cognitive behavioural principles to target the social deficits of youth with AS and HFA had indicated significant improvement of their social skills and executive functioning as reported by parents. Drawing on theories and research evidence from developmental psychology, cognitive behavioural therapy, social skills and learning studies for applying competence in emotion (emotion regulation), cognition (theory of mind) and behaviour (appropriate social skills) to different social situations, iLinks has adopted the integrative approach for its social competence training.

The 15-session social competence training group was the core service component of the pilot project. It is a context-based, systematic and intensive programme aiming to improve (a) no/inappropriate social skills through behavioural training; (b) mind blindness with perspective taking training; and (c) executive function and central coherence via organization/problem solving training. It consisted of three key characteristics: (1) evidence-based strategies including role-playing, live modelling, visual materials, feedback on performance and assignments; (2) reinforcement of learning and support from parents and (3) context-based learning of social expectations and etiquette. Essential functioning skills such as making good impression and opening and sustaining a conversation were taught and learned with the facilitation of two trained professionals. Group participants learned these skills progressively for achieving rewarding social interactions and relationships.

To enable their generalization of essential functioning skills learnt from the group-based training to daily life contexts, the

training programme has incorporated activities involving community-based and common social situations such as going out for a meal with peers in which individuals practiced how to organize the activity, to order dishes for the group, and to interact with people they encounter in the restaurant. In another session, participants were involved in organizing a barbecue in which they had to prepare the outdoor activity together, to decide on the choices of barbecue food and materials to be bought, to initiate invitation to their parents and to take care of their parents' needs during the barbecue etc. Slogans that captured key concepts of the skills were designed to facilitate memorization and homework practice. The curriculum and structure of the training group is outlined below (Table 1).

Between November 2011 and January 2014, a total of 18 social competence training groups were held with 143 young persons with ASD participated. A majority of the participants (80.4%) were referred to iLinks through children and youth psychiatric clinic and hospitals, with the rest of them (19.6%) coming from school social work setting and other social services. Among them, 43 (30%) were between ages 12 and 14, 56 (39%) between ages 15 and 17 while 44 (31%) of them were 18 years old or above at the time of group participation.

In parallel, parents of the group participants were recruited to attend a 9-session group in which they would be introduced to the concepts and practices of social competence, the content of the training group attended by their children and the progress of their children's learning. Parents also attended three conjoint sessions with their children and learn from the modeling of the group facilitators on skills in training social competence, experience the abilities of the youth in taking their parents' perspective and feelings, and celebrate the growth with their children. Altogether 17 training groups on social competence for parents were carried out with 118 parents attending in the project period.

**Table 1**  
Structure of the Social Competence Training Group

<b>Session</b>	<b>Content</b>
Sessions 1 - 3	Basic skills in social competence (Part 1) <ul style="list-style-type: none"><li>• Understanding social impression, social expectations and whole body attention</li><li>• Learning basic skills in emotion regulation: recognize facial expressions, identify different emotions, recognize emotions of self and others</li><li>• Evaluation of problem scale and emotional responses to problem, coping with anger</li></ul>
Sessions 4 - 6	Applied skills in social competence: social detective <ul style="list-style-type: none"><li>• Application of skills learnt through practice exercises and role play of social scenarios: awareness of others non-verbal expressions, smart guess of others perspective and feeling; modify behavioural responses according to others perspective, feeling, social situations and expectations</li><li>• Role play and practice exercises with intensive coaching and feedback from group members and facilitators</li></ul>
Session 7	Applied skills in real life scenario <ul style="list-style-type: none"><li>• Application of social competence skills in a community-based social situation: organizing a party together with other team members</li><li>• Review and discussion of difficulties in application</li><li>• Intensive coaching and training to overcome difficulties encountered</li></ul>
Session 8 - 12	Basic skills in social competence (Part 2) <ul style="list-style-type: none"><li>• Understanding social communication and social relationships</li><li>• Learning basic conversational skills for initiating, maintaining and ending a conversation; knowing others and making friends; giving appropriate and reframing responses with social etiquette</li></ul>
Sessions 13	Basic skills in group problem solving <ul style="list-style-type: none"><li>• Learning and practicing basic problem solving skills in group setting</li><li>• Resolving disagreements with others</li></ul>
Sessions 14 & 15	Applied skills in real life scenario <ul style="list-style-type: none"><li>• Application and consolidation of social competence skills in a community-based social event: organizing and preparing a barbecue with parents participation</li><li>• Intensive coaching on identifying and taking care other people's needs and feelings</li><li>• Graduation and celebration</li><li>• Acknowledging growth, strengths and success</li></ul>

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## Evaluative Study

### *Method*

To capture the effectiveness of the programme and to provide on-going evidence for promoting social competence development and systemic intervention to individuals challenged by ASD and their caregivers, a built-in evaluation was initiated.

### Participants

A total of 82 individuals with high functioning ASD participated in the evaluative study. They were recruited from 18 social competence training groups organized by iLinks. Participants included 89% male and 11% female. To further evaluate the effectiveness of the social competence training group, parents of the group participants were recruited to rate the social responsiveness and social competence of their children with ASD who have received the training. A total of 94 parents participated in the pre-post evaluative study, with 70 of them further participating in the 3-month follow-up assessment.

### Measures

Two instruments including the Social Responsiveness Scale (Constantino, 2005) and a Self-developed Social Competence Scale were applied in the quantitative evaluation.

**Social Responsiveness Scale:** The 65-item assessment with 5 treatment sub-scales on domains including “social awareness”, “social cognition”, “social communication”, “social motivation” and “autistic mannerisms” was used. Each item is scored from 0 (not true) to 3 (almost always true).

**Self-developed Assessment on Social Competence:** The 10-item scale was a

self-developed assessment for measuring the competence of “understanding social convention”, “negotiation and cooperation”, “temper management”, “self protection” and “willingness on building relationship” of participants. Each item is scored from 1 (totally disagree) to 6 (totally agree).

### Procedure

Inclusion criteria of group participants included (1) youth with a diagnosis of ASD and with normal intelligence, (2) receiving education in mainstream schools, and (3) ability to understand Cantonese. They were service users of iLinks invited to participate in the evaluative study and the participation was informed and voluntary. Eighteen social competence training groups were carried out, with each group consisting of 15 sessions and attended by 8-10 high-functioning youth with AD. Eighty-two group participants completed the pre- and post- self-developed assessment.

Parents whose children received the group training from iLinks were also invited to complete the two assessments at the pre-, post-, and three-month follow-up. Data were collected when they came to attend the parents training groups. A total of 94 parents have responded in the pre-post assessment, and 70 of them also completed the three-month follow up assessment. Two focus groups were also held by an independent research assistant to seek parents’ feedback on the training.

### **Results**

Paired *t*-test results showed significant differences between the pre- and post-training ratings of the self-developed assessment on social competence among group participants (Table 2).

Table 2

Result of the pre-post test of the self-developed assessment on social competence completed by participants

Social Competence (Participants)	Pre		Post		<i>t</i>	<i>sig.</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
	Understanding social convention	8.24	1.87	9.40		
Negotiation & cooperation	8.29	1.82	9.33	1.52	-4.23	0.000 ***
Temper management	8.15	1.88	9.22	1.68	-4.56	0.000 ***
Self protection	8.27	2.00	9.29	1.80	-3.78	0.000 ***
Willingness on building relationship	8.15	1.96	9.15	1.83	-3.88	0.000 ***
Total Score	41.10	7.49	46.39	6.79	-5.59	0.000 ***

*N*=82, \*\*\* *p*<.001.

Ratings of parents on the two scales indicated significant improvement in social responsiveness and social competence of their children who attended the training groups. The ANOVA results showed that the pre-training scores have significant differences with scores of both post-training and three-month follow-up assessment. However, no significant difference between post- and three-month follow-up was found (Figure 2). Similarly, the ANOVA results of the self-development scale on social competence also demonstrated significant differences between pre- and post-training and three-month follow-up, with no

significant difference between post-training and three-month follow-up (Figure 3).

To explore the effects of parents' involvement, comparison of parents' rating was made between participants whose parents participated in the training group (*N* = 76) with those whose parents did not (*N* = 11). Group participation of parents has no significant effect on score of SRS but a strong interaction effect on social competence was found except in the domain of "willingness of building relationship", indicating parents' involvement might facilitate greater improvement among the participants (Table 3).

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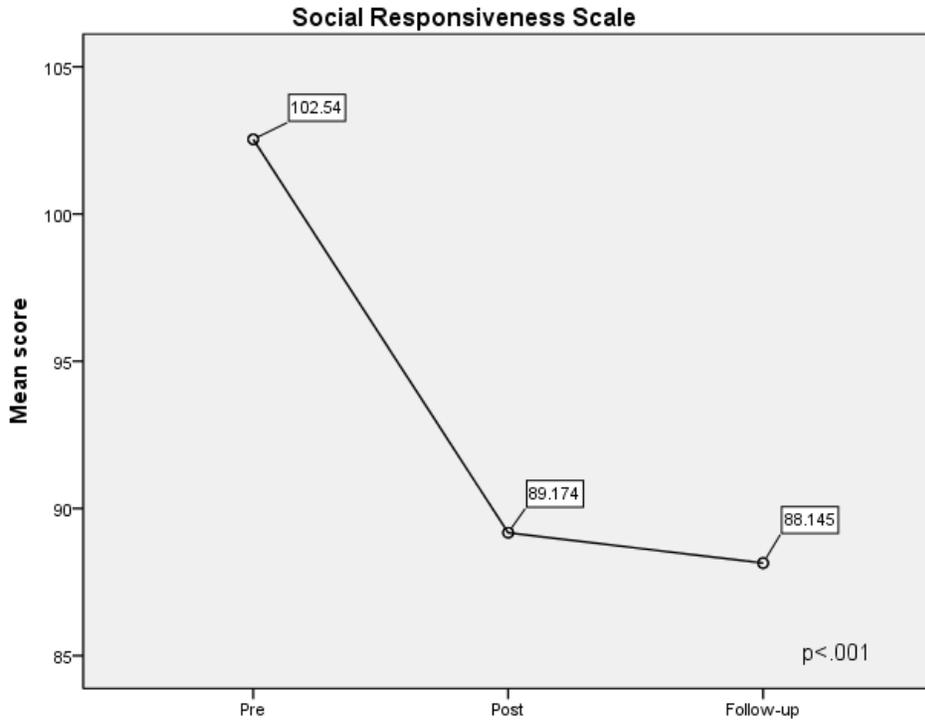


Figure 2: Result of the pre-training, post-training, and follow-up test of the Social Responsiveness Scale completed by parents

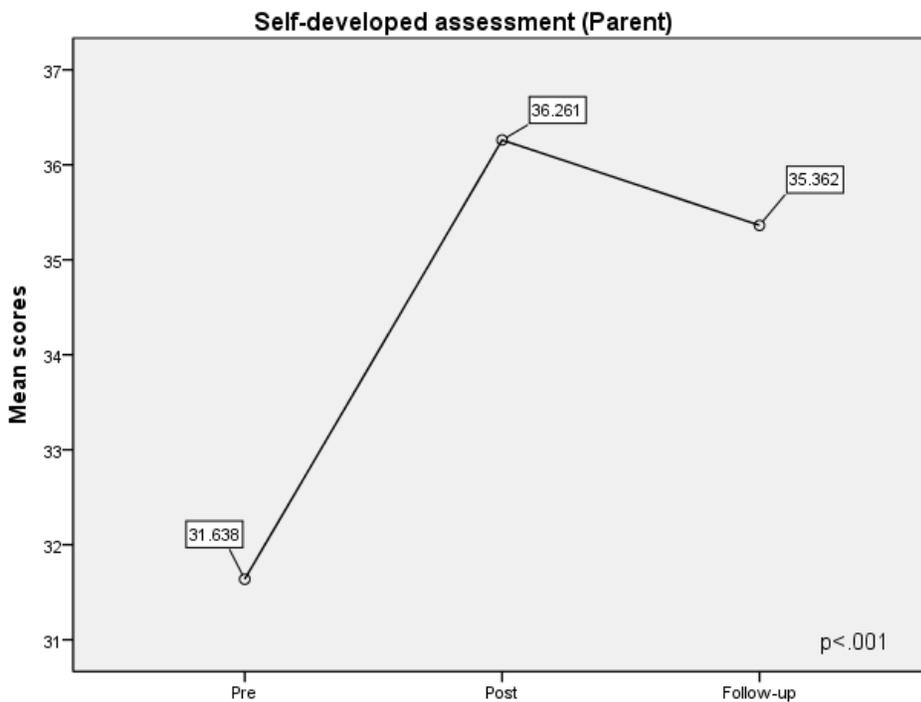


Figure 3: Result of the pre-training, post-training and follow-up test of the questionnaire on social competence

**Table 3**  
Comparison in social competence with and without parents participation

Social Competence (Parent)	Participated in group (N=76)				No participation (N=11)				sig.
	Pre		Post		Pre		Post		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Understanding social convention	5.92	0.19	7.29	0.15	6.91	0.46	7.00	0.36	0.014
Negotiation & cooperation	6.32	0.21	7.52	0.15	7.09	0.50	6.82	0.35	0.008
Temper management	5.63	0.20	6.90	0.18	7.09	0.49	6.45	0.43	0.001
Self-protection	5.92	0.25	6.92	0.21	6.64	0.61	6.55	0.50	0.069
Willingness to build relationship	6.43	0.21	7.27	0.18	6.45	0.51	6.73	0.44	0.365
Total Score	30.22	0.76	35.90	0.65	34.18	1.82	33.55	1.56	0.003

**Parents’ and Participants’ Feedback of the Training Group**

In general, parents recognized the social competence training group as a valuable programme to be delivered to their children with challenge of ASD. Equipped with the essential social competence skills for managing common daily life situations (e.g. making friends, showing care to others, organizing a social function), many have demonstrated enhanced capability in social interactions, with positive changes among the group participants observed by parents. A parent reported that her son, who used to ignore his appearance and tidiness, had started to pay attention to personal grooming and social impression after he joined the group. Another parent also remarked that her son would consider how other people think and feel after attended the training. In addition, group participants also reported their children’s enhanced awareness in taking care of others’ feeling before making comments and abilities in making friends.

**Discussion**

As the first study on the impact of social competence training for high-functioning youth with ASD in Hong Kong, the findings shed light on the effectiveness of the intensive group-based training in enhancing the social responsiveness and competence among these young individuals except on their “willingness to build up relationship”. The preliminary results contributed similar findings to previous studies in the western culture and provided initial evidence of applying an integrating approach in training the skills of emotion regulation, perspective taking and appropriate behaviours among high-functioning youth with ASD in the Chinese community of Hong Kong. The reports of no significant change in the domain of “willingness in building up relationship” both by the participants and their parents suggested that the current training curriculum could effect on expanding the social competence of these individuals but not their readiness to establish relationship with others.

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Further exploration on strategies to enhance their willingness to relate with people may be required.

Results of the current study echoed the previous research of Laugeson and colleagues (2009), which found that the intervention group significantly improved overall skills with parent-assisted social skills training. This finding gave evidence to the effects of parental involvement and support in the training programme as well as intervention with systemic orientation instead of working with the challenged individuals alone.

Despite the encouraging results, the evaluative study has some limitations that require attention. Owing to the practical consideration in the project implementation, the study has not adopted an experimental design and future research efforts with more rigorous design would be warranted for further evidence of SCI for high-functioning youth with ASD in the Chinese community. Standardized assessment for measuring the constructs on social competence is not available currently. The validity of the self-developed assessment tool is yet to be established. Future efforts are also required in this aspect.

Moreover, because of the difficulties in attaining data from schools where these youth experienced much opportunity of social interactions in daily life, the evaluative study of the training group held by iLinks was only based on youth and parents' reports. Evidence on generalization of learning is yet to be established but qualitative feedback on improved social interactions at school as reported by some teachers had offered encouraging effects for further exploration.

The group sessions have also been modified from the originally 14 sessions to 15 sessions after 5 groups were run. The modification of the group curriculum in respect to the different combination of group members

in terms of age and abilities might impact on the results of the training group. Since the participants of the current study were confined to high-functioning youth with ASD, more extended trial for testing out the effects of SCI with this population and further research is yet to be conducted.

### **Implications**

The social competence training group for youth with ASD delivered in iLinks provided opportunities for these individuals to learn the skills of emotion recognition, perspective taking and appropriate behaviours in a group setting with their peers. The initial evidence shed light on the group curriculum and design that has adopted the integrative approach and incorporated practices in real life social situations, video and visual learning, role play and modeling in enhancing their skills and abilities for rewarding social interactions. Systematic and specialized training programmes for high-functioning youth with ASD for sustainable support in facing various transitions in the life span development are therefore, recommended.

With the increasing evidence on parents' involvement in social skills as well as social competence training, service intervention may adopt a systemic orientation and mobilize parents to become co-trainers for supporting the learning and generalization of young persons with ASD. Moreover, systematic training is necessary for developing professional expertise for rendering social competence training programme to the individuals. More government resources for initiating evidence-informed practices are suggested to enhance the social development of high-functioning individuals with ASD as they progress into adolescence.

To further develop evidence-informed practice in social competence intervention among the Chinese community as well as

standardized assessment, future endeavour should be given to more systematic and larger scale research study as well as the validation of measurement for evaluation. Involving the teachers in the evaluation will also be recommended for data triangulation. Longitudinal study for understanding the long-term impacts of social competence training across adolescence and adulthood of individual challenged by ASD will be a future direction of research.

### 摘要

發展智力健全自閉症障礙青少年的社交能力：香港實踐經驗初探

為受自閉症障礙影響而智力健全的青少年提供社交能力介入之實證成效日見增長。靈思園地：自閉症青少年社交豐健計劃是一項專門提供社交能力訓練小組的試驗性服務。小組前後對照研究發現，透過認知、情緒及行為多方面的系統性訓練，參加者的社交能力有顯著提昇。參加者的家長若同時接受小組訓練，則其子女對比家長沒有參加訓練的子女有更明顯的進步。本文將會概述此計劃之成效，並就服務發展方向作出一些建議。

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