Social/communicative interventions and transition outcomes for youth with disabilities: a systematic review

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CRD summary
The authors concluded that their review supported the efficacy of social skill training intervention with secondary aged youths with disabilities across all design typologies. The conclusions appeared to represent the limited evidence presented, but should be interpreted with caution because of the small number of studies and participants and concerns about statistical analysis and poor reporting in the review.

Authors' objectives
To evaluate the effectiveness of different social and communicative intervention for secondary aged youths with disabilities.

Searching
ERIC, PsycINFO and MEDLINE were searched. Searched terms were reported. Handsearches of selected journals, author searches and searches of selected reference lists, including review articles, were performed.

Study selection
Studies of any design of social and communicative interventions in youths aged 12 to 22 years with disabilities eligible for inclusion in the review if they had a measured outcome and sufficient data with which to calculate an effect size.

Non-randomised studies in which it was unclear whether groups were comparable were excluded from the review.

Interventions included: augmentative and alternative communication (AAC), which included vocalisations, movements or micro-switch activation and use of symbols; conversation skills; decreasing inappropriate behaviour; and social skills training (SST). Duration and intensity of the same type of intervention varied widely between studies. Outcomes were transition or transition-related outcomes and included improvement in conversation and related social/communicative skills, and reduction in disruptive behaviour. Participants' mean age ranged from 13 to 21 years. Disabilities included: mild, moderate, severe and profound cognitive disabilities; autism and autism spectrum disorder; severe cognitive disabilities with a range of vision and hearing impairment; Down's syndrome; cerebral palsy; emotional/behavioural disorders; and multiple disabilities. Settings included residential facilities, state institutions, 24-hour group homes, special education school environments, comprehensive school environments, vocational training sites and job sites. Study designs included between-group (pre-test and/or post-test), within groups (crossover design) and single participant design.

The authors reported on the various stages of study selection, which included dual coding and consensus process. For the selection of the final set of studies the authors stated that all staff used an inductive process to sort the studies by intervention constructs, which identified studies that conformed to the authors' definitions of social and communicative interventions.

Assessment of study quality
Study quality was assessed using an adapted version of the Device Implementation Assessment Device (DIAD) version 1.0. DIAD was used assess internal validity in terms of the intervention, outcome measures, fairness of comparison and lack of contamination and external validity in terms of ecological validity, important subgroup analyses, statistical reporting and testing of assumptions (where appropriate).

The authors did not state how study quality assessment was performed.

Data extraction
Quantitative data were extracted in order to calculate effect sizes.

Two reviewers independently performed data extraction. Any disagreements were resolved by consensus.

**Methods of synthesis**

For each intervention, where appropriate, effects sizes (hedges g) and 95% confidence intervals (CI) from studies of the same design were combined in a meta-analysis. Statistical heterogeneity was assessed using the Cochran Q statistic. Where meta-analysis was inappropriate, a narrative synthesis was used.

**Results of the review**

Thirty studies were included in the review (n=316 participants, range one to 98).

Augmentative and alternative communication (five studies: four single-participant studies, one group design; 21 participants). Pooled mean effect size for the four single participant studies was 1.89 (95% CI 0.69 to 3.09). Mean effect size of the group design was -0.17 (95% CI not reported).

Conversation skills (nine studies: seven single participant, two group designs; 60 participants). There was evidence of statistically significant heterogeneity when the effect sizes of the single-participant studies were pooled (quantitative data not provided). Two single-participant studies whose effect size exceeded the range of the effect sizes of the other five single participant studies were excluded from the meta-analysis. The pooled mean effect for the remaining five single-participant studies was statistically significant (2.90, 95% CI 2.26 to 3.55). The two group designs reported conflicting findings.

Decreasing inappropriate behaviours (eight studies, seven single-participant studies and one pre-test post test design; 25 participants). For each of the seven single-participant studies, the review authors reported that the study authors reported that visual inspection of graphed data showed positive results. The level changes and slope of the trend lines indicated gradual or dramatic decreases in the occurrence of inappropriate behaviours over time.

Social skills training (10 studies: five group designs (three between-group studies and two within-group design studies and five single participant designs; 210 participants). Pooled mean effect size for five single participant designs was 2.25 (95% CI 1.29 to 3.21) and pooled mean effect size for three between-group designs was 1.10 (95% CI: 0.65 to 1.55). The mean effect size for the two within-group design studies were reported to be statistically significant (actual value not reported).

**Authors’ conclusions**

The authors concluded that the review supported the efficacy of social skills training interventions with secondary aged youths with disabilities across all design typologies

**CRD commentary**

This review addressed a clear research question, although inclusion criteria were broad. The authors acknowledged limitations of the included study design (such as a lack of control group or alternative treatment group) and the small sample size. The search strategy was adequate, although there were no apparent attempts to locate unpublished material and so relevant studies may have been missed. Although details of study selection were provided, no details of the processes of data extraction or study quality assessment were reported. Detailed individual study data were provided. Pooling of data, even by study design, may have been inappropriate given the heterogeneity of the included studies in terms of study population, interventional features that included duration and intensity, and outcomes. It was unclear whether a fixed-effect or random-effects model was used. The authors’ conclusions appeared to represent the limited evidence presented, but should be interpreted with caution given the reliance on a small number of studies and participants, concerns about the statistical analysis and poor reporting in the review.

**Implications of the review for practice and research**

**Practice:** The authors stated that practitioners had something to gain from examining the low incidence intervention literature in social/communication skills acquisition (paying close attention to matching social skills intervention to
individual students’ skill deficits and exploring whether increasing duration and intensity of treatments leads to stronger, more sustained treatment effects).

Research: The authors stated that disassembling packaged interventions was warranted to identify the most effective components.

Funding
US Department of Education, Office of Special Education Programs (Grant H324W010005).

Bibliographic details

Original Paper URL
http://www.nsttac.org/pdf/social_communications_skills_full_text.pdf

Additional Data URL
http://www.nsttac.org/ebp/what_works.aspx

Other publications of related interest


Indexing Status
Subject indexing assigned by CRD

MeSH
Adolescent; Communication; Curriculum; Disabled Persons; Education; Education, Special; Employment; Humans; Interpersonal Relations; Planning Techniques; Schools; Social Behavior; Students; Young Adult

AccessionNumber
12010001354

Date bibliographic record published
10/03/2010

Date abstract record published
22/09/2010

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.