

There is fair evidence (level 2b) that a 10-week work-related social skills training for people with chronic schizophrenia, with three month follow-up support, increases their ability to gain and retain employment by 44%, when compared to controls

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CLINICAL SCENARIO:

The ability to find and keep a steady job requires good social skills. Being unemployed for a long period of time can have negative effects on a person's self-image. People with schizophrenia experience significant difficulties in securing and keeping a job as they lack essential social skills to cope with a multitude of work-related situations. Does a vocational social skills training program improve the ability for people with schizophrenia to find and keep a job?

FOCUSSED CLINICAL QUESTION:

Does a vocational social skills training, compared to standard training for people with chronic schizophrenia improve their chances of gaining and retaining employment?

SUMMARY of Search, 'Best' Evidence' appraised, and Key Findings:

Many databases, references list and websites were searched to find the best available research article to answer the clinical question. As a result of my search, 2 systematic reviews, 5 randomised controlled trials (RCTs), 3 case-controlled trials and one level 5 study were located. However, the RCT by Tsang and Pearson (2001) was the highest level of evidence on vocational social skill trainings, and was selected for appraisal. This study found that by providing a 10-week work-related social skills training and three-month follow up support to people with schizophrenia, the former group were 44% more successful at finding and keeping a job than those who did not receive training and/or support.

CLINICAL BOTTOM LINE:

People with schizophrenia who participate in a 10 week work-related social skills training program with three months follow-up support have a 44% higher employment rate than those people with schizophrenia who did not receive the training.

Limitation of this CAT: This critically appraised paper has been individually prepared as part of a university subject, reviewed and marked by a lecturer, but has not been externally peer-reviewed.

INCLUSION and EXCLUSION CRITERIA

- Inclusion: Vocational training, employment as a result of social skills training, people with schizophrenia. Articles were limited between 1980 to 2004.
- Exclusion: Living skills, community functioning, social skills training not related to work, people with mental illness other than schizophrenia.

RESULTS OF SEARCH

Eleven studies were located and categorised as shown in Table 1 (based on Oxford Centre for Evidence-based Medicine, May 2001).

Table 1: Summary of Study Designs of Articles retrieved

Level of Evidence	Study Design/ Methodology of Articles Retrieved	Number Located	Source(s)
Level 1	Systematic Reviews (Crowther et al, 2001; Landeen, 2001)	2	Cochrane Library
Level 2b	Randomised controlled trials (Chien,2003; Liberman et al,1996; Marder et al, 1996; Tsang & Pearson, 2001; Wallace & Liberman, 1985)	7	Cochrane Library
Level 3b	Case control trial (Creegan & Williams , 1997; Hayes et al, 1991; Roder et al, 2002)	1	CINAHL
Level 5	Descriptive paper (Roder et al, 2002)	1	CINAHL

BEST EVIDENCE

The RCT by Tsang and Pearson (2001) was identified as the 'best' evidence and selected for critical appraisal. Reasons for selecting this paper were:

- Although systematic reviews are the highest level of evidence, those identified examined either employment programs or did not have social skills training components,
- Randomised controlled trial: The study by Tsang and Pearson (2001) specifically looked at people with chronic schizophrenia; the authors' aim was to improve the ability of people with schizophrenia to find and to keep a job, which answers the clinical question; the study looked at employment rate following work-related social skill training with a three month follow up period; and the trainers were occupational therapists.

SUMMARY OF BEST EVIDENCE

Table 2: Description and appraisal of work-related social skills training for people with schizophrenia in Hong Kong by Tsang and Pearson (2001).

Aim of the Study

To improve the abilities of people with schizophrenia to find and keep a job.

Intervention Investigated

The intervention consisted of 10 weekly group sessions. Each session went on for 1.5 to 2 hours, with approximately 6 to 8 members per group. The sessions were conducted by a qualified occupational therapist assisted by an untrained but experienced welfare worker with the population under study. The training targeted the essential skills to cope with work situations (including basic social skills). A detailed list of all skills covered during the training sessions can be found in the full article.

Outcome Measures

Primary :

- Two-part measure for work related social competence (1st part –self-administered checklist, 2nd part- role play test)
- Follow up questionnaire (3 months after completion of social skill training)

Results

	Control group (3)	Training group with no follow up contacts (2)	Training group with follow up contacts (1)	Total mean scores differences between 2 and 3	Total mean scores differences between 1 and 3	Total mean scores differences between 1 and 2
Post-training total scores – Self-administered checklist	18.77**	39.88**	38.00**	21.11**	19.23**	1.88**
Post-training total scores - Role-play test	133.21**	166.05**	170.61**	32.84**	37.4**	4.56**
Success rate of employment at three month follow-up	2.4%*	23.1%*	46.7%*	17.6%*	44.3%*	20.7%*

* $p < 0.001$ ** $p < 0.01$

Original Authors' Conclusions

A 3 month follow-up contact, after a work-related social skills training had a statistically significant effect on participant's success rate at finding and keeping a job compared to the other two groups who did not either get a follow up period or training and follow up period.

Critical Appraisal:

Validity (*Methodology, rigour, selection, bias*)

Research Design

A three-group before-and-after experimental design was used in this study. Participants were recruited from 9 community-based, staffed residential facilities for ex-mentally ill people. The residential facilities were randomly allocated to the three groups. Allocation did not appear to be concealed. Training group 1 received the social skills training plus three months follow up contact with group members and the trainer. Training group 2 received the same social skills training but no follow up. The group 3 acted as the control group and received standard psychiatric care on an outpatient basis.

Population

97 participants were recruited from the residential facilities with an age range of 25-45. The mean age for training group 1 was 34.8, the mean age for training group 2 was 37.3 and the mean age for control group was 34.9. In total 60 men and 37 women were recruited for the study. Training group 1, n=30, training group 2, n=26 and control group, n=41

Selection criteria:

- Willingness to participate in a work-related social skills program,
- Age between 18-50
- Work status: unemployed
- Previous occupation: blue collar, low level clerical, or service industry,
- Education level: no more than 5 years of secondary school
- No less than 1 cumulative year of hospitalisation
- Diagnosis of schizophrenia made by a medical practitioner registered in Hong Kong
- No learning disability

There were no dropouts. Limited worrisome key variations between the groups for example, at baseline the treatment group with follow up had 16.7 % of skilled workers compared to 9.8% of skilled workers for the control group. This could potentially favour the treatment group because of the higher number of people who already possess vocational social skills. However, no statistical differences were found between the three groups demographic characteristics.

Interventions

Social skills training group with 3 months follow up [n=30]: All participants had already proceeded through the basic social skill and basic social survival skill training (e.g. verbal and non verbal communication, assertiveness, grooming and self-presentation and greeting and basic conversational skills) before beginning the work-related social skills training. The work-related social skills sessions related to finding and keeping a job (to job findings and retaining, skills related to specific work situations that might cause problems, e.g. handling conflict, destructive gossip).

The participants in this group gathered at a monthly meeting conducted by a qualified occupational therapist. The meeting was semi structured and discussed participant's experiences.

Social skills training group without a 3 months follow up [n=26]: As above with the exception of the follow up meetings.

Control group, [n=41]: Received standard psychiatric care on an outpatient basis.

Outcome measures

Primary outcome of interest: *Follow up questionnaire* was administered to all the participants three months after the completion of the training program. The questionnaire assessed the outcome for the participants in relation to their employment status after the completion of the training program or standard care. E.g. number of job interviews attended, the number of jobs taken, the reasons for job loss, the degrees of job satisfaction and the quality of relationships with colleagues.

Comparisons between the groups were made pre-training and one week post training. The measurements included a *two part measure of work-related social competence*. The first part was a 10 items self administered checklist that assess participants' subjective perception of their competence in social skills related to job securing and job retaining. Participants rated each item on a six-point scale, the degree of difficulty they experienced in handling each situation. Scale: 1=very frequent difficulty; 6=no difficulty. The second part was a role-play, which re-enacted a job interview. Raters had to follow a set of rating guidelines for each item. The raters used a five-point scale" 4=normal performance, 0=poor performance.

Outcome measures/ psychometric properties

To determine the instrument's reliability and validity, the self-administered checklist was tested on two groups of people (one group with people with schizophrenia and the second group with people without schizophrenia). Internal consistency and reliability of the self-administered checklist was 0.80, the correlation coefficient between the test and retest scores was 0.78. The difference between the total scores of people with schizophrenia and those without was stat.sig. at the $p < 0.05$ level. The internal consistency and reliability of the role-play test was 0.96, the correlation coefficient of the total scores between the two independent raters who were blind as to the group status of the participants was 0.80. The difference between the total scores of people with schizophrenia and those without was stat.sig. at the $p < 0.01$ level

All participants, raters and occupational therapists involved in this study were blind to the research design.

Study biases

Selection bias:

-Randomisation resulted in unevenness in numbers between the groups.

Training with follow up [n=30], training without follow up, [n=26], control group, [n=41]. Having a lower number of participants in the experimental group compared to the control group can lead to the amplification of the treatment effect. Can favour the experimental group.

-Randomisation resulted in inequality in the previous occupation of the participants. The experimental group (training with follow up) had 16.7% of skilled workers compared to 9.8% of skilled workers in the control group. More participants in the experimental group had previous work experience. This advantage could cloud the results because more people in the experimental group had exposure to work-related situations. However, no statistical differences were found between the groups in relation to previous occupation and length of unemployment. Therefore, it should not favour one group over the other.

-This study was conducted with only Hong Kong people of Chinese descent who spoke Cantonese, but not English. This will limit the generalisation of the findings. However, the social skills program was adapted to the Chinese population from one imported from the West.

Performance bias:

-The follow up period was only 3 months. This is a short period of time to estimate a true representation of the work status (employed/unemployed, satisfied/unsatisfied, relationships with colleagues). Normally, the first three months is the 'settling' phase therefore accurate results may only be seen over a longer period of time. Can favour the experimental group.

Results

Pre-training assessment

Gender differences were detected on role-play tests. The female participants were significantly better than the males in *basic social survival skills*, $p < 0.01$, in *non-verbal skills*, $p < 0.01$, in *verbal skills* $p < 0.05$, in *subtotal of basic social skills* $p < 0.01$, in *subtotal of situation specific ratings* $p < 0.01$.

No statistical differences were reported (with one exception) between to three groups on the total scores on the self-administered checklist. The exception was "arranging a job interview over the phone". The training group without follow up scored significantly higher than the comparison group [$p < 0.05$]. Statistical tests used: ANOVA and t-test

Post-training assessment

Self-administered checklist (part 1)

Statistically significant differences were found between the two training groups and the control group scores. The two training groups scored higher than the control group on the majority of the checklist items (except for "instructing a new colleague) at either $p < 0.01$ or $p < 0.05$.

Scores showed no gender differences in performance in the self-administered checklist.

Role play (part 2)

All the scores among the three groups of participants were significantly different at the 0.01 level. Post hoc comparisons showed that the scores of both training groups were significantly higher than the control group. A statistical significance difference was found in female participants' scores. Women scored higher than men for *non verbal skills* [$p < 0.01$] and *subtotal score on basic social skills* [$p < 0.05$].

Follow up questionnaire

Three months after the completion of the training program, 46.7% (14/30) of people in the training group with follow-up contact were gainfully employed. 23.1% (6/26) of people in the training group without follow-up were also gainfully employed and only 2.4 % (1/41) of the control group were employed.

The authors did not discuss the relevance of the results to clinical practice. The authors reported the data in terms of group means (without standard deviation). Therefore, it was not possible to determine the clinically important treatment effect or the confidence interval.

No power calculation was performed to determine the appropriate sample size, However, this was not of great significance as the authors were able to perform reliable statistical tests and find statistical significance between the groups.

IMPLICATIONS FOR PRACTICE/ APPLICABILITY

The results of this study show a positive treatment effect in favour of the two training groups. However, the training group with follow-up was more successful in finding and keeping a job than the other training group (46.7% vs 23.1%). The training group without follow-up was also more successful than the control group (23.1% vs 2.4%). These results suggest that a specific work-related social skills training can prepare people with chronic schizophrenia to engage in the processes involved in successfully gaining employment (e.g. job interviews, dealing with work related situations). Furthermore, having a case manager to call when encountering difficult work situations, and monthly meetings with other people in a similar position to debrief with had a significant impact on their ability to find and keep a job.

This study provides fair evidence that the implementation of social skills training plus a short follow-up period (three months) for people with chronic schizophrenia can have positive effects on vocational outcome. Occupational therapists working with this population can easily adapt the training to make it relevant to the workplace context to suit the job demands (e.g. high demand for clerical staff, cleaners, gardeners, etc)

It is recommended that a vocational social skills training be implemented for people with schizophrenia who want to seek employment as opposed to providing standard services. In addition, a short follow-up period after the completion of training with clients is suggested, as this may further increase their ability to cope with new work-related situations.

REFERENCES

- Crombie, I.K. (1996). *The pocket guide to critical appraisal*. London: BMJ Publishing Group.
- Oxford Centre for Evidence-based Medicine, (2001). Levels of evidence and grades of recommendation. Retrieved on 22/05/04 from http://www.cedbm.net/levels_of_evidence.asp.

Article critically appraised:

- Wing-Hong Tsang, H., & Pearson, V. (2001). Work-related social skills training for people with schizophrenia in Hong Kong. *Schizophrenia Bulletin*, 27(1), 139-148.

Related Articles (not individually appraised)

Level 1a Evidence:

- Crowther, R., Marshall, M., Bond, G., & Huxley, P. (2001). Vocational rehabilitation for people with severe mental illness (Cochrane Review). In *The Cochrane Library*, Issue 2. Chichester, UK: John Wiley & Sons.
- Landeen, J. (2001). Review: Social skills training, supported employment programmes, and cognitive behaviour therapy improve some outcomes in schizophrenia. *Evidence Based Nursing*, (4)4, 115

Level 2b Evidence

- Chien, H., Ku, C., Lu, R., Chu, H., Tao, Y., & Chou, K. (2003). Effects of social skills training on improving social skills of patients with schizophrenia. *Archives of Psychiatric Nursing*, 17(5), 228-36.
- Hayes, R.L., Halford, W.K., & Varghese, F.N. (1991). Generalization of the effects of activity therapy and social skills training on the social behavior of low functioning schizophrenia patients. *Occupational Therapy in Mental Health*, 11(4), 3-20.
- Liberman, R.P., Mueser, K.T., & Wallace, C.J. (1986). Social skills training for schizophrenic individuals at risk for relapse. *American Journal of Psychiatry*, 143, 523-6.
- Marder, S.R., Wirshing, W.C., Mintz, J., McKenzie, J., Johnston, K., Eckman, T.A., Lebell, M., Zimmerman, K., & Liberman, R.P. (1996). Two-year outcome of social skills training and group psychotherapy for outpatients with schizophrenia. *American Journal of Psychiatry*, 153(12), 1585-92.
- Roder, V., Brenner, H.D., Muller, D., Lachler, M., Zorn, P., Reisch, T., Bosch, J., Bridler, R., Christen, C., Jaspen, E., Schmidl, F., & Schwemmer, V. (2002). Development of specific social skills training programmes for schizophrenia patients: Results of a multicentre study. *Acta Psychiatrica Scandinavica*, 105(5), 363-371.
- Tsang, H.W. (2001). Rehab rounds: Social skills training to help mentally ill persons find and keep a job. *Psychiatric Services*, 52(7), 891-894.
- Wallace, C.J., & Liberman, R.P. (1985). Social skills training for patients with schizophrenia: A controlled clinical trial. *Psychiatry Research*, 15(3), 239-47.

Level 3b Evidence

- Creegan, S., & Williams, L.S.R. (1997). Supportive employment for individuals with chronic schizophrenia: the case for a National Health Service community-based sheltered workshop. *Occupational Therapy International*, (4)2, 99-115.

Level 5 Evidence

- Roder, V., Zorn, P., Muller, D., & Brenner, H.D. (2001). Rehab rounds. Improving recreational, residential, and vocational outcomes for patients with schizophrenia. *Psychiatric Services*, (52)11, 1439-41.