**Interventions for employment participation  
in people with autism, intellectual disability,   
and/or psychosocial disability**

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The University of Melbourne  
UNSW Canberra

**Systematic   
Literature  
Review**

The **Economic Participation and Employment project** is funded by the National Disability Insurance Agency. The program aims to better understand the best available evidence regarding the effectiveness of different disability employment interventions and also provide insight into the best current evidence and practice relating to these programs. The research is a collaborative project between researchers at the Disability and Health Unit within the Melbourne School of Population and Global Health at the University of Melbourne, the Brotherhood of St Laurence and the University of New South Wales Public Service Research Group. This report forms part of a larger project and seeks to systematically assess vocational interventions aimed at improving employment participation of people with autism, intellectual and/or psychosocial disability. It was conducted by the Disability and Health unit at University of Melbourne and the Public Service Research Group at UNSW.

**Disability and Health Unit (DHU), Melbourne School of Population and Global Health, The University of Melbourne**

DHU aims to improve the health of people with disability, their families and communities through rigorous research and knowledge exchange. DHU brings expertise in complex data analysis, mental health, employment, gender studies, and public health. They lead a range of large interdisciplinary projects on employment programs for people with disability with a focus on youth. Other projects focus on violence, abuse and neglect; experiences of NDIS participants and utilisation of NDIS plans; young people with disability and young carers; monitoring disability-related health inequalities; and simulations of policy interventions to improve health outcomes for people with disability. DHU works collaboratively with governments, advocacy groups, services and other stakeholders to generate evidence about how to enhance the health and wellbeing of people with disability. The Unit hosts the NHMRC Centre of Research Excellence in Disability and Health.

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# Executive Summary

Background

People with autism, intellectual disability and/or psychosocial disability experience poorer employment outcomes than Australians without disability. The NDIA’s vision is for people with autism, intellectual disability and/or psychosocial disability to have the same opportunities to work as other Australians, and to ensure they have the confidence, support and skills to take advantage of opportunities available within the workplace.

Systematic Review

The Systematic Review is part of a program of work funded by the National Disability Insurance Agency (NDIA). The program aims to better understand the best available evidence regarding the effectiveness of different disability employment interventions and also provide insight into the best current evidence and practice relating to these programs.

Aim

The aim of this review was to systematically assess vocational interventions aimed at improving employment participation of people with autism, intellectual disability and/or psychosocial disability. Therefore, it sought to directly inform the NDIA on what interventions can best support NDIS participants in the target populations.

Methods

The protocol for this Systematic Review was a-priori registered with PROSPERO (International prospective register of Systematic Reviews, CRD42020219192).

Studies were included if they met *all* of the following criteria:

* Reported on the primary outcome of interest for this systematic review – open or supported employment at the follow-up closest to the end of the intervention, but no longer than 12 months post-intervention.
* Took place in a high-income country
* Had a vocational component aimed at increasing participation in open or supported employment.

Secondary outcomes of interest from eligible studies were also included: sustained employment; job satisfaction (measured using validated tool); and work readiness (measured using validated tool). Eight databases were searched (MEDLINE, Embase, PsycINFO, Web of Science, SCOPUS, CINAHL, ERIC, ERC). Search results were screened independently by two researchers using Systematic Review software COVIDENCE. The risk of bias of the RCTs was assessed using the Cochrane Risk of Bias tool (ROB-II).

Findings

Twenty-six RCTs were identified (23 for people with psychosocial disability, 3 for people with autism and none for people with intellectual disability).  All studies were assessed as being at moderate or high risk of bias.

Study populations

The study populations varied across studies but were either restricted to people in the target population who were unemployed or not in work (for varying lengths of time) at baseline or employed but looking for more or other work at baseline.

Control groups

The non-intervention (control) group varied across the RCTs. Most studies focussed on supply-side vocational interventions and tested one component of those interventions (e.g., virtual reality interviewing) with a wait list control group. Some studies compared the intervention group with usual practice (e.g., Project SEARCH compared to usual high school special education supports. Other studies compared a particular vocational intervention with that intervention plus an additional element.

Definition of primary and secondary outcomes

In terms of the primary outcome of this systematic review, the majority of included studies defined open employment as work that paid at least minimum wage, that was located in mainstream settings and open to applicants from the general public. Three studies operationalised competitive employment as accepted job offers while other studies defined open employment as accepted job offers and actively working at that job. The definition of actively working varied per study, with length of time working between 1 hour through to continuously worked in a job for at least 2 months for at least 20h/week. In some studies, it was not clear how the employment outcome was defined. Only 6 studies assessed one or more secondary outcomes of interest for our review.

Synthesis of effects

For people with psychosocial disability, we found evidence for a beneficial effect of IPS compared to traditional vocational rehabilitation or other control condition on open employment outcomes in almost all (11/12) studies. There was some evidence that IPS plus interventions, as well as several single studies using a vocational program component increased open employment outcomes. For people with autism, there is evidence of benefit for Project SEARCH and ASD Supports on open employment participation, from three studies with young people aged 18-21 years.

Regarding our secondary outcomes of interest, few studies assessed sustained employment, work readiness, job satisfaction and cost-effectiveness, and no studies formally assessed barriers and facilitators for implementation.

Insights and considerations

There were concerns about the quality of all the included studies, mainly due to a lack of published study protocols and/or statistical analysis plans, missing outcome data and potential for selective reporting. Studies with people with autism are limited to young people aged under 21 only, and we did not identify any eligible RCTs with people with intellectual disability. Furthermore, it is not clear the extent to which the participants in the RCTs correspond with NDIA participants with autism and/or psychosocial disability.

Based on the findings of the Systematic Review we recommend that programs where there is evidence from more than 1 RCT should be considered (i.e., IPS (11/12 studies favoured IPS over control) and Project SEARCH+ASD support (3/3 studies favoured SEARCH+ASD over control). The NDIA should work with other agencies including Department of Education, Skills and Employment, Department of Social Services, people with disability, and other stakeholders to rapidly enhance the empirical evidence base. In doing this they could work across the sector to define how employment outcomes are measured so that there is consistency and projects are comparing ‘like with like’.

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# Aim

The aim of this review was to systematically assess vocational interventions aimed at improving employment participation of people with autism, intellectual disability and/or psychosocial disability (supply side).

# Methodology

## Registration

The protocol for this systematic review was a-priori registered with PROSPERO (International prospective register of systematic reviews) (CRD42020219192).

## Eligibility Criteria

Study design: We aimed to include randomised controlled trials (RCTs), and we planned to include non-randomised interventions only if there was not sufficient RCT data available.

**Context**

Only studies conducted in high-income countries as defined by the World Bank1, and published in English in/after 2010 were included.

**Participants**

Eligible studies included people with autism, intellectual disability and/or psychosocial disability (Supplementary file 1). For inclusion in the systematic review, individual studies had to include participants with a medical diagnosis of autism spectrum disorder, intellectual disability and/or fit the following definition of psychosocial disability: a medical diagnosis of at least one mental illness that hinders participation in employment, and at least 75% of the study participants must have a severe mental illness. We defined severe mental illness as schizophrenia and other psychoses, bipolar disorder, severe depression and severe anxiety in accordance with the Royal Australian and New Zealand College of Psychiatrists2. For psychosocial disability, we excluded studies on people with substance use disorder without any other mental illness, consistent with other reviews in this area3–5. We accepted diagnoses using recognised diagnostic criteria. We only included studies in which at least 75% of participants were aged between 16 and 64 years6. We excluded studies that included people with other diagnoses but did not separately report the data on participants with autism, intellectual disability and/or psychosocial disability.

**A note on terminology**

Different countries use different terminology to refer to employment programs and workplaces. For example, Australia uses the terminology ‘supported employment’ to refer to workplaces designed specifically for workers with disability who are usually paid below award wages (Australian Disability Enterprises) while the US and other countries use 'supported employment' to refer to 'vocational programs'. Other countries use the term ‘supported employment’ to refer what Australia calls supported employment. To maintain consistency with the typology and Australian practice we adopt the language used Australia. However, in the tables we refer to programs by name so have not removed supported employment from those titles but have indicated that they are vocational programs in the text that describes them.

**Interventions**

Eligible interventions included a vocational component and were aimed at increasing participation in open or supported employment. This may include skills development, career counselling, work experience, work placement programs, active labour market programs, supported employment, user-led organisations, customised employment, and workplace practices. We excluded interventions that included medical or pharmacological components, such as antidepressants for people with psychosocial disability arising from depression and psychological interventions such as cognitive-behavioural therapy, unless these were part of both the intervention and control arms, and the intervention arm included a vocational component.

**Comparator/control**

We included studies where the control group either received no intervention (a passive or wait-list control condition) or received an active control intervention that fit the criteria of an eligible intervention.

## Search Strategy

We searched the following electronic databases from 2010 to 20205,7: MEDLINE (Ovid), Embase (Ovid), PsycINFO (EbscoHost), CINAHL (EbscoHost), ERIC (EbscoHost), Scopus and Web of Science.

Our database-specific search strategies for RCTs and non-randomised studies are included as Supplementary file 2. We also checked reference lists of systematic reviews that were identified through the literature search and environmental scan as highly relevant (we identified four5,8–10), to ensure no RCTs were missed in the search.

To screen studies for inclusion, we used COVIDENCE software, an online management tool that enables a team of researchers to independently screen titles and abstract, full-text articles, and remove duplicates for systematic literature reviews. After duplicates were removed, two researchers independently reviewed titles and abstracts. Publications identified for further review underwent independent full-text screening to determine final eligibility by two researchers. COVIDENCE identified any discrepancies in screening which were discussed with the researchers. A third researcher resolved disagreements if reviewers one and two could not reach agreement.

## Outcome measures

We only included studies that measured and reported at least one of the primary outcomes for this systematic review: the number or proportion of participants who obtained 1) open employment or 2) supported employment; at pre-intervention and post-intervention. We include the follow-up time closest to end of intervention, but no longer than 12 months post-intervention.

Additional outcomes included: 3) Sustained employment measured by the number of participants who have maintained employment at a follow-up timepoint closest to but longer than 12 months post-intervention; 4) Job satisfaction at pre-intervention and post-intervention if employed (only if measured using a tool validated for people with disability) and 5) Work readiness 11,12 at pre-intervention and post-intervention (only if measured using a tool validated for people with disability).

If the evidence was sufficiently strong and consistent for the implementation of interventions we summarised, where possible, 6) reports of barriers and facilitators for the successful implementation of interventions, and 7) cost-effectiveness of interventions.

## Data extraction

One researcher extracted data using an excel spreadsheet template. A second researcher in the team extracted data for randomly selected studies, for comparison of interrater reliability. Discrepancies were resolved at various time points and discussed with a third person to enable clarification on subjective areas of data extraction. After the second researcher had extracted data for 11 studies, and several iterations, no more discrepancies were found. For each included study, we extracted the following:

* Authors, year of publication
* Methods: study location, study setting, study design, allocation method, randomisation method, relevant follow-up timepoints
* Participants: sample size, inclusion and exclusion criteria, enrolment year, disability type, diagnostic criteria, gender, age, employment status
* **Interventions:** control/comparator description and duration, intervention description and duration, number of participants in intervention and control conditions at baseline and follow-up timepoints
* **Outcomes**:   
  definition of open or supported employment (measured at pre-intervention, post-intervention, and further follow-up if available), the number of participants who obtained supported or open employment, sustained employment, job satisfaction and the tool used to measure job satisfaction, work readiness and the tool used to measure work readiness. Where there was sufficient evidence for the implementation of intervention, data were extracted on barriers and enablers for successful implementation and cost effectiveness of interventions if assessed in the study
* **Analysis**:   
  method for missing data, type of analysis

We obtained the descriptive statistics and outcomes of analysis as reported by the individual studies for the narrative synthesis including numbers, percentages, odds ratios (OR), effect sizes, 95% confidence intervals, mean and standard deviations, and p-values. We contacted authors for additional details or clarification if the information we required was not available in the articles.

## Assessment of Risk of Bias

One researcher assessed the risk of bias of each in an excel spreadsheet template. A second researcher independently assessed the risk of bias for 10% (three) randomly selected studies to ensure interrater reliability; discrepancies were resolved through discussion. If there were large discrepancies identified in assessment, another 10% would be undertaken, but this was not necessary.

For RCTs we used the Cochrane Collaboration Risk of Bias (RoB) Tool13, which assesses 1) sequence generation, 2) allocation concealment, 3) blinding of participants and personnel, 4) blinding of outcome assessors, 5) incomplete outcome data, 6) selective outcome reporting and 7) other sources of bias. The overall risk of bias for each randomised controlled trial was scored and reported on.

If non-randomised studies were deemed necessary for inclusion, we planned to use the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Cohort Studies for cohort studies and the JBI Critical Appraisal Checklist for Quasi-Experimental Studies for quasi-experimental studies14.

We planned to assess the strength of the evidence using Grading of Recommendations, Assessment, Development and Evaluation (GRADE) if a meta-analysis was possible.

## Data synthesis and analysis

We generated descriptive statistics for each of the studies that met our eligibility criteria and study population characteristics across all eligible studies. The characteristics describe the types of comparisons and key clinical and methodological characteristics of the eligible studies (e.g., year of publication, age of participants, types of disability, type of interventions, and outcome measure).

If studies were of sufficient quality and there was consistency across studies in terms of study design, outcome measure, intervention and control/comparator, we planned to conduct a random-effects meta-analysis on the primary outcomes using STATA, as well as GRADE assessment for strength of evidence. If a meta-analysis was not feasible, a comprehensive narrative synthesis was planned for the primary outcomes per type of disability. We performed a narrative synthesis for the secondary outcomes (not per type of disability). For each included study, we provided summaries of the risk of bias assessment.

# Results

## Study Selection

Our first search, for RCTs, resulted in 2213 articles for abstract and title screening after the removal of 1886 duplicates *(Figure 1).* One hundred and seventeen articles underwent full text screening, from which 29 articles were eligible, which included 26 individual studies and 3 articles reported on sustained employment outcomes from the original studies. There were 23 studies on people with psychosocial disability, and three studies on people with autism. No RCTs were identified for people with intellectual disability. No additional RCTs were identified from screening the reference lists of relevant literature reviews5,8–10.

Because we did not identify any RCT studies featuring people with intellectual disability, and only three focusing on people with autism, we performed another search (based on the previous search strategy, outlined in supplementary file 2) for non-randomised interventions for these populations of interest. After the removal of 828 duplicates, we screened abstracts and titles of 688 articles *(Figure 2*). After full text screening of eight articles, only two studies were eligible for inclusion: one study in people with autism and one in people with intellectual disability. Therefore, the two eligible non-randomised studies were included in the environmental scan, and the results reported here focussed only on RCTs identified in the first search.

**Identification**

**Screening**

**Eligibility**

**Included**

Records identified through database searching (n = 4099):

Medline (n = 608)

Embase (n = 1057)

PsycINFO (n = 633)

CINAHL (n = 927)

ERIC (n = 29)

ERC (n = 59)

Web of Science (n = 459)

Scopus (n = 327)

Records screened

(n = 2213)

Records after 1835 duplicates removed in Zotero (n = 2264)

Records excluded

(n = 2096)

Full-text articles assessed for eligibility (n = 117)

Articles included (n = 29)

Individual studies (n = 26)

Full-text articles excluded (n = 88):

* Not correct population (n = 21)
* Not correct study design (n = 19)
* Not correct outcome (n=17)
* Intervention not vocational (n = 11)
* Medical intervention included in one condition only (n=9)
* No passive control or active control that fits inclusion criteria (n=8)
* Not correct follow-up period (n=2)
* Not published in English (n=1)

Records after 51 duplicates removed in Covidence

(n = 2213)

Figure 1 PRISMA flow diagram for randomised controlled trials

**Identification**

**Screening**

**Eligibility**

**Included**

Records identified through database searching (n = 1516):

Medline (n = 177)

Embase (n = 520)

PsycINFO (n = 101)

CINAHL (n = 171)

ERIC (n = 119)

ERC (n = 128)

Web of Science (n = 187)

Scopus (n = 113)

Records screened

(n = 688)

Records after 617 duplicates removed in Zotero (n = 899)

Records excluded

(n = 680)

Full-text articles assessed for eligibility (n = 8)

Articles included (n = 2)

Full-text articles excluded (n = 6):

* Not right population (n = 2)
* Arms not matched on disability type, sex and age (n = 1)
* Intervention not vocational (n = 1)
* Not correct study design (n = 1)
* No comparison group (n = 1)

Records after 202 overlapping studies removed

(n = 697)

Records after 9 duplicates removed in Covidence

(n = 688)

Figure 2 PRISMA flow diagram for non-randomised studies

# Study and participant characteristics

The study and participant characteristics are provided in Table 1 and Table 2.

Participants

We included 26 RCTs with a total of 2679 participants (range 14-219). For the total number of participants randomised, we did not count participants who were initially randomised, but then excluded from studies for reasons such as ineligibility15,16. One study included data from participants in previous RCTs, and we included these in our total count17. Most of the studies included people with psychosocial disability (23 studies, n=2465), and the three remaining studies included people with autism (n=214). Of those studies with people with psychosocial disability, three studies included people with schizophrenia only17–19, while another three studies focused on people with psychosis20–22. The 2012 study by Davis et al. included veterans with post-traumatic stress disorder23, and the 2018 study by Davis et al. included participants with a mood, anxiety and/or psychotic disorder who were recently released from arrest or incarceration24. This therefore limits the generalisability of the results from the Davis et al. 2012 and Davis et al. 2018 studies to people with psychosocial disability who, respectively, are veterans or were recently released from arrest or incarceration. In one study, only participants without severe impairment were included25. A study with 109 people with early psychosis included one participant who also had a diagnosis of Asperger’s syndrome21.

All of the studies only included participants who were diagnosed with a mental disorder at baseline. Albeit, we included one RCT with a small percentage of participants (7%) who were in receipt of long-term mental health services (therefore severe mental illness was assumed by the study author) but for whom “no diagnosis was available” or “diagnosis was postponed”26.

Seven of the eight studies assessing the effectiveness of IPS compared to TVR only included participants who were unemployed at baseline19,23,25–29.

The three studies with people with autism included youth with a medical diagnosis of ASD or educational identification of autism, aged between 18 and 21 years old30–33. Wehman et al. publish findings from the same study in two separate articles, in 2014 and 201730,31. In Wehman et al.’s preliminary 2014 findings, the authors reported that 25% of participants in the intervention and control groups had intellectual disability in addition to ASD30. However, the most recent findings reported by Wehman et al. in 2017 included additional participants and do not report the proportion of participants with intellectual disability31. In the study conducted by Wehman et al. in 2020, 44.8% of intervention participants and 62.2% of control participants reported co-morbid secondary diagnoses, of which the most common was intellectual disability32. The participants in the Whittenburg et al. 2020 study were military-dependent or -connected youth with autism; that is, their immediate family members worked for the military or were veterans33. While participants with comorbid intellectual disability and/or mental health disorders were included in this study, the authors were unable to share with us the proportion of participants with these comorbidities.

Location and duration of studies

Almost half of the studies were performed in the US (n=12), three in the UK, three in Canada, two in Japan, two in Australia, and one in each Sweden, Switzerland, Netherlands, and Hong Kong. The duration of interventions ranged from 5-10 business days17,34 to 5 years 35,36. The studies conducted by Bond et al. and Michon et al. placed no limits on the duration of the interventions16,26. The duration of the intervention was unclear in the studies by Oshima et al. and Schneider et al.29,37.

Intervention characteristics

The intervention and comparison condition characteristics of studies with people with psychosocial disability are summarised in Table 3, and for studies with people with autism in Table 4. For people with psychosocial disability, individual placement and support (IPS) was the most commonly used intervention (15/23 studies)16,18–23,25–29,37–39. IPS is a model of vocational program that assists clients to search for open employment, and supports them to maintain employment40 (Table 3).

Eight studies examined the effect of IPS compared to traditional vocational rehabilitation (TVR) 19,20,23,26–29,38, and three studies examined the effect of IPS compared to control conditions other than TVR16,21,39. Three studies assessed the effect of IPS plus another intervention18,22,37, and one study that examined three interventions: TVR, IPS and IPS plus additional intervention25, described in Table 3.

The remaining eight studies included the following intervention types: Job Coach based on modified IPS model35, supported employment plus skills development41–43, work-related skills development17,24,34, and career guidance15. Project SEARCH and autism spectrum disorder (ASD) Supports was the only intervention assessed for people with autism31–33 (Table 4).

Outcome measures

All RCTs reported data for at least one of our primary outcomes (proportion of participants who obtained open or supported employment). However, “employment” was operationalised using a range of different definitions and timeframes. Almost all studies reported the proportion of participants in open employment (25/26), albeit most at different timepoints and using different measures. Four studies reported point prevalence, 19 studies reported period prevalence and 2 studies reported both point and period prevalence.

The studies by Twamley t al.19 and McGurk et al.41 also reported the proportion of participants in any paid employment during 0-12 and 0-24 months from baseline, respectively. Bond 201516 and Hoffman 2014 and 201735,36 reported supported employment at the 12-month and 24-month timepoints respectively. Oshima 2014 reported supported employment for the 6-month period of the intervention29. Davis 2018 was the only included study that did not report open employment; rather, the authors reported the paid employment rate from end of intervention to 30 days post-intervention24.

The majority of studies reported employment outcomes at the end of intervention (n=19) at 4.5 months15, 6 months from baseline20,41, 9 months31–33, 12 months16,19,21–23,38,42, 15 months25, 18 months18,27, 24 months28, 27 months39, 39 months25 and 5 years35. Nuechterlein et al. reported employment data for the initial 6 months of intensive intervention and for an additional 12 months of less intensive treatment18. Hence, we report data for both time points. Poremski et al. provided employment data for the entire intervention period with IPS fidelity ranging from ‘not IPS’ to ‘good fidelity’, and for the last 8 months of the study with good fidelity39. Hence, we synthesised data from the last 8 months, rather than the entire intervention. In the study conducted by Tsang et al., the traditional vocational rehabilitation condition ended at 15 months while the Individual Placement and Support and Integrated Supported Employment conditions ended at 39 months25. The Whittenburg et al. study provides preliminary findings from the first year of a three-year study33.

The studies conducted by Bond et al. and Michon et al. placed no limits on the duration of the interventions16,26. We therefore reported data from the most recent follow-up timepoints at 12 months16 and 30 months26 from baseline, respectively. The duration of the intervention was unclear in the studies by Oshima et al. and Schneider et al., but data were collected at 6 months and 12 month from baseline respectively29,37.

Four studies did not collect data immediately post-intervention. One study reported employment outcomes at 1 month post-intervention24, and two studies at 6 months post-intervention17,34. In the study by Lecomte et al., the duration of the CBT-vocational intervention was 1 month but the supported employment continued for 12 months for both groups, and employment status was reported at 12 months43.

Only McGurk et al. reported employment data for our secondary timepoint of interest – a timepoint closest to, but longer than, 12 months post-intervention41. The duration of the cognitive enhancement intervention was 6 months but participants in both conditions received vocational support for 2 years, and employment data is provided at 18 months postintervention.

Outcome definition

The majority of studies defined open employment as work that paid at least minimum wage that was located in mainstream settings and open to applicants from the general public. Three studies operationalised competitive employment as accepted job offers17,33,34 while other studies defined open employment as accepted job offers and actively working at that job18, working for at least one hours37, five or more work hours per week29, working for any part of a day19, attending at least 1 day of paid work20,21,26,38,42, working at least 1 day in a 30-day period39, hold the job for at least 5 days35,36, at least 1 week27, continuous employment for at least 30 days (with part-time employment rated pro-rata)28,44, continuously worked in a job for at least 2 months for at least 20h/week25. Davis 2018 operationalised employment as working in a paid job within the last 30 days24. It was unclear how the remaining studies operationalised employment22,30–32,41. The heterogeneity in outcome definition and method of measurement between the included studies prevented us from synthesising the data using meta-analysis. Therefore, we report the statistical analyses of each study as the authors reported it.

Only three studies reported that the outcomes were assessed by someone who was blind to the randomisation21,25,37 the other studies either did not report enough information or the outcome assessor was either aware of the participants’ assigned intervention group or was the participant themselves.

# Synthesis of effects – primary outcome of this review

Open employment participation in people with psychosocial disability measured within 12 months post-intervention

Eight studies examined the effect of IPS compared to traditional vocational rehabilitation (TVR) on open employment (measured in a variety of ways and time frames) and all favoured IPS19,20,23,26–29,38 (Table 5). Three studies examined the effect of IPS compared to control conditions other than TVR16,21,39 of which two favoured IPS but the study by Erickson et al showed no effect (Table 5).

Three studies assessed the effect of IPS plus another intervention18,22,37, of which the study by Craig22 et al favoured IPS plus over IPS only, the study by Nuechterlein18 et al showed no effect initially (6 months) but favoured IPS plus vs Conventional Brokered Vocational Rehabilitation plus social skills training intervention, and the study by Schneider at al showed no effect for IPS plus vs IPS only37.

One study that examined three interventions: TVR, IPS and IPS plus25, and favoured IPS and IPS plus over TVR at the first timepoint, and IPS plus over IPS at both timepoints.

The remaining eight studies showed positive effects for the Job Coach intervention (based on IPS)35, and for the supported employment plus skills development42,43, although the data for the Thinking Skills for Work Program at this time point were unclear41. There was no evidence for the standard coaches vs vocational coaches intervention24 or vocational empowerment photovoice intervention15. There was some evidence for the virtual reality job interview training but no statistical analyses were undertaken17,34.

Supported employment with vocational support

Three studies with people with psychosocial disability investigated whether the interventions impacted on supported employment; two studies found that more participants in the control than IPS or Job Coach conditions were in supported employment16,35,36. Oshima et al. found no significant difference in supported employment rates29.

Any paid employment participation

Two studies with people with psychosocial disability reported positive effect on paid employment; Davis et al using vocational coaches24 and Twamley et al using IPS.19

Open employment participation in people with autism

The findings of all three studies with people with autism were in favour of Project Search and ASD Supports for open employment at the end of intervention (12 months)31–33, although one study was small and did not perform statistical analysis (Table 6).

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# Synthesis of effects – secondary outcomes of this review

Sustained employment

Only one study reported employment data 12 months or more post-intervention; the Thinking Skills for Work Program study conducted by McGurk et al., showed that there were significantly more IPS participants than control participants in open employment from 0 to 24 months41 (Table 5).

Job satisfaction, self-esteem and self-efficacy

Heslin and al., reported no significant difference in job satisfaction28. Three studies assessed self-esteem using the Rosenberg Self Esteem45 questionnaire and found no differences28,44,37. Russinova et al. 15 measured empowerment using The Empowerment Scale46, which has been validated for people with mental health disorders47. The scale has domains of self-efficacy, perceived power, optimism about and control over the future, and community activism. Participants in the Vocational Empowerment Photovoice condition had a significantly greater increase in overall empowerment compared to controls, including self-efficacy15 (Table 5).

Barriers and facilitators for successful implementation

None of the studies formally assessed barriers or facilitators for implementation of the interventions.

Cost-effectiveness of interventions

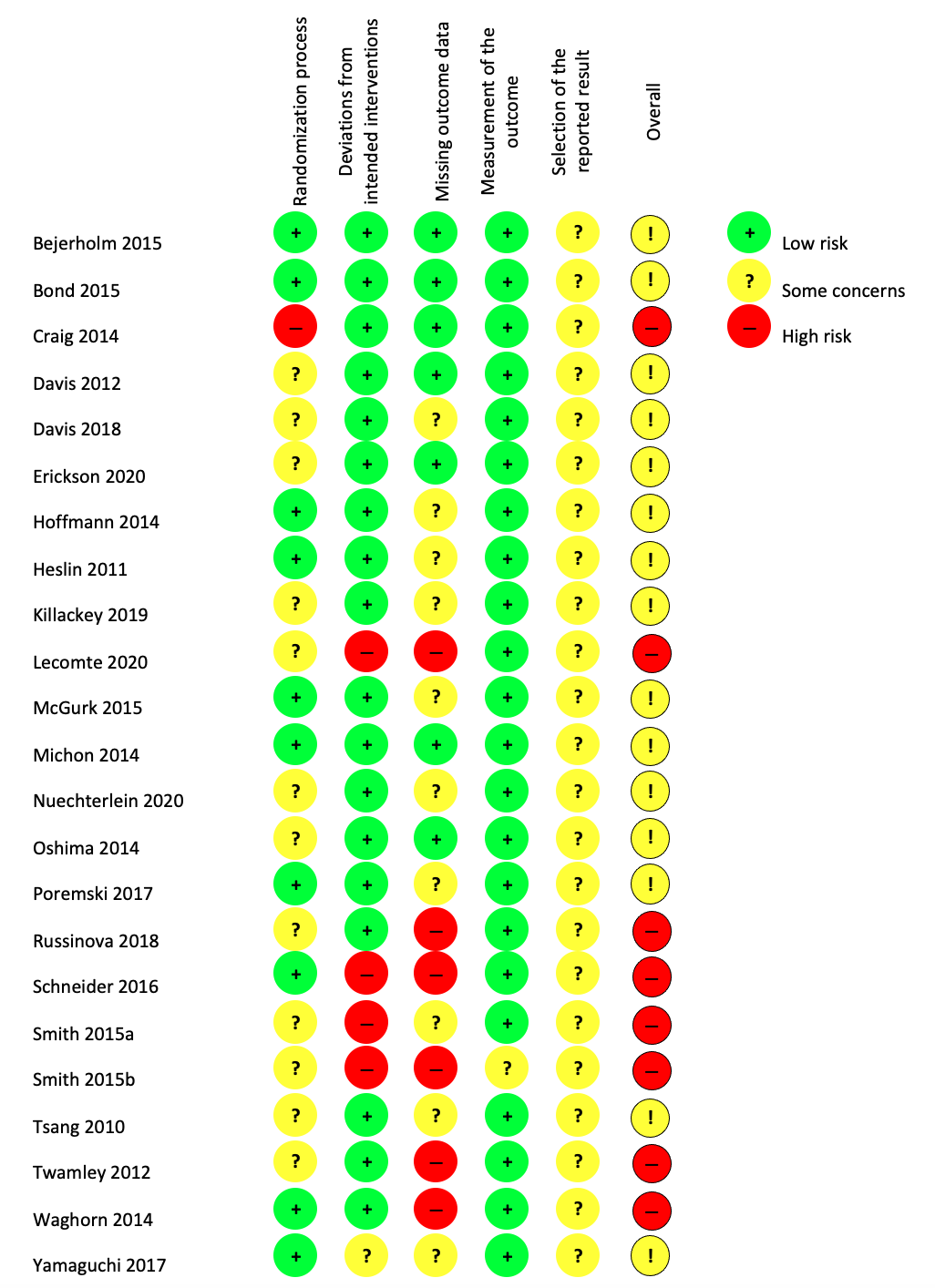
Four studies assessed cost-effectiveness. Heslin et al.28 Hoffman et al35 Schneider et al.37 and Yamaguchi et al.42 found no significant differences in groups.

However, participants in the Job Coach condition had significantly higher income than those in traditional vocational rehabilitation35, and the mean cost for medical services in the cognitive remediation and vocational program intervention group was lower, and the intervention showed high probability for cost-effectiveness in terms of vocational outcomes42 (Table 5).

# Risk of bias

The risk of bias assessments for individual studies are presented in Figures 3 and 4. Overall, 15 studies with people with psychosocial disability, and all three studies with people with autism were assessed to have ‘some concern’ because of the lack of published study protocols and/or statistical analysis plans. Eight studies with people with psychosocial disability were classified as high risk of bias, commonly due to missing outcome data and potential selection of reported results. None of the studies had low risk of bias.

**Figure 3. Risk of bias of included studies with people with psychosocial disability**



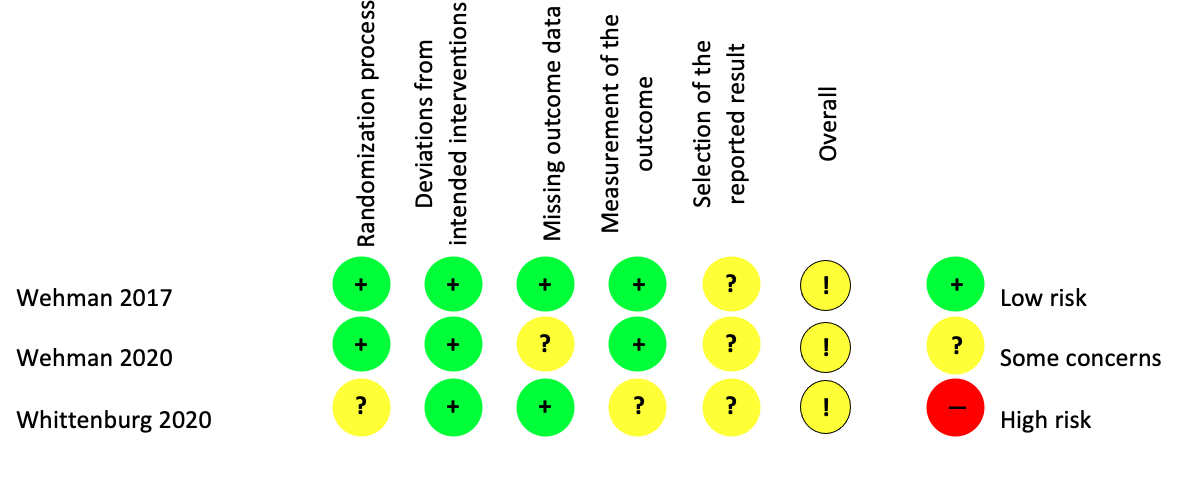


Figure 4. Risk of bias of included studies with people with autism

# Summary of results and conclusion

We found 23 RCTs with participants with psychosocial disability, and 3 RCTs with participants with autism assessing the effectiveness of vocational interventions. We found no RCTs assessing vocational interventions for people with intellectual disability. Our search for non-randomised interventions studies with people with autism or intellectual disability only identified two studies which were not included in this review.

For people with psychosocial disability, we found evidence for a beneficial effect of IPS compared to traditional vocational rehabilitation or other control condition on open employment outcomes in almost all (11/12) studies. There was some evidence for IPS plus interventions over IPS only or another intervention. There was evidence from several studies that interventions using a vocational program component increased open employment outcomes, while studies assessing virtual reality job interview training and vocational empowerment photovoice reported no benefit. For people with autism, there is some evidence of benefit for Project SEARCH and ASD Supports on open employment participation, from three studies with young people aged 18-21 years only. Regarding our secondary outcomes of interest, few studies assessed sustained employment, work readiness, job satisfaction and cost-effectiveness, and no studies formally assessed barriers and facilitators for implementation.

All included studies were assessed as having a moderate or high risk of bias, mainly due to a lack of published study protocols and/or statistical analysis plans, missing outcome data and potential for selective reporting. Due to the large variability in the operationalisation and measurement of the outcome for both open and supported employment, we could not conduct a meta-analysis or GRADE assessment. Future efforts should be focused on establishing consistent standards of outcome measurement for employment interventions in this area, and publishing study protocols including outcome definition, measurement and statistical analysis plans. Furthermore, interventions assessing the effectiveness of vocational interventions on vocational programs for adults with autism, and for people with intellectual disability are completely lacking and are urgently needed.

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Table 1. Characteristics of included studies with people with psychosocial disability

| *Study, Country, Intervention* | *N total (Control/ Intervention)* | *Male participants (%)* | *Age range* | *Mean age (SD) total, control, intervention* | *Description of psychosocial disability (%)* | *Employment status at baseline* | *Authors contacted for further information* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bejerholm 2015, Sweden,  IPS vs. Traditional vocational rehabilitation (TVR) | 120 (60/60) | 55.8 | 18-63 | Total: NR  C: 38 (8)  I: 38 (8)  (only provided whole digits) | 64.2% Schizophrenia and other psychosis (ICD-10 F20-29), 7.5% Bipolar (ICD-10 F31), 27.5% Other diagnoses (ICD-10 F32 F40 F60) | Had not worked in the preceding year | Contacted, no response |
| Bond 2015, USA, IPS vs. Work Choice | 90 (45/45) n=3 dropped post-randomisation and sample reduced to 87 (1 control, 2 intervention) | 79.3 | 18 or older | Total: NR  C: 44.6 (11.6)  I: 42.9 (11.5) | 53% schizophrenia, 18% depressive disorder, 25% bipolar disorder, 3% other (information not available) | No competitive employment in past three months | Contacted, authors responded |
| Craig 2014, UK, IPS and motivational interviewing vs. IPS only | 159 (78/81) | 73.0 | 18–35 | Total: NR  C: Midlands 2: 24 (3.7); London 2: 24 (4.7)  I: Midlands 1: 23 (4.2); London 1: 25 (4.2)  (only provided whole digits) | 100% early psychosis | Unemployed | Contacted, no response |
| Davis 2012, USA, IPS vs. veterans TVR | 85 (43/42) | 88.2 | 19 to 60 | Total: NR  C: 40.5 (12.5)  I: 39.9 (11.9) | 100% post-traumatic stress disorder; 89% major depressive disorder, 20% dysthymia, 54% agoraphobia, 59% panic disorder, 28% social phobia, 42% alcohol dependence, 21% alcohol abuse, 37% drug dependence, and 18% drug abuse | Unemployed | Contacted, authors responded |
| Davis 2018, USA, Vocational Coaches vs Standard Coaches | 32 (16/16) | 78.1 | 17–20 | Total: 17.8 (NR)  C: 17.9 (NR)  I: 17.6 (NR) | 50% major depressive disorder, 25% anxiety disorder, 16% bipolar disorder, 9% state MH Authority Services | Employed or unemployed | Contacted, authors responded |
| Erickson 2020,  Canada,  IPS vs treatment as usual | 109 (53/56) | 82.6 | 18-30 | Total: NR  C: 22.7 (3.3)  I: 23.4 (3.5) | 4.6% schizophreniform, 37.6% schizophrenia, 8.3% schizo-affective disorder, 18.4% bipolar, 9.2% major depression, 15.6% Psychosis NOS, 4.6% substance-induced psychosis, 0.9% delusional disorder, 0.9% Aspergers | Unemployed or employed and seeking better jobs | Contacted, authors responded |
| Hoffmann 2012, Switzerland,  Job Coach vs TVR | 100 (54/46) | 65.0 | 18-64 | Total: NR  C: 34.1 (9.2)  I: 33.5 (9.8) | 38% schizophrenia spectrum, 41% affective disorder, 21% other, 12% concomitant substance abuse | Out of competitive employment | Attempted to contact, email address invalid |
| Howard 2010, UK,  IPS vs TVR | 219 (110/109) | 67.1 | 18-65 | Total: NR  C: 38.3 (9.3)  I: 38.4 (9.5) | 72.5% psychotic disorder; 27.5% mood disorder | Unemployed for at least 3 months | Contacted, no response |
| Killackey 2019, Australia,  IPS vs treatment as usual | 146 (73/73) | 69.2 | 15–25 | Total: 20.4 (2.4)  C: 20.5 (2.1)  I: 20.4 (2.7) | 100% psychotic disorder including 43.8% schizophreniform/schizophrenia, 13.0% schizoaffective disorder, 11.6% major depressive disorder with psychotic features, 13.7% bipolar disorder, 11.6% psychosis not otherwise specified, 6.2% other. | Unemployed or employed | Contacted, authors responded |
| Lecomte 2020, Canada,  Vocational cognitive behaviour therapy plus supported employment program vs. supported employment | 164 (85/79)  Data recorded as treated, not as intention to treat. | 60.7% | NR | Total: 36.6 (11.3)  C: 37.0 (11.6)  I: 36.1 (11.0) | Severe mental illness (schizophrenia, bipolar, or major depression). Primary diagnoses: 18.5% Dx Mood disorder, 7.4% Dx Anxiety disorder, 0.6% Dx Organic disorder, 58.6% Dx Psychotic disorder, 1.2% Dx Substance-related, 6.2% Dx Personality disorder, 1.9% Dx Developmental disorder, 5.6% Dx Other. | Currently not working and seeking work, or working less than 5 hours a week and wishing for another job with more hours. | Contacted, authors responded |
| McGurk 2015, USA, Thinking Skills for Work Program and Enhanced supported employment vs Enhanced supported employment | 107 (50/57) | 75.4 | NR | Total: 44.1 (11.0)  C: 42.9 (10.7)  I: 45.1 (11.3) | 23.4% schizophrenia, 22.4% schizoaffective disorder, 23.4% bipolar disorder, 16.8% major depression, 14.0% other | Not worked in past 3 months, or exited competitive job that lasted <3 months | Contacted, authors responded |
| Michon 2014, Netherlands,  IPS vs TVR | 151 (80/71) | 74.2 | 18-65 | Total: NR  C: 35.6 (11.0)  I: 34.1 (9.9) | Clients of long-term mental health care and at baseline 93% of participants were diagnosed with one or more specific mental disorders. 50.6% psychotic disorder. Remaining participants had various diagnoses, such as enduring major depression, personality disorders, developmental disorders. At baseline 7% was assessed by mental health care professionals as ‘diagnosis postponed’ or ‘no diagnosis available’. | No paid work | Contacted, authors responded |
| Nuechterlein 2020, USA,  IPS plus Workplace Fundamentals Module vs. TVR plus social skills training intervention | 69 (23/46) | 66.7 | 18-45 | Total: 24.5  C: 25.1 (3.8)  I: 24.2 (4.2) | 84% schizophrenia; 14% schizoaffective disorder, depressed type, mainly schizophrenic; 2% with schizoaffective disorder, manic type, mainly schizophrenic | Employed or unemployed | Contacted, authors responded |
| Oshima 2014, Japan,  IPS vs TVR | 37 (19/18) | 75.7 | 18-59 | Total: NR  C: 41.1 (9.4)  I: 40.1 (8.5) | Primary diagnosis of either schizophrenia, mood disorder, or neurotic disorder | Not competitively employed | Contacted, no response |
| Poremski 2017, Canada,  IPS vs TVR | 90 (45/45) | 63.3 | 18 or older | Total: NR  C: 47.1 (10.6)  I: 45.2 (9.4) | 64% major depressive disorder, 22% psychotic disorder, 6 % panic disorder, 4 % mania-hypomania, 3% post-traumatic stress disorder | Not working | Contacted, no response |
| Russinova 2018, USA,  Vocational Empowerment Photovoice vs Wait-list control | 55 (29/26  N=4 (C:2, I:2) excluded from analysis as already in receipt of employment services) | 39.2 | 18 or older | Total: NR  C: 45.3 (14.2)  I: 47.0 (10.9) | 31.4 % schizophrenia/schizoaffective, 31.4% bipolar, 33.3% bipolar, 2.0% post-traumatic stress disorder and anxiety/panic disorder, 2.0% personality disorder, 2.0% post-traumatic stress disorder, anxiety/panic disorder and personality disorder | Not working | Contacted, authors responded |
| Schneider 2016, UK,  IPS plus work-focused counselling vs. IPS | 74 (37/37) | 70.3 | 18-60 | Total: NR  C: 29.5 (NR)  I: 30.5 (NR) | 43.2% Psychosis, 23.0% Schizophrenia, 14.9% Bipolar disorder, 13.5% Depression, 4.1% Other | Not currently in work | Contacted, authors responded |
| Smith 2015, USA, Virtual reality job interview training vs waitlist control | 25 (8/17)  N=32 with participants from previous RCTs included in analysis (11 control, 21 intervention) | 53.1 | 18–55 | Total: NR  C: 39.1 (10.6)  I: 40.8 (12.2) | 100% schizophrenia or schizoaffective disorder | Unemployed or underemployed | Contacted, authors responded |
| Smith 2015, USA, Virtual reality job interview training vs waitlist control | 70 (22/48) | NR (68.6 at 6 months) | 18–65 | Total: NR  C: 49.1 (10.9)  I: 47 (12.4) | 45.1 Posttraumatic stress disorder, 47.1 Major depressive disorder, 33.3 Bipolar disorder, 15.7 Schizophrenia or schizoaffective disorder | Unemployed or underemployed | Contacted, authors responded |
| Tsang 2010, Hong Kong,  IPS and work-related social skills training vs. IPS vs. TVR | 189 (IPS 65, Integrated Vocational Program 58, TVR 66) | 49.2 | NR | Total: NR  C: 36.5 (7.6)  I: 34.1 (9.0) | 76.7% schizophrenia, 23.3% other | Unemployed | Contacted, no response |
| Twamley 2012, USA,  IPS vs TVR | 58 (28/30) | 63.8 | 45 or older | Total: 51 (SD NR)  C: 51.8 (5.1)  I: 50.3 (3.5) | 40% schizophrenia, 60% schizoaffective disorder | Unemployed | Contacted, authors responded |
| Waghorn 2014, Australia,  IPS vs Non-integrated forms of vocational programs | 208 (102/106) | 69.2 | 18-59 | Total: NR  C: 32.8 (8.9)  I: 32.0 (8.9) | 80.8 Psychotic disorder, 8.2 Bipolar affective disorder, 6.3 Major depression or anxiety disorder | Not employed within the previous three months | Attempted to contact, email failed |
| Yamaguchi 2017, Japan,  Cognitive remediation and vocational program vs TVR | 111 (54/57) | 62.0 | 20–45 | Total: 35 (SD NR)  C: 34.5 (6.8)  I: 34.8 (7.1) | 87.0% schizophrenia, 7.6% major depression or 5.4% bipolar disorder | Unemployed | Contacted, authors responded |

NR = not reported, SD=standard deviation, ICD=international classification of disease, C=control, I=intervention, IPS=Individual placement and support, TVR= traditional vocational rehabilitation

Table 2. Characteristics of included studies with people with autism

| *Study, Country, Intervention* | *N total (Control/ Intervention)* | *Male participants (%)* | *Age range* | *Mean age (SD) total, control, intervention* | *Type of disability (%)* | *Employment status at baseline* | *Authors contacted for further information* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Wehman 2014, USA,  Project SEARCH plus ASD Supports vs. High school special education services | 44 (20/24)  4 assigned to control group dropped out prior to study, so C= 16. | 72.5 | 18-21 | Total: NR  C: 19.1 (1.1)  I: 20.0 (1.1) | Autism (ASD diagnosis and/or educational eligibility of Autism) | Unemployed | Contacted, no response |
| Wehman 2020, USA,  Project SEARCH plus ASD Supports vs. High school special education services | 156 (75/81) | 76.0 | 18–21 | Total: NR  C: 19.5 (1.2)  I: 19.8 (1.1) | Autism | Unemployed | Contacted, no response |
| Whittenburg 020, USA,  Project SEARCH plus ASD Supports vs. High school special education services | 14 (8/6) | 78.6 | 18-21 | Total: NR  C: NR  I: NR | Autism. Participants with comorbid intellectual disability and/or mental health disorders were included. | Unemployed | Contacted, authors responded |

NR = not reported, SD=standard deviation, C=control, I=intervention, ASD=autism spectrum disorder

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| Bejerholm 2015 | IPS (Good to excellent IPS fidelity)  IPS is characterised by eight principles: (1) focus on open employment outcomes, (2) open to anyone who wants to work (3) client preferences guide decisions, (4) rapid job search, (5) systematic job development, (6) time-unlimited individualised supports, (7) integrated with mental health teams, and (8) benefits counselling.  Three employment specialists were recruited, with a caseload ratio of 20 participants per 1 fulltime employment specialist. | Traditional vocational rehabilitation  'Train-place' vocational services, which commonly involve prevocational training in supported settings in a stepwise manner. Services ranged from individual rehabilitation support from a team member in the mental healthcare service, municipality-run supported or day centre activities and prevocational training, joint co-operation of vocational service in the Social Insurance Agency/ Public Employment Service, and support from either the Public Employment Service or the Social Insurance Agency. Some participants enrolled themselves in Fountain House (clubhouse) activities. None of the services were delivering IPS according to the Supported Employment Fidelity Scale (which captures the fidelity of vocational programs). |
| Bond 2015 | IPS (Good IPS fidelity)  IPS was delivered by a team of full-time employment specialists, each with a caseload of 20 participants. The employment specialists received a day-long training on criminal justice issues. IPS involved brief vocational assessment, followed by rapid job search based on participant preferences, and job development by employment specialist who offered to accompany participants to interviews. Employment specialists were the main source of support for participants. | Work Choice (Adequate Work Choice fidelity)  Work Choice is based on the job club model and tailored for people with psychiatric disability. It is characterised by a self-directed job search and assistance with résumé preparation, interview skills, and job leads. The curriculum included training in application procedures, job search strategies, and linkage services. Classes were scheduled weekly at two conveniently located sites. Two half-time workers staffed the program, with a caseload ratio of 40 clients per 1.0 FTE. Peer support was the main source of support for participants. |
| Craig 2014 | IPS and motivational interviewing (Good to exemplary IPS fidelity)  Care coordinators received motivational interviewing training from recognised experts. The training aimed to provide clinicians with a clear understanding of issues such as intrinsic motivation, ambivalence and readiness to change, as well as how to influence conversations, recognise appropriate times to use motivational interviewing and feel confident in the use of motivational interviewing in everyday practice. | IPS only (Good to exemplary IPS fidelity)  The employment specialists were trained to deliver IPS. |

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| Davis 2012 | IPS (Fair IPS fidelity)  The principles of IPS were followed. | Veteran Affairs Vocational Rehabilitation Program  This variable time-limited service included at least one of the following: (1) routine prevocational testing and evaluation for all referred participants, (2) vocational rehabilitation therapy that provided a work regimen with monetary incentives derived from contracts whereby participants are paid on a piece-rate basis related to their production, and (3) a transitional work program that included a temporary work experience either within the Tuscaloosa Veteran Affairs Medical Centre or in community settings and was not necessarily individualised to the participants’ preferences. This program had very little integration with the mental health treatment team. The Vocational Rehabilitation Program specialist provided support during the set-aside work experience and provided job search assistance once the work experience neared completion. There was little or no vocational assistance after open employment was obtained. The specialist had no maximum caseload. The Vocational Rehabilitation Program was consistently rated by the IPS fidelity monitor as ≤40 during the study, which is appropriate for this intervention. |
| Davis 2018 | Vocational Coach  Multisystemic therapy for emerging adults vocational coaches delivered the standard skills curricula enhanced with vocational components based on participants’ desired outcomes, treatment plan and needs. Vocational domains of the curricula were prioritised above other domains. Participants were not connected to state vocational rehabilitation services | Standard Coach plus vocational rehabilitation  Multisystemic Therapy for emerging adults standard coaches delivered standard skills curricula based on participants’ desired outcomes, treatment plan and needs. If participants were interested in employment, their coach referred them to state vocational rehabilitation services for typical vocational support. |
| Erickson 2020 | IPS, good IPS fidelity  Participants received employment support from one of two experienced vocational counsellors. Both IPS workers provided services in a range of locations, both within and outside of the mental health centres. | Treatment as usual  No constraints on the use of other employment support services |

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| Hoffmann 2012, 2014 | Job Coach Project (good IPS fidelity)  The Job Coach Project of the Bern University Hospital of Psychiatry was derived from the individual placement and support model of supported employment. Modifications were made in order to improve sustainability and meet the standards of the Swiss social insurance system and the needs of the Swiss labour market. Some incentives were given to employers of participants in the Job Coach Project. The Job Coach Project was staffed by employment specialists who had a maximum caseload of 15 participants. Participants were assisted by an employment specialist in a rapid job search based on their educational background, work preference, and previous work experience. Once employed, on-the-job training and support is provided to facilitate job maintenance. In the event of job loss, support and assistance are provided to obtain employment. Employment specialists contacted participants at least once a fortnight. | Traditional vocational rehabilitation  Traditional vocational rehabilitation programs in Switzerland are based on a “train-place” approach. Each program participating in this study was deemed by the Federal Social Insurance Office to be the best locally available alternative for the prospective participant. All participants received prevocational training in supported workshops for 6 to 12 months. If feasible, participants then completed 3 to 6 months of training in an open market job. Support ceased at the end of the traditional rehabilitation program regardless of whether the participant obtained open employment. |
| Howard 2010, Heslin 2011 | IPS, high IPS fidelity  IPS programme integrated within community mental health teams provided by a well-established not-for-profit non-governmental supported employment agency. The intervention involved linking four experienced employment specialists (two for each borough) with community mental health teams. The employment focused on rapid placement with continued follow-up support and sought to find employment opportunities that were consistent with participants’ preferences, skills and abilities. However, the integration of the IPS programme was not structural or managerial, reflecting supported employment as it is provided in the vast majority of settings in the UK, which is the current provision referred to by the UK government in its implementation of IPS. | Traditional vocational rehabilitation  Local traditional vocational services consisted of existing psychosocial rehabilitation and day care programmes available in the local area. These services most commonly offered pre-employment preparation (e.g. interview skills, curriculum vitae coaching and application form practise), computers/information technology and confidence building/motivation. |

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| Killackey 2019 | IPS (Good IPS fidelity)  IPS was delivered by a vocational specialist who had a background working in general and disability employment. In keeping with the IPS principles the vocational specialist was embedded as a member of the clinical team. | Referral to external government-contracted employment agencies  Treatment as usual in Australia involves referral to external government-contracted employment agencies. There is typically little follow-up between mental health and employment agencies. The burden of navigating the different systems often falls on the individual. In Australia, people with a mental illness are able to opt out of any welfare-related obligation to seek employment via certification of a medical condition from their medical practitioner.  Note: Participants in both conditions continued to receive standard Early Psychosis Prevention and Intervention Centre treatment, including medical management and review, out-patient case management, access to Early Psychosis Prevention and Intervention Centre group programme and peer and family support. |
| Lecomte 2020 | Cognitive behaviour therapy group intervention adapted for vocational program  Participants received a maximum of eight 1-hour group sessions, twice per week for one month. Participants had their own manual that contained information on all eight sessions, as well as homework to be completed outside of the sessions. Each session was led by two co-therapists and included an average of five participants per group. Sessions usually involved review of the homework, presentation of the theme of the session, presentation of some didactic information, discussions and application to self of the material, writing relevant information to retain into one’s manual, review of the session and presentation of the homework. The last session closes with a graduation celebration. | Vocational program only  Note: no further description was given in article |

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| McGurk 2015 | Enhanced supported employment plus the Thinking Skills for Work Program  The Thinking Skills for Work program uses three strategies to increase cognitive performance at work: (1) cognitive exercise practice, (2) strategy coaching, and (3) teaching coping/compensatory strategies. The cognitive specialist had contact with participants in the Thinking Skills for Work Program and served as a member of the employment team. This involved updating the team about participants’ progress, learning about their difficulties with employment, recommending compensatory strategies for reducing the impact of cognitive challenges, and problem solving related to implementing these and other strategies. | Enhanced supported employment only  The vocational program followed the individual placement and support model. The vocational program was enhanced by training employment specialists on cognitive impairments that interfere with work performance and strategies to help participants cope. Employment specialists had caseloads of 20 participants. Each employment specialist served participants in both treatment conditions. Potential for contamination between conditions was minimised by providing the manual for the Thinking Skills for Work program only to the cognitive specialist who implemented the program. |
| Michon 2014 | IPS (moderate to good fidelity)  IPS was implemented according to protocol. Employment specialists assisted people in getting regular jobs, offered follow-along support, spent most of the time in the community and operated in close collaboration with the other community mental health team members. Employment specialists were placed in community mental health teams with a staff: client ratio ranging from 1:20 to 1:30. The majority of mental health services and treatment offered by these outpatient teams were provided in the community, employing assertive outreach. Four IPS services were trained and monitored on model. | Traditional vocational rehabilitation  Traditional vocational rehabilitation was facilitated by the mental health agency in a separate rehabilitation centre or by public services aimed at vocational rehabilitation.  These services offer a stepwise vocational trajectory, putting much stronger emphasis on lengthy assessment of individual competencies and on connecting to pre- vocational activities such as voluntary jobs before placement in regular jobs. These program characteristics are in contrast with the rapid job search, very short assessment and minimum of prevocational training in IPS. Traditional vocational rehabilitation staff did not participate in the mental health teams. Traditional vocational rehabilitation can be described as a separated train-then-place model. Control services were assessed once with the Quality of Supported Employment Implementation Scale during the middle of the data collection phase. One of the centres with moderate IPS fidelity showed a minimal contrast with the control condition. The three other sites showed adequate fidelity contrasts in the two conditions. |

Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)

| *Study* | *Interventions* | *Control / Comparator* |
| --- | --- | --- |
| Nuechterlein 2020 | IPS plus Workplace Fundamentals Module, good IPS fidelity  The intervention followed the principles of IPS but was adapted to provide supported education for participants whose preferences and situations made resuming education more appropriate than employment. The employment specialist was a member of the clinical team and met with the participants. The Workplace Fundamentals Module used a group-based skills training approach with a focus on the social and problem-solving skills required for employment. Skill areas included: (1) how work/ school changes your life, (2) learning about your place of work or school, (3) identifying stressors, (4) solving problems, (5) managing symptoms and medications, (6) managing health, (7) improving job/school performance, (8) socialising with fellow workers/students, and (9) finding motivation. Each skill involved showing videotaped scenarios, role played practice, generation and evaluation of solutions to individually relevant school/work problems, and individualised homework. Additional scenarios were generated to adapt the Workplace Fundamentals Module to school settings. Participants used the Workplace Fundamentals Module Job Organizing Book during the group sessions, led by the case managers. Participants had 75 min groups once a week for 6 months, followed by booster groups of fading frequency over 6 months. | Conventional Brokered Vocational Rehabilitation plus social skills training intervention  Case managers made referrals to vocational rehabilitation services at separate agencies. The vocational rehabilitation at local state agencies emphasised initial assessment of vocational abilities and interests, referrals to job openings and school opportunities, and arrangements to pay for schooling or job training, but not in-person, active outreach in the community. The study case managers ensured that participants had an initial appointment and served as the communications link with the vocational rehabilitation centre. Participants also participated in clinic-based skills training groups, matched in time to the Workplace Fundamentals Module. Skills training included medication management and communication skills training but did not focus on workplace skills. |
| Oshima 2014 | IPS, good fidelity  Four employment specialists, each employed 30 hours per week, formed the IPS unit. The employment specialists received 4 months of training. | Traditional vocational rehabilitation  Participants received conventional vocational rehabilitation services at the community support centre. The program consisted of prevocational training in various work groups in a simulated environment intended to prepare participants for paid employment. |

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| Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued) | | |
| *Study* | *Interventions* | *Control / Comparator* |
| Poremski 2017 | IPS, good fidelity  Employment specialists were trained. They worked closely with the clinical teams from whose caseloads their clients were drawn. | Free to seek employment by any means of their choice Participants were free to seek employment by any means of their choice with some support from their case managers. Available services included training with eventual placement in jobs reserved for people receiving basic social assistance or disability payments. Community-based services for people who were homeless were also available. None of these services were integrated into the clinical teams, or provided time-unlimited personalised support. Note: Both groups received Housing First, which led to increased housing stability. |
| Russinova 2018 | Vocational Empowerment Photovoice (high VEP fidelity)  The Vocational Empowerment Photovoice program is a manualised peer-led intervention with a 10-week core component delivered in 2-hr group sessions, which is followed by two booster sessions delivered a month apart after the completion of the core curriculum. Each session combines psychoeducational information, exercises, and group discussions relevant to pursuing employment services and opportunities. Photovoice involves participants using cameras to photograph objects or events in their daily lives that are relevant to a given research topic and generating narratives for these pictures through group discussion. The following elements of the photovoice methodology were embedded in the curriculum: overview of the photovoice process, guidelines about the use of camera and of photography ethics, discussion of the VEP photovoice assignments, taking of pictures relevant to each photovoice assignment, group discussion of selected pictures and writing of corresponding narratives, preparation of photovoice pieces for public display, and discussion of relevant audiences. | Wait-list control |

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| **Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)** | | |
| *Study* | *Interventions* | *Control / Comparator* |
| Schneider 2016 | IPS plus work-focused counselling intervention Participants received three to six sessions of work-focused counselling with a psychologist.  This intervention was based on psychological practice, including goal-based motivational procedures and cognitive behavioural therapy. This work-focused counselling intervention was designed to enhance the impact of IPS by addressing common obstacles to employment, which are not directly due to symptomatology and not normally the concern of the clinical team. An intervention manual based on a life goals and a problem solving approach was developed and supplemented by self-help materials. It was delivered by a trained psychologist with individual participants. Each received a booklet (‘Working Well!’) containing information about six topics (anxiety, depression, self-esteem, memory/concentration, stigma and getting on with others), and was asked to choose a maximum of four topics to discuss with the psychologist over up to six sessions lasting about an hour. | IPS only, range from not IPS to good fidelity  Participants were assigned to an employment specialist who met with them to produce an action plan for employment. Participants continued to meet with their employment specialist as often as they wished. |
| Smith 2015a | Virtual reality job interview training  Virtual Reality Job Interview Training is a computer-based intervention developed by SIMmersion LLC (http://www.simmersion.com) to improve interviewing skills for adults with a range of disability. See Smith2015b for further information. | Treatment as usual waitlist control |
| Smith 2015b | Virtual reality job interview training  Virtual Reality Job Interview Training is a software application developed by SIMmersion LLC (www.simmersion.com). Virtual Reality Job Interview Training includes educational content about finding employment, an interactive role-play simulator and integrated feedback. Virtual Reality Job Interview Training allows people with a range of disability to repeatedly practice interviews. During each virtual interview, “Molly Porter,” a human resources manager at a large department store, asks questions about skills and experiences. Molly selects questions from 1,200 options to tailor each virtual interview on the basis of customisable information, skill level, and responses. Thus, participants can practice until they have gained the skills and confidence to interview for employment. | Treatment as usual waitlist control  Individuals with Psychiatric Disability attended their typical outpatient vocational services for two weeks, which may have included preparations for job interviews using didactic and role-play methods. Veterans with Posttraumatic Stress Disorder attended their usual outpatient services for two weeks, which may have included vocational training. |

| **Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)** | | |
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| *Study* | *Interventions* | *Control / Comparator* |
| Tsang 2010 | IPS (Good IPS fidelity)  IPS intervention followed the eight key principles of IPS.  Integrated Supported Employment (good IPS fidelity)  The Integrated Supported Employment program combined IPS and work-related social skills training. The main difference with IPS is that it involves 10-session work-related social skills training. The social skill training was provided to participants before obtaining employment. A problem-solving approach was used to help participants handle interpersonal conflicts throughout the follow-up period.  Note: Three registered occupational therapists were employed as employment specialists to implement either the Integrated Supported Employment (Vocational program) or IPS protocol. Training for the employment specialists was provided. | Traditional vocational rehabilitation  Participants received comprehensive vocational assessments and pre-vocational training conducted in the vocational rehabilitation centres. Vocational assessments included work samples, vocational interest exploration, and situational vocational assessments. After the establishment of participants’ baseline work performance, pre-vocational training on entry-level job tasks were provided in order to help participants develop specific job skills and work habits. The participants were placed in a supported environment in various work groups (e.g. clerical training, computer training, and cleaning training). The aim of the workshop based training was to promote the participants to supported workshop or competitive employment. Services were provided by the staff members of service centres providing supported vocational training in the community. |
| Twamley 2012 | IPS (Fair to good IPS fidelity)  IPS participants received manualized vocational program from an employment specialist who had a maximum caseload of 25 participants. Only one employment specialist. | Traditional vocational rehabilitation  Participants were referred to the Department of Rehabilitation for orientation, intake, and eligibility determination. The conventional vocational rehabilitation was a brokered program for individuals with mental illness. Vocational counsellors had caseloads of 35 participants; additional staff provided job-readiness and prevocational coaching/classes. |
| Waghorn 2014 | IPS, (Good fidelity)  A full-time employment specialist was trained and employed by the employment service as the sole person delivering vocational services. The employment specialist was co-located at the mental health service four days a week. | Non-integrated forms of supported employment (Fair IPS fidelity)  Mental health case managers referred participants to other disability employment services in the local area. Regular communication with the employment specialist was then encouraged to facilitate participant engagement and to monitor progress. |

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| **Table 3. Descriptions of Interventions in included studies with people with psychosocial disability (continued)** | | |
| *Study* | *Interventions* | *Control / Comparator* |
| Yamaguchi 2017 | Cognitive remediation and supported employment  Participants received cognitive remediation in psychiatric day-care or community employment service agencies during the first 3 or 4 months. Psychiatric day-care provides social skills, recreation and a daytime place to stay. However, it does not focus on employment services, acute care to prevent hospital admission, or care for people with severe mental illness. Community employment service agencies provide a group-based work readiness training for people with mental illness before they undergo a job search and are not integrated with medical services. The programme involved two CogPack sessions per week over 12 weeks (24 sessions in total). Tasks were related to attention, concentration, psycho-motor speed, learning, memory and executive functions. In addition, participants had 1-hour verbal group sessions each week following one of CogPack sessions (total: 12 sessions). They discussed the importance of cognitive skills, performing activities of daily living and the development of compensatory strategies for managing persistent cognitive problems, to bridge individuals’ learning outcomes in the computer-based cognitive remediation programme and social/employment skills in their lives. Vocational programs were provided to participants after completion of cognitive remediation. In this study, these services partly incorporated the service principals of the IPS model. The vocational program was not IPS model due to unique employment laws in Japan, and the IPS fidelity scale was not used. During the study period, the staff received the 1-day training for five times to learn skills for cognitive remediation and vocational program. | Traditional vocational rehabilitation  The usual employment services currently used in Japan are based on the brokerage care management model. The care managers in the hospitals met the participants at least once a month and engaged with them and with community facilities that provided the traditional employment services. Most such facilities in Japan employ the train-then-place/step-wise model that attempts to improve work-readiness in people with mental illness and supplies training and simple tasks before actual job hunting.  IPS: Individual Placement and Support; Note: IPS is described in the first instance only but any study-specific information about intervention has been included |

Key: FTE=full time equivalent, IPS is individual placement and support

Table 4. Descriptions of Interventions in included studies with people with autism

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| *Study* | *Interventions* | *Control/ Comparator* |
| Wehman 2014, Wehman 2017 | Project SEARCH plus ASD supports  Project SEARCH is an intensive job training program where youth with developmental disability in their final year of secondary school are placed in a large community business (e.g., hospital, government complex or banking centre). The program comprised an internship portion with vocational program and a classroom portion with educational supports. Student logged approximately 720 hours of internship time and 180 hours of classroom time at the business for a total of 900 hours in the business setting. Students rotate through three 10–12-week internships within the business while receiving supported employment. The four phases of the program include: (1) job seeker profile, (2) job development, (3) job site training, and (4) long-term supports. The program is a highly individualised approach that allows for time-unlimited services. Additional supports for individuals with ASD were added to Project SEARCH. The applied behaviour analytic techniques used included the use of scored task analyses for teaching multistep tasks, structured repeated trials for discrete tasks, behavioural rehearsal for specific social skills, visual and self-directed prompting procedures for transitioning, self-management procedures for behavioural challenges, and reinforcement for appropriate behaviour. Participants with ASD were provided assistance to understand common work statements in behavioural terms. When a student displayed problem behaviour, a functional behaviour assessment was completed, and behaviour intervention plans were implemented to address the behaviour. Customised employment was used to analyse workplace tasks and identify which tasks were most suited to the strengths of participants with autism. Staff members received additional training in the needs of transition-aged youth with ASD. The staffing ratio was two/ two-and-a-half interns to one staff member. | High school special education services as usual  Regular high school special education program as identified in their individualised education programs. These plans typically include an array of related services including special education, one-on-one instruction, and behaviour management from a paraprofessional assistant, speech and language therapy, occupational therapy, social skills training, and limited vocational training. Students also had access to vocational rehabilitation services like those in the treatment group. |

**Table 4. Descriptions of Interventions in included studies with people with autism (continued)**

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| *Study* | *Interventions* | *Control/ Comparator* |
| Wehman 2020 | Project SEARCH plus ASD Supports  Project SEARCH is a job training program where students with autism spend their final year of secondary school in a combination classroom and internship program located in a large community business. Participants rotated through three 10–12-week internships to learn marketable skills. Participants received their entire school week in community-based employment training. Hence, participants received 35 hours of community-based employment training a week. | High school special education services as usual  Students attended their assigned high school and received the services, accommodations, and modifications stipulated in their individualised education plans. In addition to these school-based services, all but one control group participant received some community-based employment training. All educational services were provided by school district staff. |
| Whittenburg 2020 | Project SEARCH plus ASD Supports  Project SEARCH is a job training program, where students with developmental disability spend their final year of secondary school undertaking internships and participating in daily classroom-based instruction on employability skills. Project SEARCH participants rotate through three 10- to 12-week internships in large community businesses (e.g., hospital, government complex or banking centre) based on their preferences and strengths in order to learn marketable skills, social communication, and adaptive behaviour for employment. Autism-specific supports include: (1) onsite, intensive, systematic instruction using applied behavioural analysis principles; (2) onsite support and consultation from a behaviour/autism specialist; and (3) intensive staff training in ASD and the Project SEARCH Model. | Waitlist high school special education services as usual  Students received public school-based, special education transition services including participation in hands-on work training in community and/or school settings and classroom-based instruction on functional and academic skills. |

Key: ASD: Autism Spectrum Disorder

Table 5. Interventions and outcomes of included studies with people with psychosocial disability

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| *Study* | *Interventions* | *Intervention categories* | *Duration of intervention, months* | *Follow-up, months after randomisation (unless otherwise stated)* | *Definition of primary outcome and measurement (timepoint/period in months)* | *Primary outcomes* | *Secondary outcomes* | *Results* |
| Bejerholm 2015 | IPS vs. Traditional vocational rehabilitation | SE vs. Skills development | 18 | 18 | Open employment defined as worked for at least 1 week in employment that paid at least minimum wage, available to any citizen and located in mainstream settings. (0-18) | More IPS participants worked than participants in the TVR group (19/41, 46.3% versus 5/46, 10.9%, respectively; Difference (95% CI): 36 (18–54); p< 0.001) |  | Favours IPS |
| Bond 2015 | IPS vs. Work Choice | SE vs. Career guidance | No fixed duration | 12 | Open employment (Worked at least one day in the community for which an individual is paid at least minimum wage during 0-12)  Employment, agency-run job (worked at least one day, an agency-run, for profit business that sells products or goods to the public and provides supported employment to disabled individuals during 0-12) or supported work (at least one day, transitional and/or long-term employment in a controlled and protected working environment for those who are unable either to compete or to function in the open job market due to their disability during 0-12 months postintervention) | More participants in the IPS condition worked in open employment than those in the control condition (13/42, 31.0% versus 3/43, 7.0%; N=85, x2=7.99, df=1, p<.01)  More participants in the control than IPS condition were in supported employment (1/43, 2.3% versus 0/42, 0% respectively) |  | Favours IPS for open employment, no effect for supported employment. |
| Craig 2014 | IPS and motivational interviewing vs. IPS only | SE and career guidance vs. SE | 12 | 12 | Open employment (12, 0-12 months) | More participants in the IPS and motivational interviewing condition were in open employment from baseline to 12 months than participants in the IPS only condition (29/68, 43% vs 12/66, 18% respectively: OR = 3.5, 95% CI 1.5–8.1).  and on the day of interview at 12 months (26/68, 38.2% v. 10/66, 15.2%, respectively; x2=8.79,d.f.=1,P=0.003) |  | Favour IPS and MI over IPS only |
| Davis 2012 | IPS (fair fidelity) vs. Veteran Affairs Vocational Rehabilitation Program | SE vs. Career guidance and work experience | 12 | 12 | Open employment (job for regular wages in a setting that was not set aside, supported, or enclaved. Day labour (that is, pick-up cash-based day jobs for yard work, babysitting, manual labour, and so forth) and military drill were not counted as competitive employment, at least one day (any number of hours) of actual work during (0-12 months) | More participants assigned to IPS obtained open employment compared to the TVR participants (76.2% vs 27.9%, number needed to treat=2.07, 95% CI=1.96–2.19; χ2=19.84, df=1, p<.001). | IPS participants worked higher mean number of weeks in a competitive job compared to control group (21.6 (17.7) v. 6.8 (13.8), p <.001 (Mann-Whitney z), Cohen's d = .93, 95% CI = .50–1.36). | Favours IPS |
| Davis 2018 | Standard Coaches vs. Vocational Coaches | Skills development vs. Skill development | 6-16 (depending on client needs) | 1 month post-intervention, 4 months post-intervention | Paid employment in the 30-day period from the end of intervention to 1-month post-intervention. | There was no difference in paid employment between participants with vocational coaches compared with standard coaches (6/14, 42.9% versus 4/14, 28.6%, p=.430). |  | No effect |
| Erickson 2020 | IPS vs. No constraints on the use of other employment support services | SE vs. Passive control condition | 12 | 6, 12 | Open employment, at least 1 day of work (0-6, 6-12) | No effect from baseline to 6 months follow-up between the IPS and control conditions (30/50, 60% vs 30/52, 57.7%, respectively.  No effect from 6 months to end of intervention at 12 months follow-up (34/48, 72.3% versus 25/51, 50.0%)  (please note that the n and % don’t add up, and authors did not clarify) |  | No effect |
| Hoffmann 2012, 2014 | Job Coach vs Traditional train-place vocational rehabilitation programmes | SE vs. Work experience and skills development | 60 | 24, 60 | In open employment for at least 2 weeks over the 5-year study (60, 0-60)  Supported employment (24) | Participants in the Job Coach condition were more likely to work in open employment than TVR participants over the 5-year study period (30/46, 65.2% vs 18/54, 33.3%) (p = 0.002); and on the day of interview at 5 years follow-up (20/46, 43.5% vs 9/54, 16.7%; p = 0.002).  Participants in the control condition were more likely to be in supported employment than those in the intervention group (control 19/54, 35% vs vocational program 12/46, 26%; Sign. <0.001) | Intervention participants were more often employed at least 50% (130 weeks) in a competitive job (SE 20/46, 43.5% vs control 6/54, 11.1%, respectively; p<0.001).  There were no significant differences in vocational program or mental health service costs between the groups. However, participants in the Job Coach condition had significantly higher income than controls. | Favours Job Coach for open employment, but not supported employment |
| Howard 2010, Heslin 2011 | IPS vs. Local traditional vocational services | Vocational program vs skills development and career guidance | 24 | 24 | Open employment defined as a job paying at least the minimum wage, located in a mainstream socially integrated setting not set aside for persons with disability, held independently (i.e. was not agency owned) and the participant was in continuous employment for at least 30 days (with parttime employment rated pro-rata) (0-12, 0-24) | More participants in the IPS condition were in open employment from baseline to 24 months, compared to participants in the TVR condition (IPS 22.1% vs. TVR 11.6%, risk ratio 1.91; 95% CI 0.98 to 3.74; p=0.053; adjusted analysis p=0.041) | There were no differences in self-esteem as measured with the Rosenberg Self Esteem questionnaire at 12 months (P = 0.90) or 24 months P = 0.47)  There was no difference in job satisfaction at the 12 month follow-up using the Indiana Job Satisfaction Scale between employed participants in the two groups (P = 0.29).  Cost-effectiveness showed no substantial differences. | Favours IPS |
| Killackey 2019 | IPS (Good fidelity) vs. Referral to external government-contracted employment agencies | IPS vs TVR | 6 | 6 | Open employment defined as working in a job in the open labour marker that paid the legislated minimum wage for a minimum of 1 day in the previous 6-month period. (0-6) | IPS participants were more likely to work compared to control participants (47/ 66, 71.2% versus 29/60, 48.0% respectively; OR = 3.40, 95% CI 1.17-9.91, z = 2.25, P = 0.025). |  | Favours IPS |
| Lecomte 2020 | Cognitive behaviour therapy group intervention adapted for vocational programs (CBT) plus supported employment program vs. supported employment program only. | SE and skills development vs. SE | 1 month | 12 | Open employment (0-12). A minimum of one week. | Participants in the CBT-SE intervention were more likely to work than those in the SE only condition (57/76, 75.0% versus 37/64, 57.8% respectively; p < 0.05; OR 2.2, 95% CI: 1.0, 4.8). \*please note, this was not an intention-to-treat analysis, but rather -as treated. |  | Favours CBT-SE |
| McGurk 2015 | Enhanced supported employment plus the Thinking Skills for Work Program vs Enhanced supported employment only. |  | 6 | 6, 24 | Open employment (0-6, 0-24 months)  Paid employment (0-24) | More (approximately 35.0%, only reported in a graph) of participants in the intervention obtained open employment at 6 months, compared with approximately 28.0% of those in the control group (approximate %, no statistics).  More IPS participants than control participants were in paid employment from 0 to 24 months from baseline (37 out of 57, 65% vs 22 out of 50, 44%) from 0 to 24 months from baseline (p = 0.03) | More intervention participants than control participants were in open employment from 0 to 24 months from baseline (34 out of 57, 60% vs 18 out of 50, 36%) p = 0.02. | Favours Thinking Skills for Work Program |
| Michon 2014 | IPS (moderate to good) vs. Traditional vocational rehabilitation | Skills development and work experience | No limit (although a limit of 36 months is often prescribed by financing systems in the Netherlands) | 30 (last follow-up timepoint) | Open employment (worked in a competitive job for one day or more) (competitive employment was defined as having a paid job in a company or organization in the regular labour market, against prevailing wages, not set aside for persons with a disability, that is, in an integrated work setting). (0-30 months) | More IPS participants worked compared to TVR participants, (31/71, 43.7% versus 20/79, 25.3%, p < .05.) | The Rosenberg Self Esteem questionnaire showed no significant difference between IPS and traditional vocational rehabilitation at 30-month follow-up | Favours IPS |
| Nuechterlein 2020 | IPS plus Workplace Fundamentals Module vs. Conventional Brokered Vocational Rehabilitation plus social skills training intervention |  | 18 | 6, 18 | Open employment defined as paid work in a job that was open to applications from the general public (competitive employment), no minimum number of days of employment, but typically participants were employed at least several weeks.” (1-6, 7-18 months) | There was no difference in open employment between participants in the intervention condition compared to control condition in the initial 6-month period (7/22, 32% versus 12/41, 29%, respectively),  From 7 months to end of intervention at 18 months more intervention participants worked compared to controls (69% vs 33%, respectively, (Adjusted analysis, p = .02) |  | No effect for initial 6 months, Favours IPS + WFM –for the following 1-year period |
| Oshima 2014 | Good IPS vs Conventional vocational rehabilitation | Skills development and work experience | NR | 6 | Open employment defined as a job paying at least minimum wage (as established in Japanese law), with five and more work hours per week, for which anyone can apply, and not controlled by a service agency. (0-6)  Supported employment (0-6) | Participants in the IPS condition were more likely to obtain open employment than those in the control group (44.4% versus 10.5% respectively; p = 0.022)  There was no difference in supported employment rates between IPS participants and TVR participants (2/18, 11.1% versus 0/19, 0%, respectively; p = 0.128) |  | Favours IPS for open employment, no effect for supported employment |
| Poremski 2017 | IPS vs. free to seek employment by any means of their choice |  | Entire intervention: 27  Good fidelity: 8 | 27 | Open employment (20-27, during the 8 months of good fidelity IPS) | More participants in the IPS condition obtained employment than those in control condition (34% vs 22%, respectively; p = 0.16; adjusted analysis showed that participants in the IPS group had a 2.4 (p=0.02) greater chance of obtaining employment. |  | Favours IPS |
| Russinova 2018 | Vocational Empowerment Photovoice (high fidelity) vs Wait-list control |  | Approx. 4.5 months | 4.5 (post-intervention), 7.5 (3 months post-intervention) | Open employment: having at least one day on the job (point prevalence of competitive employment at postintervention and 3 months postintervention) | There was no difference in open employment between participants in intervention condition and waitlist controls at postintervention (14% vs 4% respectively; Cohen’s d = .75). | Participants in the intervention condition had a s greater increase in overall empowerment compared to waitlist controls, including self-efficacy (overall empowerment: Group effects: F = 6.65, p = 0.01e, Effect size (Cohen's d) = 0.39)  (self-efficacy subscale: Group effects: F = 6.08, p = 0.02, Cohen's d= 0.30). | No effect |
| Schneider 2016 | IPS plus work-focused counselling intervention vs. IPS only. |  | 12 | 12 | Open employment (0-12) | There was no difference in employment between groups (intervention 41% vs control 29%; x2 = 0.73, P = 0.39) | No difference in the Rosenberg Self Esteem questionnaire at 12-month follow-up.  There was no strong evidence for cost-effectiveness | No effect |
| Smith 2015a | Virtual reality job interview training (VR-JIT) vs TAU waitlist control | Skills development | 5-10 business days | 6 months postintervention | Open employment (accepted job offers during 0-6 months postintervention) | More participants in the virtual reality group accepted job offers compared to control participants. (38.5% vs 25.0%, no statistical analysis) | None | Potentially favours VR-JIT (no statistical analysis) |
| Smith 2015b | Virtual reality job interview training vs. Waitlist control |  | 2 weeks | 6 months postintervention | Open employment (accepted job offers during 0 - 6 months postintervention) | More participants in the virtual reality job interview training group accepted job offers compared with control participants. (39.1% vs 14.3%, no statistical analysis) | None | Potentially favours VR-JIT (no statistical analysis) |
| Tsang 2010 | Integrated Supported Employment (ISE): IPS and work-related social skills training vs. IPS vs. Traditional vocational rehabilitation (TVR) (good fidelity) | Skills development vs. career guidance and skills development / work experience | TVR: 15  ISE, IPS: 39 | 15, 39 | Open employment (competitive employment, continuously worked in the job for >=2 months for at least 20 h per week) (0-15, 0-39) | There were significant differences between the three groups at 15 month follow up (end of TVR) (TVR 4/66 6.1% v. IPS 29/65 44.6% v. Integrated Supported Employment 43/58 74.1%, p < 0.001,  More participants in the ISE condition worked compared to the IPS condition at 39 months (ISE 48/58 82.8% v. IPS 40/65 61.5%, p = 0.009) |  | Favours ISE over IPS at both timepoints and IPS and ISE over TVR at the first timepoint |
| Twamley 2012 | IPS (Fair to good fidelity) vs. Conventional vocational rehabilitation | SE vs career guidance and skills development | 12 | 12 | Open employment defined as employment paying at least minimum wage and not reserved for the disabled. "We only considered someone employed if they worked for any part of a day." (0-12 months);  Any paid employment (0-12) | More IPS participants were in open employment than those in TVR during the 12-month study (56.7% versus 28.6% respectively; p = .031)  More IPS participants obtained paid employment than TVR participants (70.0% versus 35.7%, respectively; p = .009) |  | Favours IPS |
| Waghorn 2014 | IPS vs Non-integrated forms of vocational programs |  | 12 | 12 | Open employment (0-12) | More participants in the IPS condition obtained open employment than control participants (42.5% versus 23.5% respectively; OR (95% CI) = 2.40 (1.32, 4.36), p<0.01). |  | Favours IPS |
| Yamaguchi 2017 | Cognitive remediation and vocational program vs. traditional vocational services | Skills development + vs TVR | NR, no response from authors | 12 | Open employment: number of people who worked at least 1 day in competitive work at 12 months follow-up | More participants in the cognitive remediation and vocational program were in work compared to those in the traditional vocational services condition (62.2% versus 19.1% respectively, p < 0.001; adj OR = 11.06 (95% CI 3.53–34.62. | There was no difference in mean total costs between the groups, however, the mean cost for medical services in the intervention group was lower. Further, the intervention showed high probability for cost-effectiveness in terms of vocational outcomes. | Favours cognitive remediation |

Key: NR= not reported, IPS=Individual placement and support. TVR= traditional vocational rehabilitation, SE=supported employment, OR=odds ratio, CI=confidence interval, ISE= Integrated Supported Employment, SE= supported employment

Table 6. Interventions and outcomes of included studies with people with autism

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Study* | *Interventions* | *Intervention categories* | *Duration of inter-vention, months* | *Follow-up, months after randomisation* | *Definition of outcome and measurement (timepoint/period in months)* | *Primary outcomes* | *Results* |
| Wehman 2014, Wehman 2017 | Project SEARCH plus ASD Supports vs. High school special education services as usual | Collaborative, employer-based employment training and placement program | 9 | 9 (post-intervention) | Open employment (9) | Intervention participants were more likely to be in competitive employment than control participants at graduation (74.2%, 23/31 versus 5.6%, 1/18, respectively; p < 0.0001) | Favours Project SEARCH plus ASD Supports |
| Wehman 2020 | Project SEARCH plus ASD Supports vs. High school special education services as usual | Collaborative, employer-based employment training and placement program | 9 | 9 | Open employment (9) | Intervention participants were more likely to be in employment than control participants, (31.6% vs 4.8% P < 0.001; adj RR 5.84, 95% CI 1.50, 13.3, P=0.014) | Favours Project SEARCH plus ASD Supports |
| Whittenburg 2020 | Project SEARCH plus ASD Supports vs High school special education services as usual | Collaborative, employer-based employment training and placement program | NR | 12 | Accepted job offers for open employment (0-12)  Supported work (12) | More intervention participants accepted job offers compared to control group participants (83.3% vs 12.5%, no statistical analyses, very small group).  At the 12-month follow-up, one of the control participants and none of the PS+ASD participants was in supported work. | Probably favours SE + ASD for open employment (no statistical analysis performed), no effect for supported employment. |

Key: ASD=autism spectrum disorder, RR=risk ratio, CI= confidence interval

# Supplementary file 1: diagnostic criteria

**Autism**

The latest version of the Diagnostic and Statistical Manual (DSM-5) categorises Autism Spectrum Disorder into 3 levels:

Level 1 – Requires Support

Level 2 – Requires Substantial Support

Level 3 – Requires Very Substantial Support

NDIS eligibility is based on reduced Functional Capacity in one or more of the following areas: Communication, Mobility, Social Interaction, Learning, Self-Care and Self-Management and the NDIA have Lists A-E to assist them to determine eligibility.

List A – conditions that are likely to automatically meet disability requirements (outlined in Section 24 of the NDIS Act) with no further assessments required:

Autism diagnosed by a specialist multi-disciplinary team, pediatrician, psychiatrist or clinical psychologist experienced in the assessment of Pervasive Developmental Disorders, and assessed using the current Diagnostic and Statistical Manual of Mental Disorders (DSM-5) diagnostic criteria as having severity of Level 2 (Requiring substantial support) or Level 3 (Requiring very substantial support)

List B – permanent conditions for which functional capacity is variable and further assessment of functional capacity is generally required:

Pervasive developmental disorders not meeting severity criteria in List A or List C

**Asperger syndrome**

**Atypical autism**

**Childhood autism**

List C – refers to defined programs

List D – Permanent Impairment/Early Intervention, under 7 years – no further assessment required

List E – Qualifying programs

**Intellectual disability**

Conditions that are likely to meet disability requirements in section 24 of the NDIS Act include intellectual disability diagnosed and assessed as moderate, severe or profound in accordance with current DSM criteria (e.g. IQ 55 points or less and severe deficits in adaptive functioning).

**Psychosocial disability**

Not all people with mental health issues will have access to the NDIS however people with a significant disability that is likely to be permanent may qualify for NDIS support.  In relation to the NDIS, mental health recovery does not necessarily mean there is a permanent absence of the symptoms, impairments and/or disability that people can experience. Rather it is understood that psychosocial disability can be “…episodic or persistent, debilitating and long lasting”. The NDIA states, “[r]ecovery is about achieving an optimal state of personal, social and emotional wellbeing, as defined by each individual, whilst living with or recovering from mental health issues”.

# Supplementary file 2: Systematic Review Search Strategy

**MEDLINE**

1 randomized controlled trial.pt.

2 controlled clinical trial.pt.

3 randomi\*ed.ab.

4 placebo.ab.

5 clinical trials as topic.sh.

6 randomly.ab.

7 trial.ti.

8 1 or 2 or 3 or 4 or 5 or 6 or 7

9 exp animals/ not humans.sh.

10 8 not 948

11 exp Autism Spectrum Disorder/

12 ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*").ti,ab.

13 11 or 12

14 exp intellectual disability/ or developmental disability/ or mentally disabled persons/

15 ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*").ti,ab.

16 14 or 15

17 mental disorders/ or anxiety disorders/ or exp "bipolar and related disorders"/ or mood disorders/ or depressive disorder/ or depressive disorder, major/ or depressive disorder, treatment-resistant/ or "schizophrenia spectrum and other psychotic disorders"/ or affective disorders, psychotic/ or psychotic disorders/ or schizophrenia/ or mentally ill persons/

18 ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" adj3 (severe or major)) OR ("depressi\*" adj3 (severe or major)) OR ("anxiety" adj3 (severe or major)) ).ti,ab.

19 17 or 18

20 13 or 16 or 19

21 employment/ OR employment, supported/ OR supported workshops/ OR rehabilitation, vocational/ OR vocational education/ or vocational guidance/ or work/ or return to work/

22 ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) adj1 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) adj4 (mentor\* OR training or placement\* OR program or programme))).ti,ab.

23 21 or 22

24 10 AND 20 AND 23

25 limit 24 to (english language and yr="2010 -Current") [RCTs]

26 cohort studies/ or follow-up studies/ or longitudinal studies/ or prospective studies/ or comparative study/ or controlled clinical trial/ or controlled before-after studies/

27 ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study").ti,ab.

28 (clinical trial OR comparative study OR controlled clinical trial).pt.

29 26 or 27 or 28

30 13 or 16

31 29 AND 30 AND 23

32 31 NOT 25

33 limit 32 to (english language and yr="2010 -Current") [non-randomised studies only]

**Embase**

1 (crossover\* or "cross over\*" or placebo\* or (doubl\* adj blind\*) or allocat\* or random\*).ti,ab,ot.

2 trial.ti.

3 crossover-procedure/ or double-blind procedure/ or single-blind procedure/ or randomized controlled trial/

4 1 or 2 or 348

5 exp autism/ or ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*").ti,ab.

6 intellectual impairment/ or mental deficiency/ or down syndrome/ or x linked mental retardation/ or developmental disorder/ or mentally disabled persons/ or ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*").ti,ab.

7 mental disease/ or anxiety disorder/ or mood disorder/ or major affective disorder/ or affective psychosis/ or psychosis/ or schizophrenia spectrum disorder/ or schizoaffective psychosis/ or bipolar disorder/ or ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" adj3 (severe or major)) OR ("depressi\*" adj3 (severe or major)) OR ("anxiety" adj3 (severe or major)) ).ti,ab.

8 5 or 6 or 7

9 employment/ or employment status/ or self-employment/ or supported employment/ or supported workshop/ or permanent employment/ or temporary employment/ or full time employment/ or parttime employment/ or vocational rehabilitation/ or vocational education/ or vocational guidance/ or work capacity/ or return to work/ or work disability/ or work experience/ or work/ or work capacity/ or work environment/ or job accommodation/ or job experience/ or workplace/ or ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) adj1 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) adj4 (mentor\* OR training or placement\* OR program or programme))).ti,ab.

10 4 and 8 and 9

11 limit 10 to (english language and yr="2010 -Current" and article) [RCTs]

12 cohort analysis/ or follow up/ or longitudinal study/ or prospective study/ or intervention study/ or comparative study/ or controlled study/ or controlled clinical trial/ or pretest posttest control group design/ or experimental study/ or quasi experimental study/

13 ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study").ti,ab.

14 (clinical trial OR controlled clinical trial).ct.

15 12 or 13 or 14

16 5 or 6

17 15 and 16 and 9

18 17 NOT 11

19 limit 18 to (english language and yr="2010 -Current" and article) [non-randomised studies only]

**PsycINFO**

1 placebo/

2 follow up studies/

3 placebo\*.tw.

4 random\*.tw.

5 comparative stud\*.tw.

6 (clinical adj3 trial\*).tw.

7 (research adj3 design).tw.

8 (evaluat\* adj3 stud\*).tw.

9 (prospectiv\* adj3 stud\*).tw.

10 ((singl\* or doubl\* or trebl\* or tripl\*) adj3 (blind\* or mask\*)).tw.

11 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 1049

12 autism spectrum disorders/

13 ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*").ti,ab.

14 intellectual development disorder/ or down's syndrome/ or cognitive impairment/ or developmental disability/ or fetal alcohol syndrome/ or fragile x syndrome/ or prader willi syndrome/

15 ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*").ti,ab.

16 mental disorders/ or affective disorders/ or anxiety disorders/ or bipolar disorder/ or chronic mental illness/ or psychosis/ or serious mental illness/ or major depression/ or affective psychosis/ or schizophrenia/ or schizoaffective disorder/

17 ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" adj3 (severe or major)) OR ("depressi\*" adj3 (severe or major)) OR ("anxiety" adj3 (severe or major)) ).ti,ab.

18 12 or 13 or 14 or 15 or 16 or 17

19 employment status/ or employability/ or reemployment/ or self-employment/ or employee skills/ or supported workshops/ or exp vocational rehabilitation/ or school to work transition/ or occupational guidance/ or exp vocational education/ or supported workshops/ or job search/ or job experience level/ or labor market/ or career development/ or job applicant interviews/ or occupational adjustment/

20 ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) adj1 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) adj4 (mentor\* OR training or placement\* OR program or programme))).ti,ab.

21 19 or 20

22 11 AND 18 AND 21

23 limit 22 to (english language and journal article and yr="2010 -Current") [RCTs]

24 experimental design/ or clinical trials/ or cohort analysis/ or followup studies/ or longitudinal studies/ or experiment controls/ or experimental methods/ or quasi experimental methods/

25 ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study").ti,ab.

26 24 or 25

27 12 or 13 or 14 or 15

28 26 and 27 and 21

29 28 NOT 23

30 limit 29 to (english language and journal article and yr="2010 -Current") [non-randomised studies only]

**Web of Science**

1 TI= ( randomi\*ed )

2 AB= ( randomi\*ed )

3 AB= ( placebo )

4 AB= (randomly )

5 TI= ( trial )

6 1 or 2 or 3 or 4 or 5

7 TS=("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

8 TS=("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

9 TS=("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" NEAR/2 (severe or major)) OR ("depressi\*" NEAR/2 (severe or major)) OR ("anxiety" NEAR/2 (severe or major)) )

10 7 or 8 or 9

11 TS=("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) NEAR/0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) NEAR/3 (mentor\* OR training or placement\* OR program or programme)))

12 6 and 10 and 11 AND LANGUAGE: (English) AND DOCUMENT TYPES: (Article)

Refined by: PUBLICATION YEARS: ( 2020 OR 2012 OR 2019 OR 2011 OR 2018 OR 2010 OR 2017 OR 2016 OR 2015 OR 2014 OR 2013 ) [RCTs]

13 TS= ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

14 7 or 8

15 13 and 14 and 11

16 15 NOT 12 AND LANGUAGE: (English) AND DOCUMENT TYPES: (Article)

Refined by: PUBLICATION YEARS: ( 2020 OR 2012 OR 2019 OR 2011 OR 2018 OR 2010 OR 2017 OR 2016 OR 2015 OR 2014 OR 2013 ) [non-randomised studies only]

**SCOPUS**

1 TITLE-ABS ( randomi\*ed )

2 ABS ( placebo )

3 ABS (randomly )

4 TITLE ( trial )

5 1 or 2 or 3 or 4

6 TITLE-ABS ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

7 TITLE-ABS ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

8 TITLE-ABS ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" W/2 (severe or major)) OR ("depressi\*" W/2 (severe or major)) OR ("anxiety" W/2 (severe or major)) )

9 11 or 12 or 13

10 TITLE-ABS ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) W/0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) W/3 (mentor\* OR training or placement\* OR program or programme)))

11 5 AND 9 AND 10 AND ( LIMIT-TO ( PUBYEAR ,  2020 )  OR  LIMIT-TO ( PUBYEAR ,  2019 )  OR  LIMIT-TO ( PUBYEAR ,  2018 )  OR  LIMIT-TO ( PUBYEAR ,  2017 )  OR  LIMIT-TO ( PUBYEAR ,  2016 )  OR  LIMIT-TO ( PUBYEAR ,  2015 )  OR  LIMIT-TO ( PUBYEAR ,  2014 )  OR  LIMIT-TO ( PUBYEAR ,  2013 )  OR  LIMIT-TO ( PUBYEAR ,  2012 )  OR  LIMIT-TO ( PUBYEAR ,  2011 )  OR  LIMIT-TO ( PUBYEAR ,  2010 ) )  AND  ( LIMIT-TO ( DOCTYPE ,  "ar" ) )  AND  ( LIMIT-TO ( LANGUAGE ,  "English" ) ) [RCTs]

12 TITLE-ABS ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

13 6 or 7

14 12 AND 13 AND 10

15 14 NOT 11 AND ( LIMIT-TO ( PUBYEAR ,  2020 )  OR  LIMIT-TO ( PUBYEAR ,  2019 )  OR  LIMIT-TO ( PUBYEAR ,  2018 )  OR  LIMIT-TO ( PUBYEAR ,  2017 )  OR  LIMIT-TO ( PUBYEAR ,  2016 )  OR  LIMIT-TO ( PUBYEAR ,  2015 )  OR  LIMIT-TO ( PUBYEAR ,  2014 )  OR  LIMIT-TO ( PUBYEAR ,  2013 )  OR  LIMIT-TO ( PUBYEAR ,  2012 )  OR  LIMIT-TO ( PUBYEAR ,  2011 )  OR  LIMIT-TO ( PUBYEAR ,  2010 ) )  AND  ( LIMIT-TO ( DOCTYPE ,  "ar" ) )  AND  ( LIMIT-TO ( LANGUAGE ,  "English" ) ) [non-randomised studies only]

**CINAHL**

S1 MH randomized controlled trials

S2 MH double-blind studies

S3 MH single-blind studies

S4 MH random assignment

S5 MH pretest-posttest design

S6 MH cluster sample

S7 TI (randomised OR randomized)

S8 AB (random\*)

S9 TI (trial)

S10 MH (sample size) AND AB (assigned OR allocated OR control)

S11 MH (placebos)

S12 PT (randomized controlled trial)

S13 AB (CONTROL W5 GROUP)

S14 MH (CROSSOVER DESIGN) OR MH (COMPARATIVE STUDIES)

S15 AB (CLUSTER W3 RCT)

S16 MH ANIMALS+

SS17 MH (ANIMAL STUDIES)

S18 TI (ANIMAL MODEL\*)

S19 S16 OR S17 OR S18

S20 MH (HUMAN)

S21 S19 NOT S20

S22 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15

S23 S22 NOT S2150

S24 (MH "Pervasive Developmental Disorder-Not Otherwise Specified") OR (MH "Asperger Syndrome") OR (MH "Autistic Disorder") OR (MH "Child Development Disorders, Pervasive")

S25 TI ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S26 AB ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S27 S24 or S25 or S26

S28 (MH "Developmental Disability") OR (MH "Intellectual Disability") OR (MH "Down Syndrome") OR (MH "Prader-Willi Syndrome") OR (MH "Mental Retardation, X-Linked") OR (MH "Fragile X Syndrome") OR (MH "Mentally Disabled Persons")

S29 TI ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S30 AB ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S31 S28 or S29 or S30

S32 (MH "Mental Disorders") OR (MH "Mental Disorders, Chronic") OR (MH "Psychotic Disorders") OR (MH "Schizophrenia") OR (MH "Schizoaffective Disorder") OR (MH "Affective Disorders, Psychotic") OR (MH "Bipolar Disorder") OR (MH "Personality Disorders") OR (MH "Neurotic Disorders") OR (MH "Anxiety Disorders") OR (MH "Affective Disorders") OR (MH "Depression") OR (MH "Stress Disorders, Post-Traumatic")

S33 TI ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S34 AB ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S35 S32 or S33 or S34

S36 S27 or S31 or S35

S37 (MH "Employment") (MH "Job Interviews") OR (MH "Job Re-Entry") OR (MH "Employment Status") OR (MH "Self Employment") OR MH "Employment of Disabled+") OR (MH "Vocational Education") OR (MH "Rehabilitation, Vocational") OR (MH "Vocational Guidance") OR (MH "Supported Workshops") OR (MH "Job Experience") OR (MH "Work")

S38 TI ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S39 AB ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S40 S37 or S38 or S39

S41 S23 AND S36 AND S40

Limiters - Published Date: 20100101-; English Language [RCTs]

S42 (MH "Prospective Studies+") OR (MH "Quasi-Experimental Studies+") OR (MH "Crossover Design") OR (MH "Experimental Studies") OR (MH "Clinical Trials") OR (MH "Controlled Before-After Studies") OR (MH "Pretest-Posttest Design+") OR (MH "Nonrandomized Trials") OR (MH "Intervention Trials")

S43 TI ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S44 AB ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S45 PT ("Clinical Trial")

S46 S42 or S43 or S44 or S45

S47 S27 or S31

S48 S46 AND S47 AND S40

Limiters - Published Date: 20100101-; English Language [non-randomised studies only]

**ERIC**

Limiters - Publication Type: Journal Articles

Limiters - Date Published: 2010-2020

S1 DE "Randomized Controlled Trials"

S2 ti (randomi\*ed)

S3 ab (randomi\*ed)

S4 ab (placebo)

S5 ab (randomly)

S6 ti (trial)

S7 S1 or S2 or S3 or S4 or S5 or S6

S8 DE ("Pervasive Developmental Disorders" OR "Asperger Syndrome" OR "Autism")

S9 TI ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S10 AB ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S11 S8 or S9 or S10

S12 DE ("Intellectual Disability" OR "Down Syndrome" OR "Mild Intellectual Disability" OR "Moderate Intellectual Disability" OR "Severe Intellectual Disability" OR "Developmental Disability" OR "Fetal Alcohol Syndrome")

S13 TI ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S14 AB ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S15 S12 or S13 or S14

S16 DE ("Mental Disorders" OR "Anxiety Disorders" OR "Psychosis" OR "Schizophrenia" OR "Depression (Psychology)" OR "Anxiety")

S17 TI ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S18 AB ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S19 S16 or S17 or S18

S20 S11 or S15 or S19

S21 DE "Employment" OR DE "Self Employment" OR DE "Supported Employment" OR DE "Careers" OR DE "Employment Opportunities" OR DE "Equal Opportunities (Jobs)" OR DE "Employment Programs" OR DE "Employment Services" OR DE "Employment Experience" OR DE "Employment Interviews" OR DE "Employment Potential" OR DE "Job Applicants" OR DE "Job Application" OR DE "Job Skills" OR DE "Work Experience" OR DE "Job Development" OR DE "Job Search Methods" OR DE "Career Awareness" OR DE "Career Guidance" OR DE "Career Counseling" OR DE "Career Development" OR DE "Career Education" OR DE "Career Exploration" OR DE "Career Planning" OR DE "Workplace Learning" OR "Off the Job Training" OR DE "On the Job Training" OR DE "Apprenticeships" OR DE "Professional Development" OR DE "Staff Development" OR "Vocational Education" OR DE "Prevocational Education" OR DE "Job Placement" OR DE "Job Shadowing" OR DE "Job Training" OR DE "Vocational Adjustment" OR DE "Vocational Rehabilitation" OR DE "Vocational Training Centers" OR DE "Work Experience Programs" OR DE "Supported Workshops" OR DE "Employment Patterns" OR  DE "Work Attitudes" OR DE "Work Environment" or DE "Employees" OR DE "Quality of Working Life"

S22 TI ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S23 AB ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S24 S21 or S22 or S23

S29 S7 AND S20 AND S24

Limiters - Date Published: 20100101-; Language: English [RCTs]

S30 DE ("Longitudinal Studies" OR "Followup Studies" OR "Quasiexperimental Design" OR "Control Groups" OR "Experimental Groups" OR "Matched Groups" OR "Pretests Posttests")

S31 TI ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S32 AB ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S33 S30 or S31 or S32

S34 S11 or S15

S35 S33 and S34 and S24

S36 S35 NOT S29

Limiters - Date Published: 20100101-; Language: English [non-randomised studies only]

**ERC**

S1 TI (randomi\*ed)

S2 AB (randomi\*ed)

S3 AB (placebo)

S4 AB (randomly)

S5 TI (trial)

S6 S1 or S2 or S3 or S4 or S5

S7 DE "AUTISM" OR DE "AUTISM spectrum disorders" OR DE "ASPERGER'S syndrome"

S8 TI ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S9 AB ("autism spectrum disorder\*" OR "autism" OR "autistic" OR "asperger\*" OR "pervasive developmental disorder\*")

S10 S7 or S8 or S9

S11 DE ("MENTAL disability" OR "DEVELOPMENTAL disability" OR "DOWN syndrome" OR "FETAL alcohol syndrome")

S12 TI ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S13 AB ("intellectual\* disab\*" OR "learning disab\*" OR "developmental\* disab\*" OR "development\* disorder\*" OR "cognitive\* disab\*" OR "fragile x syndrome" OR "down\* syndrome" OR "developmental delay\*" OR "prader-willi syndrome" OR "fetal alcohol spectrum disorder\*")

S14 S11 or S12 or S13

S15 DE ("Mental illness" OR "AFFECTIVE disorders" OR "ANXIETY" OR "MENTAL depression" OR "Schizophrenia" OR "Psychoses")

S16 TI ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S17 AB ("psychosocial\* disab\*" OR "severe mental illness\*" OR "serious mental illness\*" OR "severe mental health" OR "serious mental health" OR "psychiatric disorder\*" OR "psychiatric illness\*" OR "psychiatric condition\*" OR "psychiatric\* disab\*" OR "schizophrenia" OR "schizoaffective" OR "schizo affective" OR "psychosis" OR "psychoses" OR "psychotic" OR "bipolar" OR ("affective disorder\*" N2 (severe or major)) OR ("depressi\*" N2 (severe or major)) OR ("anxiety" N2 (severe or major)) )

S18 S15 or S16 or S17

S19 S10 or S14 or S18

S20 DE ("EMPLOYMENT" OR "EMPLOYMENT & education" OR "SCHOOL-to-work transition" OR "WORK & education" OR "INDIVIDUALIZED transition plans" OR "VOCATIONAL guidance" OR "OCCUPATIONAL training" OR "VOCATIONAL education" OR "EMPLOYEE training" OR "INTERNSHIP programs" OR DE "CAREER development" OR "SUPPORTED employment" OR "EMPLOYMENT of people with disability" OR "VOCATIONAL rehabilitation" OR "SUPPORTED workshops" OR "EMPLOYMENT agencies" OR "APPRENTICES" OR "APPRENTICESHIP programs" OR "INTERNSHIP programs" OR "JOB skills" OR "WORKPLACE literacy" OR "EMPLOYER-supported education")

S21 TI ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S22 AB ("employment" OR "employability" OR "employable" OR "project search" OR "ticket to work" OR "individual placement or support" OR "clubhouse" OR "supported work\*" OR "disability enterprise\*" OR "social enterprise\*" OR "social firm\*" OR "social cooperative\*" OR "affirmative business\*" OR "social purpose business\*" or "vocational\*" OR "prevocational" OR ((career or occupational) N0 (guidance OR counse\*ling OR plan\* OR development)) OR "return to work" OR "work participation" OR "work read\*" OR "work status" OR "work retention" OR apprenticeship\* OR "work experience\*" OR "occupational rehabilitation" OR "work rehabilitation" OR "school to work transition" OR "place and train" OR "place train" OR "train and place" OR "train place" OR "job coach\*" OR "job interview\*" OR "job search\*" OR ((job OR work or workplace) N3 (mentor\* OR training or placement\* OR program or programme)))

S23 S20 or S21 or S22

S24 S6 AND S19 AND S23

Limiters - Published Date: 20100101-; Language: English [RCTs]

S25 DE ("LONGITUDINAL method" OR "COHORT analysis" OR "COMPARATIVE studies" OR "EXPERIMENTAL design" OR "EXPERIMENTS" OR "CONTROL groups" OR "EXPERIMENTAL groups")

S26 TI ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S27 AB ("quasi-experiment\*" OR "experimental study" OR "clinical trial" OR "control\* trial" OR "control\* study" OR "before and after study" OR "cohort study" OR "comparative study" OR "intervention study" OR "longitudinal study" OR "follow-up study" OR matched OR "prospective study")

S28 S25 or S26 or S27

S29 S10 or S14

S30 S28 and S29 and S23

S31 S30 not S24

Limiters - Published Date: 20100101-; Language: English [non-randomised studies only

**Further information**

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