

Supported Education for Students With Psychiatric Disabilities: A Systematic Review of Effectiveness Studies From 2009 to 2021

Jacomijn Hofstra¹, Jorien van der Velde¹, Marianne Farkas², Lies Korevaar¹, and Svenja Büttner¹

¹ Research and Innovation Center for Rehabilitation, Hanze University of Applied Sciences, Groningen

² Center for Psychiatric Rehabilitation, Sargent College of Health and Rehabilitation Sciences, Boston University

Objective: For more than a decade, an increase in psychiatric disabilities has been reported worldwide among students in postsecondary education. Supported Education (SEd) interventions support students with psychiatric disabilities to return to or remain in education. As not much is known about the effectiveness of SEd, we conducted a systematic review of the research on the effects of SEd on educational functioning, including study success and student satisfaction. **Method:** The EBSCOhost Complete browser (e.g., ERIC, MEDLINE, PsycARTICLES, PsycINFO, SocINDEX) was used to search for peer-reviewed studies representing effectiveness data on SEd published in English or Dutch/Flemish between 2009 and 2021. The quality of the research was assessed for all studies included. **Results:** A total number of seven studies were eligible. The results indicated a positive impact of SEd on the educational functioning (e.g., educational attainment, grade point average, comfort with the student role) of students with psychiatric disabilities. In addition, effects on time spent on educational activities, interpersonal skills, and sustained attention/vigilance were found. The quality of the studies appeared to be moderate. **Conclusions and Implications for Practice:** The limited available evidence suggests the added value of SEd interventions for the educational functioning of students with psychiatric disabilities. Reviewing the effectiveness of SEd was difficult due to differences in the SEd interventions used, the generally small research populations, and differing research designs. To improve the quality of research on this subject, future studies should overcome the identified shortcomings.

Impact and Implications

This study found indications that students with psychiatric disabilities who receive support through an Supported Education (SEd) intervention are more successful at school and feel more comfortable in their student role than before they received SEd or than students who did not receive SEd. Hence, SEd interventions may contribute to the educational and consequently vocational success of people with psychiatric disabilities.

Keywords: systematic review, supported education, psychiatric disabilities, students

The onset of psychiatric disabilities generally occurs between the ages of 17 and 23 (Jones, 2013; Kessler et al., 2007). In this age period, many young adults complete high school and subsequently enter postsecondary education or employment (Mowbray et al., 2005). For more than a decade, an increase in psychiatric disabilities has been reported worldwide among students in postsecondary education (e.g., Auerbach et al., 2018; Bruffaerts et al., 2018; Healthy Minds Network, 2022; Hunt & Eisenberg, 2010; Stallman & Shochet, 2009; Storrie et al., 2010; Turner et al., 2007; Zivin et al., 2009). There are signs that the COVID-19 pandemic has further increased the number of students

with psychiatric disabilities (Chen & Lucock, 2022; Rijkinstituut voor volksgezondheid en milieu, Trimbos-instituut & GGD GHOR Nederland, 2021; Son et al., 2020; Wang et al., 2020).

While this increase may reflect more young people with psychiatric disabilities having the opportunity now to attend higher education, students with psychiatric disabilities often experience difficulties in achieving educational or vocational goals (Auerbach et al., 2016; Arbesman & Logsdon, 2011; Bruffaerts et al., 2018; Mohr et al., 2014). A systematic review of 19 studies identified the following barriers to participating in higher education for students

This article was published Online First March 30, 2023.

Jacomijn Hofstra  <https://orcid.org/0000-0002-4081-5285>

Jacomijn Hofstra played lead role in writing of original draft and writing of review and editing; supporting role in formal analysis; and equal role in conceptualization. Jorien van der Velde played supporting role in formal analysis and writing of review and editing. Marianne Farkas played equal role in conceptualization, and supporting role in writing of review and editing. Lies Korevaar played lead role in

conceptualization and supporting role in formal analysis and writing of review and editing. Svenja Büttner played lead role in data curation, formal analysis, investigation, and methodology and supporting role in writing of original draft and writing of review and editing.

Correspondence concerning this article should be addressed to Jacomijn Hofstra, Research and Innovation Center for Rehabilitation, Hanze University of Applied Sciences, Groningen, Zernikeplein 23, Groningen 9747 AS, the Netherlands. Email: j.hofstra@pl.hanze.nl

with psychiatric disabilities: symptoms of the mental illnesses, fear of disclosure, lack of knowledge of mental illness and available supports, and lack of knowledge and negative beliefs about mental illness of faculty and fellow students (Hartrey et al., 2017). The risk of dropping out of vocational and higher education increases twofold for those with psychiatric disabilities as compared to those with no diagnoses (Hjorth et al., 2016; Verhagen & Meng, 2014). For example, Hjorth et al. (2016), reported that the dropout rate amongst students with psychiatric disabilities was approximately 15% after 5 years, compared to a dropout rate of 8% amongst students without psychiatric disabilities. As students with psychiatric disabilities who enter college (Roy et al., 2016) or develop such disabilities during college (Mohr et al., 2014) often fail to graduate, they are a population at increased risk for reduced employment opportunities later on in life (Van den Broek et al., 2013; Veldman et al., 2015).

Starting with the pioneering work of Bill Anthony and the Center for Psychiatric Rehabilitation in Boston (Anthony & Unger, 1991; Unger, 1989; Unger et al., 1987, 1991), several Supported Education (SEd) interventions have been developed to support students with psychiatric disabilities in returning to and/or remaining in education (e.g., Best et al., 2008; Ellison et al., 2012; Hain & Gioia, 2004; Hofstra & Korevaar, 2016; Isenwater et al., 2002; Lynde et al., 2014; Mowbray, 2000; Ringeisen et al., 2017). SEd is defined as the provision of individualized, practical support, and instruction to assist people with psychiatric disabilities to choose, get, and keep their educational goals (Anthony et al., 2002; Sullivan-Soydon, 2014; Sullivan et al., 1993; Unger, 1998). The mission of SEd is derived from the Choose-Get-Keep model of the Boston psychiatric rehabilitation approach, that is, to help people with psychiatric disabilities develop the skills and supports required to be successful and satisfied in their chosen roles or environments (Anthony et al., 2002; Rogers et al., 2006). There are four types of SEd models (Collins & Mowbray, 2005): (a) classroom model (i.e., SEd classes on campus), (b) onsite model (i.e., individual SEd settings at college/university), (c) mobile support model (i.e., SEd through a mental health agency), and (d) free-standing model (i.e., SEd at the organizational setting).

Despite being established over 30 years ago, the literature on SEd interventions has previously only been the subject of a systematic review in 2010 (Rogers et al., 2010). In that review, 21 relevant articles were found that were published between 1989 and 2009, of which only 13 contained effectiveness data. Many studies were short term and examined narrow outcomes, such as course completion. It was concluded that based on uncontrolled studies, there was only preliminary evidence that SEd increases educational attainment for individuals diagnosed with psychiatric disabilities. The review authors called for more rigorous effectiveness research on SEd models if SEd was to become a viable alternative and widespread intervention.

Since 2009, the number of students with psychiatric disabilities has increased (e.g., Auerbach et al., 2018; Healthy Minds Network, 2022). Evidently, the number of students with psychiatric disabilities who require tailored support services to engage in education is large and growing. Although SEd interventions are presumed to offer the required supports, this assumption could not be confirmed in the first review due to the lack of controlled effectiveness studies (Rogers et al., 2010). The present study systematically gathers and reviews research on SEd published between 2009 and 2021 with the aim of examining the state of the science in SEd in 2021. We investigated

whether a greater number of effectiveness studies have been conducted since the last review and, if so, with what results. The evidence of outcomes appropriate for the goal of SEd was reviewed with respect to educational functioning, including study success and student satisfaction (Anthony et al., 2002; Sullivan-Soydon, 2014; Sullivan et al., 1993; Unger, 1998). However, if outcome measures other than educational outcomes were studied, these other outcome measures were also included to get a better understanding of the effects of SEd. Evidence-based interventions are increasing in strategic importance for service-delivery organizations globally. It is critical therefore to identify the current level of evidence that exists for SEd in order to appropriately support more students with psychiatric disabilities to attain their educational goals.

Method

Studies were systematically searched, selected, and reviewed following the protocol guide of the international prospective register of systematic reviews (PROSPERO). The study could not be registered due to an indefinite temporary closure for submission of systematic reviews in the period during which the study was designed and conducted.

Information Sources

An advanced search for digital sources published from 2009 to 2021 was performed using the EBSCOhost Complete browser, starting in September 2019. This browser includes a broad range of databases, among which are ERIC, MEDLINE, PsycARTICLES, PsycINFO, and SocINDEX. An email alert was created for studies that were published post search. Moreover, to identify additional potentially relevant studies, the fourth author, an SEd expert who has been keeping track of the SEd literature for more than two decades, verified the list of studies to be reviewed for completeness. This was followed by a check of the reference lists in articles reporting the included studies and an ongoing check of forthcoming publications in Google Scholar.

Search Strategy

Three categories of keywords were used, comprising the following search terms per category:

- A. Supported education: supported education
- B. Education setting: student*/adolescent*/adult*/college/community/higher education/university
- C. Psychiatric disabilities: ADD/addictive disorders/ADHD/anxiety disorders/autism/bipolar disorder/depressed disorders/dissociative disorders/eating disorders/mental health/mental illness/mood disorders/obsessive-compulsive disorder/personality disorders/posttraumatic stress disorder/psychiatric/psychological/psychosis/psychotic disorders/schizo-affective disorder/schizophrenia spectrum disorder/substance-related disorders

All search terms were included in the following search string, which was developed with support from a librarian at the Hanze University of Applied Sciences Groningen:

AB ("supported education" OR (support* N3 education) AND AB (adolescent* OR adult* OR college OR community OR "higher education" OR student* OR university) AND AB (ADD OR "addictive disorders" OR ADHD OR "anxiety disorders" OR autism OR "bipolar disorder" OR "depressive disorders" OR "dissociative disorders" OR "eating disorders" OR "mental health" OR "mental illness*" OR "mood disorders" OR "obsessive-compulsive disorder" OR "personality disorders" OR "posttraumatic stress disorder" OR psychiatric OR psychological OR psychosis OR "psychotic disorders" OR "schizo-affective disorder" OR "schizophrenia spectrum disorder" OR "substance-related disorders"))

Eligibility Criteria

Studies that matched the following criteria were considered eligible for analysis:

- published between 2009 and 2021
- written in English or Dutch/Flemish
- conformed to the definition of SEd used in this study
- contained effectiveness data (including academic journals, journals, dissertations, meta-analyses, and reviews, excluding qualitative studies, reports, magazines, news, (e)books, and trade publications)
- in the case of a combination of SEd and another intervention, an effect on educational functioning needed to be reported to make the specific effect of SEd identifiable
- in the case of reviews or meta-analyses, the separate studies all needed to meet the eligibility criteria

Study Selection

The search of studies was conducted by the lead reviewer and the librarian who also helped with developing the search string. The initial selection of studies (i.e., screening for language, source type, and topic) was conducted by the lead reviewer. The full texts of the selected studies were independently screened on the eligibility criteria by the lead reviewer and two coreviewers. The team agreed that if the reviewers did not come to consensus about whether to include the study, the coreviewer who is an expert in SEd, would make the inclusion/exclusion decision about the particular study. This step appeared to be unnecessary in practice.

The search for variations of the keywords (A*B*C) resulted in 1,876 studies. Successive screenings for language and source type (227 rejected), topic (1,632 rejected), and eligibility criteria (10 rejected) ultimately resulted in seven studies being included in the review. The previously mentioned actions to identify additional potentially relevant studies did not yield additional studies for review. The review set thus comprised seven studies. Figure 1 shows a flow chart of the selection process.

Data Analysis

First, two general summaries of the review set were made, comprising descriptive information on the year and country of publication, objectives and design, number, age, and description of participants, and rigor scores (Table 1), as well as the type of SEd

model (i.e., classroom/onsite/mobile support/free-standing), SEd setting (individual/group), duration, frequency, providers, and content of the SEd intervention (Table 2).

Next, the effects of the SEd interventions were reviewed. For each study, it was examined whether they found significant increases or decreases for the outcome measures used (Table 3). The lead reviewer extracted and synthesized information on the effects on outcome measures (i.e., educational functioning and other) and of the different types of SEd interventions from the review set, and the other reviewers subsequently checked the information.

Lastly, in accordance with the previous review by Rogers et al. (2010), the studies were assessed for quality by the Rigor Scale of the Standards for Program Evaluation, Policy, Survey, Pre-Post, or Correlational Human Subject Studies (Rogers et al., 2008). The Rigor scale includes 58 indicators of quality and appropriateness of the methodology of the introduction, method, results, and discussion/conclusion sections. For example, indicators refer to selection bias, performance bias, and attrition bias. Application of the scale results in a score per study section from 1 (i.e., *indicators not/inadequately addressed*) to 4 (i.e., *all indicators addressed adequately*). Overall mean scores were determined per study. The lead reviewer and two coreviewers independently reviewed two randomly selected studies from the review set and rated all sections of the Rigor scale. The reviewers easily agreed on 75% of the Rigor sections. After clarifying differently rated indicators in a group discussion, they fully consented on all sections of the scale. Based on these results, it was decided that the lead reviewer and one coreviewer would review the rigor of the remaining studies. In the case of no interrater agreement between the two reviewers, a consensus approach was used discussing discrepancies to reach a joint decision about the ratings. In the case of remaining differences between ratings, the other coreviewer would decide how to score the particular section. This step was unnecessary in practice.

Results

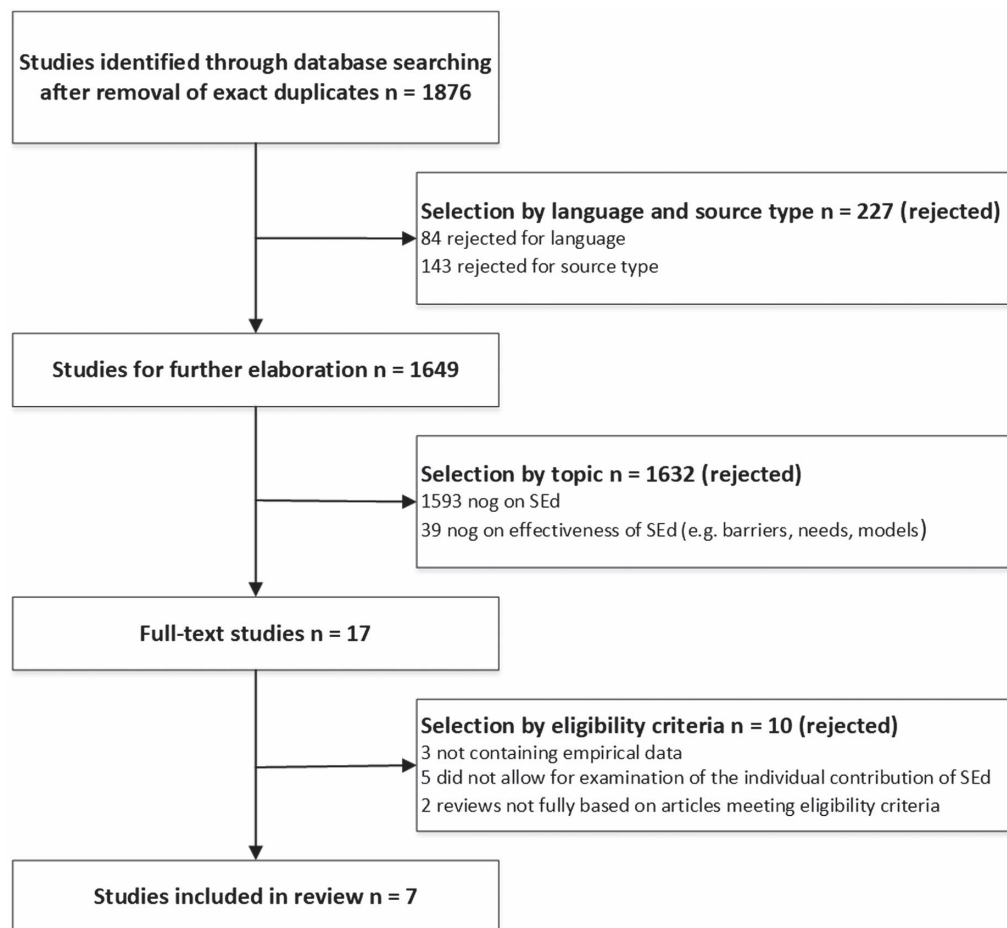
The information generated from the studies is described in two sections: (a) general summaries of the reviewed studies, and (b) review of the effects of the SEd interventions. A detailed description of participants, interventions, and the effects of the interventions on outcome measures is provided in Tables 1–3.

General Summaries of the Reviewed Studies

The review set is heterogeneous, in that nearly all studies differ from one another. They differ with regard to SEd models and services, provision contexts, type of psychiatric disabilities and age of participants, and the social and educational background of providers and participants making it difficult to draw general thematic inferences from the information.

All studies were conducted in English-speaking countries. In general, four different types of SEd interventions were addressed in the studies: a SEd program delivered by peers and designed for veterans (Ellison et al., 2018), occupational-therapy-based SEd programs (Gutman et al., 2009; Schindler, 2019; Schindler & Sauerwald, 2013), a combination of SEd and supported employment termed individual placement and support (Killackey et al., 2017; Robson et al., 2010), and a program combining cognitive remediation and SEd (Kidd et al., 2014).

Figure 1
Flow Chart of the Selection Process



Note. SEd = Supported Education.

In addition to the different types of interventions, the review included different models of SEd itself at differing duration and intensity. The onsite model was used most frequently, often combined with the classroom model. The mobile support model was applied once. Differing SEd services (e.g., module training group sessions, peer-support groups, mentoring sessions) were provided for differing durations (i.e., from 6 weeks to unlimited as part of ongoing health care) and frequencies (i.e., from once a week to as often as needed).

The study designs ranged from randomized controlled trials to those with a pre-post design. The sample size varied as well: from fewer than 25 participants to more than 50 participants. Study participants ranged in age from 15 to 70 years.

The Rigor scale was used to further examine the quality of the reviewed studies. The overall mean Rigor score was 3, that is all of the indicators were covered but not adequately, or most of the indicators were covered adequately (see Table 1). The merely “adequate” Rigor scores reflect the challenges to the design of studies in this field, limiting the interpretation of its results. Rigor indicators that were generally not or inadequately addressed included: a description of empirical and/or accepted scientific

methods to address study questions; a description of how non-completers are treated in the analysis; a power-analysis (if appropriate to the study); descriptions of who might not be represented in the sample; detailed descriptions of variables, and of content of the experimental and control intervention(s) among others.

Review of the Effects of the SEd Interventions

A review of each study’s effects on the outcome measures is presented in Table 3. The effects are divided into effects on educational functioning and other effects.

Effects of SEd on Educational Functioning

Of the seven reviewed studies, five used educational functioning as an outcome measure. SEd aims to support people with psychiatric disabilities in choosing, getting, and keeping their educational goals (Anthony et al., 2002; Sullivan-Soydon, 2014; Sullivan et al., 1993; Unger, 1998). Three of the reviewed studies (Gutman et al., 2009; Killackey et al., 2017; Schindler & Sauerwald, 2013) examined the effect of SEd on getting an education. All three studies showed an

Table 1
General Summary of the Reviewed Studies

Authors (Year)	Country	Objectives	Design	N ^a	Age	Participants		Rigor scores ^b
						Description	Overall mean	
Ellison et al. (2018)	USA	Test the feasibility of the VetSEd and gain parameters of effect size to inform future studies	Pilot RCT	23 8 experiment 15 control	21–37	Veterans with posttraumatic stress disorder.	3	
Gutman et al. (2009)	USA	Assess the effectiveness of the BP; an SEd service based on principles of OT	RCT	33 16 experiment 17 control	19–55	Adults with psychiatric disabilities (schizophrenia, schizo-affective or bipolar disorder, depression) who pursue educational and/or vocational training.	3	
Kidd et al. (2014)	Canada	Examine the effectiveness of integrating CR within SEd compared with SEd without CR	RCT for effect of CR	37 19 experiment 18 control	23–45	College students with psychosis (schizophrenia, schizoaffective, bipolar, psychosis not otherwise specified).	3	
Killackey et al. (2017)	Australia	Evaluate the feasibility and effectiveness of adapting IPS to SEd termed IPSEd	Pre-post test	19	15–19	Young people presenting first-time severe mental illness (mood, anxiety, personality, and psychotic disorder, ultra-high risk of psychotic disorder).	2	
Robson et al. (2010)	Australia	Describe the implementation and initial outcomes from an SEd and supported employment program, termed IPS	Pre-post test	20	16–30	Mental health service users with psychotic or related disorders.	3	
Schindler and Sauerwald (2013)	USA	Examine the outcomes of the first 4 years of the BP that incorporates principles of SEd and supported employment	Pre-post test	48	20–70	Adults with various mental health diagnoses (e.g., bipolar, schizophrenia, depressive disorder).	3	
Schindler (2019)	USA	Describe the academic outcomes of an occupational therapy-based-SEd program	Pre-post test	80	18–50	University students with various diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders (fifth edition).	3	

Note. SEd = Supported Education; RCT = randomized controlled trial; BP = bridge program; OT = occupational therapy; CR = cognitive remediation; IPS = individual placement and support; IPSEd = individual placement and support education; VetSEd= Veteran SEd treatment manual.
^aNumber of participants who participated until at least the first postmeasurement. ^b 1 = authors either did not address the indicators, or did not address them adequately; 2 = authors missed addressing the majority of indicators, or addressed the indicators inadequately; 3 = authors have either covered all of the indicators, but not adequately, or covered most of the indicators adequately; 4 = authors have addressed all indicators adequately.

Table 2
Characteristics of the Supported Education Interventions

Authors	Characteristics of SEd interventions					Content
	Model	Setting	Duration	Frequency	Providers	
Ellison et al. (2018)	Onsite	Individual	6 months	Once a week	Trained veteran peers	VeSEd, based on a manualized veteran-centric program including worksheets and an implementation guide using principles of SEd for individuals living with mental illness (i.e., choose, get, keep) and components of civilian models of SEd, resulting in an educational plan personalized to each veteran.
Gutman et al. (2009)	Classroom Onsite	Individual Group	6 weeks 6 weeks	Once a week Twice a week	Occupational therapy students	The BP, based on the principles of OT, comprising group wise module training sessions in a fixed order (i.e., exploration of training programs, degrees, and work options, study-, time management-, reading-, writing-, computer-, internet and math skills, use of library resources, public speaking strategies, professional behaviors and social skills, stress management), followed by an individual mentoring session. Integration of CR within the course structure of the Redirection Through Education SEd program comprising individual computer-based cognitive exercise sessions (e.g., attention, concentration, psychomotor speed, learning and memory, executive functioning), credit and noncredit courses, individual counseling sessions, and group discussions.
Kidd et al. (2014)	Classroom	Individual Group	10 weeks 10 weeks	Twice a week Once a week	Clinical psychologist; master's level psychology graduate student; trainee counselors; education specialist	IPSEd, based on the principles of IPS (SEd and supported employment) including support with reengaging in education, identifying educational courses matching educational goals, preparing for enrolment, transport to the course, support in the classroom, assistance with homework, and contact with support staff at the educational facility.
Killackey et al. (2017)	Onsite	Individual	6 months	As required	Education specialist	Based on the principles of IPS including assessment of support needs in education, assistance with enrolment, career planning, relapse prevention, disclosure counseling, anxiety management, time management, and study skills) and a peer-support group.
Robson et al. (2010)	Mobile support	Individual Group	18 months	As required	Occupational therapists; peer-support workers	The BP, incorporating principles of SEd and supported employment, comprising mentoring, higher education and/or employment goals, and classroom modules (e.g., stress management, speaking skills, disability, and law in higher education).
Schindler and Sauerwald (2013)	Classroom Onsite	Group Individual	12–13 weeks	Once a week Once a week	Second-year master's level occupational therapy students; faculty members	OT-based program consisting of mentoring sessions addressing problems and goals regarding skills development in time management and organization, academic skills, and social skills, including attendance, professional behaviors, compliance with a weekly to-do list, presentation on academic resources, and an article on an academic skill.
Schindler (2019)	Onsite	Individual Individual	6 months	Twice a week	Second-year master's level occupational therapy students; faculty members	

Note. BP = bridge program; OT = occupational therapy; CR = cognitive remediation; SEd = Supported Education; IPSEd = individual placement and support; IPS = individual placement and support.

Table 3*Review of Effects on Outcome Measures per Study*

Study	Educational functioning (study success and student satisfaction)	Other outcome measures
Ellison et al. (2018)		More time spent on educational activities in choosing, getting, and keeping an educational goal; ($p = .002$, $d = 1.15$, $t1-t2$, and $d = .74$, $t2-t3$).
Gutman et al. (2009)	63% of participants in the experimental condition were enrolled in educational program/obtained employment or were applying for an educational program compared to 6% in the control group who were involved in school-related tasks. Increase in comfort with student role, task skills, and school behavior ($p < .001$; effect size was not reported).	Increase in interpersonal skills ($p < .001$; effect size was not reported).
Kidd et al. (2014)		Significant improvement in sustained attention and vigilance ($p < .05$, $d = 0.84$). No significant increases in trail making, sustained attention, working memory, information processing, psychomotor speed, verbal learning and memory, executive functioning, self-esteem, and symptomatology.
Killackey et al. (2017)	95% of 19 participants still enrolled and studied beyond their previous highest level of education.	
Robson et al. (2010)	70% of 20 participants continued or completed education.	
Schindler and Sauerwald (2013)	Significant increase in number of participants enrolled in education combined with a job ($n_{pre} = 12$, $n_{post} = 30$, $p < .001$; effect size was not reported). Seven participants who were already enrolled in education kept or completed their education. No significant increase in number of participants enrolled in education without a job ($n_{pre} = 7$, $n_{post} = 11$, $p = .125$; effect size was not reported).	
Schindler (2019)	77.5% of 80 participants continued or completed education. GPA increased in the period between first semester of the SED program and the end of the program ($p \leq .028$), and over time from prior to enrollment in the SED program to the end of the program ($p \leq .014$); effect size was not reported.	

Note. GPA = grade-point average; SED = Supported Education.

increase in the number of participants enrolled in educational programs after participation in the SED program. Moreover, one study (Gutman et al., 2009) also reported positive effects on comfort with the student role, task skills, and school behavior.

Within the four studies examining SED in the Keeping phase, there is a large variation in outcome measures of educational functioning. Two studies examined the effect of SED on continuing and/or completing education (Robson et al., 2010; Schindler, 2019). Both studies found that the retention rates of students with psychiatric disabilities who received SED, were higher than those of students with psychiatric disabilities in the general population (Schindler, 2019) and comparable to the general student population (Robson et al., 2010). One other study reported that all participants who were enrolled in educational programs prior to SED, kept or completed their education after following the program (Schindler & Sauerwald, 2013). Furthermore, one of these studies showed an increase in grade-point average (GPA; Schindler, 2019).

Effects of SED on Other Outcome Measures

Three studies used more indirect outcome measures of educational functioning. These studies found positive effects on time spent on

educational activities (Ellison et al., 2018), cognitive functioning (Kidd et al., 2014), and interpersonal skills (Gutman et al., 2009). Although positive effects of SED were found on these indirect outcome measures, the direct relation to educational functioning remains unclear.

Effects per Type of SED Intervention

Individual-Placement-and-Support-Based SED Interventions (Killackey et al., 2017; Robson et al., 2010). Two studies addressed an individual-placement-and-support (IPS)-based SED intervention. Both studies used a pre-post design. One study (Killackey et al., 2017) targeted young people with serious mental health illnesses who were not attending an educational institution and wished to reengage with or be supported in their education. The support was provided by educational specialists. The other study (Robson et al., 2010) targeted mental health service users with psychotic or related disorders who recently enrolled in education and needed assistance with their course of study. The intervention was delivered by occupational therapists, employed by a community mental health service. In both studies, educational outcomes were promising. Eighteen of the 19 people (95%) who participated until the conclusion of the intervention were enrolled in educational

programs, were attending and studied beyond their previous highest level of education (Killackey et al., 2017). Seventy percent of the participants from Robson et al. (2010) either continued or completed their chosen course or formal study compared to a 70%–85% course-completion rate in the general student population. The results from these studies should be interpreted with caution since the applied methodology was merely descriptive, and the research sample was small.

Occupational-Therapy-Based SEd Programs (Gutman et al., 2009; Schindler & Sauerwald, 2013; Schindler, 2019). Three studies addressed an occupational-therapy (OT)-based SEd program. One study (Gutman et al., 2009) was a randomized controlled trial. Two studies used a pre–post design (Schindler & Sauerwald, 2013; Schindler, 2019). Participants had various psychiatric disabilities in all three studies. The studies by Gutman et al. (2009), and Schindler and Sauerwald (2013) included adults, while undergraduate students were the focus of study for Schindler (2019). The OT-based SEd program was used to assist participants pursuing education (Gutman et al., 2009; Schindler & Sauerwald, 2013) and students who wanted to remain in/complete education (Schindler & Sauerwald, 2013; Schindler, 2019). In all three studies, the OT-based SEd program was provided by occupational therapy students.

Ten experimental group participants (63%) in the study by Gutman et al. (2009), had enrolled in an educational or specific program at the 6-months follow-up, had obtained employment, or were in the process of applying to a specific program for the next year. In comparison, only one (6%) of the control group was involved in school coursework. Statistically significant differences between the experimental and control group posttest scores were found on the “Participant Comfort With the Student Role” scale, Task Skills Scale, Interpersonal Skills Scale, and School Behavior Scale ($p < .001$).

Schindler and Sauerwald (2013) reported that after following SEd, significantly more participants ($n = 30$) followed higher education combined with a job, than prior to receiving SEd ($n = 12$; $p < .001$). There was no significant increase in the number of participants who were enrolled in higher education and did not have a job ($p = .125$). The seven participants who were already enrolled in an educational institution prior to the program, all kept or completed their education.

In Schindler’s (2019) study, 80 students who completed at least one semester of the OT-based SEd program between 2008 and 2017 were included in the study. Eighteen of these, withdrew from college. Sixty-two students remained in college, of which 43 graduated. Therefore, the retention rate in this study was 77.5%. Data for 2008–2017, on the retention of students with disabilities who did not participate in the SEd program were used for comparative purposes. Within the comparison group, the first-year retention rate was 83%, while the 4-year retention rate was 37%, and the 6-year retention rate was 65%.

Change in GPA was examined by comparing the mean GPA at the end of the first semester in the SEd program, to the end of the student’s enrollment in the program. Change in GPA was only statistically significant for the students who continued at university ($n = 62$, GPA after first semester in the program = 3.12, GPA at end of program = 3.18, $p \leq .028$, $t = -2.25$). For 31 students, the GPA scores prior to enrollment in the SEd program were also available. A repeated measures analysis of variance (ANOVA) showed a statistically significant change in GPA over time for this group (GPA

prior to enrollment = 2.46, GPA after first semester in the program = 2.6, GPA at end of program = 2.69, $p \leq .014$, $F = 6.194$).

The results support the effectiveness of the OT-based SEd programs in pursuing and keeping educational goals. However, generalizability of the results is limited due to methodological issues (e.g., small group sizes, no direct control group).

The Veteran SEd Treatment Manual (Ellison et al., 2018). A randomized controlled pilot study of Veteran SEd Treatment Manual (VetSEd) was conducted with returning veterans with posttraumatic stress disorder, who had higher education goals. Veteran peers delivered SEd services focused on educational goals in either the Choosing, Getting, or Keeping phase of SEd. A significant positive effect was found ($p = .002$), with the experimental group spending more time on educational activities than the control group. Effect size for the impact of the intervention was large between Time 1 (T1) and 2–6 weeks postrandomization (T2; $d = 1.5$), and moderately large ($d = .74$) between T2 and 6–10 weeks postrandomization (T3). Despite the established effect and effect sizes, the results have to be interpreted with caution, as both the experimental group and the control group were rather small (i.e., $n = 8$ and $n = 15$).

Cognitive Remediation for Individuals With Psychosis Combined With SEd (Kidd et al., 2014). In a randomized controlled trial, Kidd et al. (2014) examined the effectiveness of an integrated cognitive remediation intervention (CR) within a SEd program, compared with SEd without CR. Students with psychosis were included. Since our study was designed to review the effectiveness of SEd, rather than CR, we focused on the group of students who only received SEd and completed the follow-up measurements ($n = 13$). Academic functioning, cognition, self-esteem, and symptomatology were assessed at baseline, and at 4- and 8-months follow-up. However, no pre–post analyses were performed on academic functioning for both groups separately, so the unique effect of SEd on educational functioning cannot be established.

A significant improvement in sustained attention and vigilance, as assessed by the digit vigilance test (Kelland & Lewis, 1996) was found for the SEd-only group ($n = 13$, $p \leq .05$, $d = 0.84$). No effects of SEd were found for self-esteem and symptomatology.

Discussion

The aim of this study was to systematically review the literature from 2009 to 2021 on the effectiveness of SEd interventions for students with psychiatric disabilities who want to return to or remain in education. Seven studies met the eligibility criteria.

All seven studies showed positive effects of SEd on educational functioning (Gutman et al., 2009; Killackey et al., 2017; Robson et al., 2010; Schindler, 2019; Schindler & Sauerwald, 2013), time spent on educational activities (Ellison et al., 2018), sustained attention and vigilance (Kidd et al., 2014), and interpersonal skills (Gutman et al., 2009). However, only three of these studies compared the results to a control group (Ellison et al., 2018; Gutman et al., 2009; Kidd et al., 2014). These results therefore indicate that SEd might be useful in choosing, getting, and keeping educational goals, but more evidence is needed to substantiate these findings.

While a positive impact of SEd was demonstrated in each reviewed study, the heterogeneity in the outcome measures limits the strength of its results. Moreover, many reviewed studies addressed the intervention’s effect on striving for an educational degree or preventing dropout; however, most did not use this as

an outcome measure. Therefore, the effectiveness of SEd in decreasing the worrying trend of increased dropout of students with psychiatric disabilities (Auerbach et al., 2018; Mohr et al., 2014) remains unclear. Further research on the effects of SEd on dropout and gaining a degree is necessary.

Moreover, there is not only a wide variation in outcome measures; the review set also appears to vary greatly in its composition. While all studies reported effectiveness data on SEd, either combined or not with another intervention, there is large variation among studies (e.g., designs, methods, outcome measures). The interventions differ from each other to such an extent in terms of principles, target population, providers, content, and execution that it is virtually impossible to compare them to one another.

Considering the findings per intervention, all types of SEd interventions showed promising effects. However, it remains unclear which type is the most effective or what kind of intervention should be applied in certain situations or for certain types of psychiatric disabilities. A significant effect on time spent on educational activities was established with the VetSed program (Ellison et al., 2018), but this effect rapidly decreased over time. The individual placement and support education (IPSEd) program (Killackey et al., 2017; Robson et al., 2010) is feasible and seems to be able to make a difference, but its power was not appropriately tested. One OT-based SEd program yielded a high percentage of participants completing a course or study, which was not tested for significance (Gutman et al., 2009). Significant changes in GPA were established with the other OT-based SEd program. However, this was not compared to a control group (Schindler, 2019). The Bridge Program (Gutman et al., 2009; Schindler & Sauerwald, 2013) established improvement in basic academic and social skills and professional behaviors among a significant number of participants but only for participants who focused on employment or a combination of employment and education. It would be interesting to examine which types of SEd interventions are most beneficial in supporting the educational aspirations of students with psychiatric disabilities and what the critical elements of these interventions are that make them effective.

Comparison of the outcomes of the previous (Rogers et al., 2010) and the present review yields several insights, which comprise indications of both progress and no progress. As regards progress, there is growing, yet still thin, evidence derived from a small number of randomized controlled trials that SEd positively impacts the educational functioning of students with psychiatric disabilities. While the earlier review established that SEd impacted educational engagement and enrollment, more functional areas have been found to be impacted by SEd since that point. For example, SEd also appears to impact sustained attention/vigilance and interpersonal skills. No progress appears to have been made regarding the strength of the evidence supporting SEd, as the past decade produced only three small randomized controlled trials on SEd. Despite the fact that little effect research has been done, there is great interest in SEd worldwide (see e.g., Annapally et al., 2021; Corrigan et al., 2020; Kinney et al., 2020; Liljeholm et al., 2021; Lövgren et al., 2020) and in the integration of SEd and supported employment (see e.g., Cohen et al., 2020; Humensky et al., 2019; Nuechterlein et al., 2020; Thompson et al., 2021). This warrants further effect research. Three authors of this systematic review have been awarded funds to conduct a study measuring the effect of SEd in a randomized control

trial (Hofstra et al., 2021), directly addressing some of the identified limitations, mentioned earlier.

This comprehensive systematic review has several strengths. To start, it adds to the field's knowledge in that it analyses an additional decade of research. It clearly differs from other reviews on the topic of SEd because the present study essentially gathers the empirical evidence on the effectiveness of such interventions rather than focusing on barriers to, opportunities for (Lövgren et al., 2020; Manthey et al., 2015; Shor, 2017), and descriptions of (Shor & Avihod, 2011; Unger et al., 2010) SEd interventions. Moreover, researchers from differing backgrounds, who all have expertise in the area of psychiatric disabilities, were involved as reviewers in the study. This variety reduced the risk of a reviewer bias. However, as only studies in English or Dutch/Flemish were included in the review, it is possible that studies in other languages on the effectiveness of SEd were missed. In addition, the risk for publication bias might also be increased, as unpublished or gray literature was not included in the review. This decision was made, however, as peer-reviewed studies are screened for quality and reliability of the research as opposed to (most) unpublished or gray literature. Another limitation of this review was that we did not conduct a meta-analysis. We decided to only conduct a qualitative review because of the heterogeneity in outcome measures.

Conclusion

Through a broad literature search for effectiveness studies on SEd, seven studies were identified for the period 2009–2021. All studies indicated that SEd contributes directly or indirectly (for instance through cognitive functioning) to the educational functioning (i.e., study success and student satisfaction) of students with psychiatric disabilities. Although the findings indicate that SEd positively contributes to the educational goals of these students, it is difficult to draw firm conclusions from the results, as the reviewed studies largely differed from one another and were all limited in research design to a certain extent. For future research, a few recommendations can be formulated based on our review:

1. larger sample sizes and control groups should be used;
2. an unambiguous framework of outcome measures to rate educational success (e.g., credits gained, course completion) as well as student satisfaction (e.g., self-perceived study progress, self-esteem) should be developed.

All in all, the overall conclusion of the previous review (Rogers et al., 2010, p. 1) continues to hold: "If supported education is to become a viable alternative and widespread intervention and if mental health policies are to emphasize educational attainment, more effectiveness research on SEd is critically needed." In addition, our study suggests that this effectiveness research should be of higher quality (larger sample sizes, relevant outcome measures such as dropout and/or gaining a degree).

References

- Annapally, S. R., Jagannathan, A., Kishore, T., Daliboyina, M., & Kumar, C. N. (2021). Development of a Supported Education program for students with severe mental disorders in India. *Indian Journal of Psychological Medicine*, 43(3), 217–222. <https://doi.org/10.1177/0253717620971567>

- Anthony, W. A., Cohen, M., Farkas, M., & Gagne, C. (2002). *Psychiatric rehabilitation* (2nd ed.). Boston University, Center for Psychiatric Rehabilitation.
- Anthony, W. A., & Unger, K. V. (1991). Supported education: An additional program resource for young adults with long term mental illness. *Community Mental Health Journal*, 27(2), 145–156. <https://doi.org/10.1007/BF00752817>
- Arbesman, M., & Logsdon, D. W. (2011). Occupational therapy interventions for employment and education for adults with serious mental illness: A systematic review. *The American Journal of Occupational Therapy*, 65(3), 238–246. <https://doi.org/10.5014/ajot.2011.001289>
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., Hwang, I., Kessler, R. C., Liu, H., Mortier, P., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Aguilar-Gaxiola, S., Al-Hamzawi, A., Andrade, L. H., Benjet, C., Caldas-de-Almeida, J. M., Demyttenaere, K., . . . Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization World Mental Health Surveys. *Psychological Medicine*, 46(14), 2955–2970. <https://doi.org/10.1017/S0033291716001665>
- Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D. D., Green, J. G., Hasking, P., Murray, E., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Stein, D. J., Vilagut, G., Zaslavsky, A. M., Kessler, R. C., & the WHO WMH-ICS Collaborators. (2018). WHO World mental health surveys international college student project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology*, 127(7), 623–638. <https://doi.org/10.1037/abn0000362>
- Best, L. J., Still, M., & Cameron, G. (2008). Supported education: Enabling course completion for people experiencing mental illness. *Australian Occupational Therapy Journal*, 55(1), 65–68. <https://doi.org/10.1111/j.1440-1630.2007.00690.x>
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R. P., Cuijpers, P., Demyttenaere, K., Green, J. G., Nock, M. K., & Kessler, R. C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, 225, 97–103. <https://doi.org/10.1016/j.jad.2017.07.044>
- Chen, T., & Lucock, M. (2022). The mental health of university students during the COVID-19 pandemic: An online survey in the UK. *PLOS ONE*, 17(1), Article e0262562. <https://doi.org/10.1371/journal.pone.0262562>
- Cohen, D. A., Klodnick, V. V., Stevens, L., Fagan, M. A., & Spencer, E.-S. (2020). Implementing adapted Individual Placement and Support (IPS) supported employment for transition-age youth in Texas. *Community Mental Health Journal*, 56(3), 513–523. <https://doi.org/10.1007/s10597-019-00508-3>
- Collins, M. E., & Mowbray, C. T. (2005). Higher education and psychiatric disabilities: National survey of campus disability services. *American Journal of Orthopsychiatry*, 75(2), 304–315. <https://doi.org/10.1037/0002-9432.75.2.304>
- Corrigan, P. W., Sheehan, L., Walley, G., Qin, S., Nieweglowski, K., & Maurer, K. (2020). Strengths and challenges of peer coaches for supported education in colleges and universities. *Psychiatric Rehabilitation Journal*, 43(3), 175–178. <https://doi.org/10.1037/prj0000390>
- Ellison, M. L., Mueller, L., Henze, K., Corrigan, P., Larson, J., Kieval, N. E., Sawh, L., & Smelson, D. (2012). *The veteran supported education treatment manual (VetSED)*. ENRM Veterans Hospital, Center for Health Quality, Outcomes, and Economic Research. https://www.va.gov/HOMELESS/docs/Center/VetSED_Manual_Version_FINAL.pdf
- Ellison, M. L., Reilly, E. D., Mueller, L., Schultz, M. R., & Drebing, C. E. (2018). A supported education service pilot for returning veterans with posttraumatic stress disorder. *Psychological Services*, 15(2), 200–207. <https://doi.org/10.1037/ser0000180>
- Gutman, S. A., Kerner, R., Zombek, I., Dulek, J., & Ramsey, C. A. (2009). Supported education for adults with psychiatric disabilities: Effectiveness of an occupational therapy program. *The American Journal of Occupational Therapy*, 63(3), 245–254. <https://doi.org/10.5014/ajot.63.3.245>
- Hain, R., & Gioia, D. (2004). Supported education enhancing rehabilitation (SEER): A community mental health and community college partnership for access and retention. *American Journal of Psychiatric Rehabilitation*, 7(3), 315–328. <https://doi.org/10.1080/15487760490884711>
- Hartrey, L., Denieffe, S., & Wells, J. S. G. (2017). A systematic review of barriers and supports to the participation of students with mental health difficulties in higher education. *Mental Health & Prevention*, 6, 26–43. <https://doi.org/10.1016/j.mhp.2017.03.002>
- Healthy Minds Network. (2022). *Healthy minds study among colleges and universities, year (2014–2021)* [Data set]. Healthy Minds Network, University of Michigan, University of California Los Angeles, Boston University, and Wayne State University. <https://healthymindsnetwork.org/research/data-for-researchers>
- Hjorth, C. F., Bilgrav, L., Frandsen, L. S., Overgaard, C., Torp-Pedersen, C., Nielsen, B., & Bøggild, H. (2016). Mental health and school dropout across educational levels and genders: A 4.8-year follow-up study. *BMC Public Health*, 16(1), Article 976. <https://doi.org/10.1186/s12889-016-3622-8>
- Hofstra, J., & Korevaar, E. L. (2016). *Supported Education Toolkit. Tools and guidelines for organizations and professionals working with students with psychiatric disabilities*. Hanze University of Applied Sciences Groningen/Research and Innovation Center for Rehabilitation.
- Hofstra, J., van der Velde, J., Havinga, P. J., & Korevaar, L. (2021). COMMUNITY PARTICIPATION THROUGH EDUCATION (COMPARE): Effectiveness of supported education for students with mental health problems, a mixed methods study—Study protocol for a randomized controlled trial. *BMC Psychiatry*, 21(1), Article 332. <https://doi.org/10.1186/s12888-021-03329-5>
- Humensky, J. L., Nossel, I., Bello, I., & Dixon, L. B. (2019). Supported Education and employment services for young people with early psychosis in OnTrackNY. *The Journal of Mental Health Policy and Economics*, 22(3), 95–108.
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *The Journal of Adolescent Health*, 46(1), 3–10. <https://doi.org/10.1016/j.jadohealth.2009.08.008>
- Isenwater, W., Lanham, W., & Thornhill, H. (2002). The College Link Program: Evaluation of a supported education initiative in Great Britain. *Psychiatric Rehabilitation Journal*, 26(1), 43–50. <https://doi.org/10.2975/26.2002.43.50>
- Jones, P. B. (2013). How should resilience factors be incorporated in treatment development? In S. M. Silverstein, B. Moghaddam, & T. Wykes (Eds.), *Schizophrenia: Evolution and synthesis* (pp. 93–99). MIT Press. <https://doi.org/10.7551/mitpress/9780262019620.003.0006>
- Kelland, D. Z., & Lewis, R. F. (1996). The Digit Vigilance Test: Reliability, validity, and sensitivity to diazepam. *Archives of Clinical Neuropsychology*, 11(4), 339–344. <https://doi.org/10.1093/arclin/11.4.339>
- Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Üstün, T. B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*, 20(4), 359–364. <https://doi.org/10.1097/YCO.0b013e32816ebc8c>
- Kidd, S. A., Kaur, J., Virdee, G., George, T. P., McKenzie, K., & Herman, Y. (2014). Cognitive remediation for individuals with psychosis in a supported education setting: A randomized controlled trial. *Schizophrenia Research*, 157(1–3), 90–98. <https://doi.org/10.1016/j.schres.2014.05.007>
- Killackey, E., Allot, K., Woodhead, G., Connor, S., Dragon, S., & Ring, J. (2017). Individual placement and support, supported education in young people with mental illness: An exploratory feasibility study. *Early Intervention in psychiatry*, 11, 526–531. <https://doi.org/10.1111/eip.12344>
- Kinney, A. R., Graham, J. E., & Eakman, A. M. (2020). Factors distinguishing veterans participating in supported education services from veterans on campus: Evidence supporting modifiable intervention targets. *Psychiatric Rehabilitation Journal*, 43(3), 261–269. <https://doi.org/10.1037/prj0000399>
- Liljeholm, U., Argentzell, E., Hillborg, H., Lövgren, V., Rosenberg, D., & Bejerholm, U. (2021). The journey to my student identity: A grounded

- theory study on Supported Education for young adults with mental health problems. *Journal of Psychosocial Rehabilitation and Mental Health*. Advance online publication. <https://doi.org/10.1007/s40737-021-00253-5>
- Lövgren, V., Hillborg, H., Bejerholm, U., & Rosenberg, D. (2020). Supported Education in a Swedish context: Opportunities and challenges for developing career-oriented support for young adults with mental health problems. *Scandinavian Journal of Disability Research*, 22(1), 1–11. <https://doi.org/10.16993/sjdr.648>
- Lynde, D. W., Gingerich, S., McGurk, S. R., & Mueser, K. T. (2014). *Supported employment and education (SEE) manual*. Dartmouth Psychiatric Research Center. <https://www.nasmhpd.org/sites/default/files/SEE%20Complete%20Manual.pdf>
- Manthey, T. J., Goscha, R., & Rapp, C. (2015). Barriers to supported education implementation: Implications for administrators and policy makers. *Administration and Policy in Mental Health*, 42(3), 245–251. <https://doi.org/10.1007/s10488-014-0583-z>
- Mohr, C., Braun, S., Bridler, R., Chmetz, F., Delfino, J. P., Kluckner, V. J., Lott, P., Schrag, Y., Seifritz, E., & Stassen, H. H. (2014). Insufficient coping behavior under chronic stress and vulnerability to psychiatric disorders. *Psychopathology*, 47(4), 235–243. <https://doi.org/10.1159/000356398>
- Mowbray, C. (2000). The michigan supported education program. *Psychiatric Services*, 51(11), 1355–1357. <https://doi.org/10.1176/appi.ps.51.11.1355>
- Mowbray, C. T., Collins, M. E., Bellamy, C. D., Megivern, D. A., Bybee, D., & Szilvagy, S. (2005). Supported education for adults with psychiatric disabilities: An innovation for social work and psychosocial rehabilitation practice. *Social Work*, 50(1), 7–20. <https://doi.org/10.1093/sw/50.1.7>
- Nuechterlein, K. H., Subotnik, K. L., Ventura, J., Turner, L. R., Gitlin, M. J., Gretchen-Doorly, D., Becker, D. R., Drake, R. E., Wallace, C. J., & Liberman, R. P. (2020). Enhancing return to work or school after a first episode of schizophrenia: The UCLA RCT of Individual Placement and Support and Workplace Fundamentals Module training. *Psychological Medicine*, 50(1), 20–28. <https://doi.org/10.1017/S0033291718003860>
- Rijkinstituut voor volksgezondheid en milieu, & Trimbos-instituut and GGD GHOR Nederland. (2021). *Monitor Mentale gezondheid en Middelengebruik Studenten hoger onderwijs. Deelrapport I Mentale gezondheid van studenten in het hoger onderwijs* [Monitor mental health and substance use of higher education students. Sub-report I Mental health of students in higher education]. <https://www.trimbos.nl/wp-content/uploads/2021/11/AF1955-Monitor-Studenten-Deelrapport-I-Mentale-gezondheid.pdf>
- Ringeisen, H., Langer Ellison, M., Ryder-Burge, A., Biebel, K., Alikhan, S., & Jones, E. (2017). Supported education for individuals with psychiatric disabilities: State of the practice and policy implications. *Psychiatric Rehabilitation Journal*, 40(2), 197–206. <https://doi.org/10.1037/prj0000233>
- Robson, E., Waghorn, G., Sherring, J., & Morris, A. (2010). Preliminary outcomes from an individualised supported education programme delivered by a community mental health service. *British Journal of Occupational Therapy*, 73(10), 481–486. <https://doi.org/10.4276/030802210X12865330218384>
- Rogers, E. S., Anthony, W. A., & Farkas, M. (2006). The choose–get–keep model of psychiatric rehabilitation: A synopsis of recent studies. *Rehabilitation Psychology*, 51(3), 247–256. <https://doi.org/10.1037/0090-5550.51.3.247>
- Rogers, E. S., Anthony, W., Kash, M., & Farkas, M. (2008). *Standards for rating program evaluation, policy or survey research, pre–post and correlational human subjects studies*. Boston University, Center for Psychiatric Rehabilitation.
- Rogers, E. S., Kash-MacDonald, M., Bruker, D., & Maru, M. (2010). *Systematic review of Supported Education literature, 1989–2009*. Boston University, Sargent College, Center for Psychiatric Rehabilitation. <http://www.bu.edu/drrk/research-syntheses/psychiatric-disabilities/supported-education/>
- Roy, L., Rousseau, J., Fortier, P., & Mottard, J.-P. (2016). Postsecondary academic achievement and first-episode psychosis: A mixed-methods study. *Canadian Journal of Occupational Therapy*, 83(1), 42–52. <https://doi.org/10.1177/0008417415575143>
- Schindler, V. (2019). An occupational therapy-based supported education program for university students with various DSM-5 diagnoses: Program description and academic outcomes. *The Open Journal of Occupational Therapy*, 7(2), 1–14. <https://doi.org/10.15453/2168-6408.1549>
- Schindler, V. P., & Sauerwald, C. (2013). Outcomes of a 4-year program with higher education and employment goals for individuals diagnosed with mental illness. *Work (Reading, Mass.)*, 46(3), 325–336. <https://doi.org/10.3233/WOR-121548>
- Shor, R. (2017). Difficulties experienced by university students with severe mental illness who participate in supported education programs. *Community Mental Health Journal*, 53(3), 281–287. <https://doi.org/10.1007/s10597-016-0026-2>
- Shor, R., & Avihod, G. (2011). The conceptual model and guiding principles of a supported-education program for Orthodox Jewish persons with severe mental illness. *Community Mental Health Journal*, 47(5), 568–572. <https://doi.org/10.1007/s10597-011-9387-8>
- Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study. *Journal of Medical Internet Research*, 22(9), Article e21279. <https://doi.org/10.2196/21279>
- Stallman, H. M., & Shochet, I. (2009). Prevalence of mental health problems in Australian university health services. *Australian Psychologist*, 44(2), 122–127. <https://doi.org/10.1080/00050060902733727>
- Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems—a growing problem. *International Journal of Nursing Practice*, 16(1), 1–6. <https://doi.org/10.1111/j.1440-172X.2009.01813.x>
- Sullivan, A. P., Nicoletti, D. L., Danley, K. S., & MacDonald-Wilson, K. (1993). Choose–get–keep: A psychiatric rehabilitation approach to Supported Education. *Psychosocial Rehabilitation Journal*, 17(1), 55–68. <https://doi.org/10.1037/h0095626>
- Sullivan-Soydon, A. P. (2014). Supported education. In P. B. Nemecek & K. Furlong-Norman (Eds.), *Best practices in psychiatric rehabilitation*. United States Psychiatric Rehabilitation Association.
- Thompson, J. L., Holloway, K., Karyczak, S., Serody, M. R., Lane, I. A., Ellison, M. L., Gill, K. J., Davis, M., & Mullen, M. G. (2021). Evaluating educational and employment services for young people with psychiatric conditions: A systematic review. *Psychiatric Services*, Article s202000033. Advance online publication. <https://doi.org/10.1176/appi.ps.202000033>
- Turner, A. P., Hammond, C. L., Gilchrist, M., & Barlow, J. H. (2007). Coventry university students' experience of mental health problems. *Counselling Psychology Quarterly*, 20(3), 247–252. <https://doi.org/10.1080/09515070701570451>
- Unger, K. V. (1989). Psychiatric rehabilitation through education: Rethinking the context. In M. D. Farkas & W. A. Anthony (Eds.), *Psychiatric rehabilitation programs: Putting theory into practice* (pp. 132–161). Johns Hopkins University Press.
- Unger, K. V. (1998). *Handbook on Supported Education: Providing services for students with psychiatric disabilities*. Paul H. Brookes Publishing.
- Unger, K. V., Anthony, W. A., Sciarappa, K., & Rogers, E. S. (1991). A supported education program for young adults with long-term mental illness. *Hospital & Community Psychiatry*, 42(8), 838–842. <https://doi.org/10.1176/ps.42.8.838>
- Unger, K. V., Danley, K. S., Kohn, L., & Hutchinson, D. (1987). Rehabilitation through education: A university-based continuing education program for young adults with psychiatric disabilities on a university campus. *Psychosocial Rehabilitation Journal*, 10(3), 35–49. <https://doi.org/10.1037/h0099603>
- Unger, K. V., Pfaltzgraf, B., & Nikkel, R. E. (2010). A supported education program in a state psychiatric hospital. *Psychiatric Services*, 61(6), 632. <https://doi.org/10.1176/ps.2010.61.6.632>

- Van den Broek, A., Muskens, M., & Winkels, J. (2013). *Studeren met een functiebeperking 2012: de relatie tussen studievoortgang, studie uitval en het gebruik van voorzieningen. Eindmeting onderzoek 'Studeren met een functiebeperking* [Studying with a disability 2012: the relationship between study progress, study dropout, and the use of services. Final measurement research 'Studying with a disability']. ResearchNed/TTS.
- Veldman, K., Reijneveld, S. A., Ortiz, J. A., Verhulst, F. C., & Bültmann, U. (2015). Mental health trajectories from childhood to young adulthood affect the educational and employment status of young adults: Results from the TRAILS study. *Journal of Epidemiology and Community Health*, 69(6), 588–593. <https://doi.org/10.1136/jech-2014-204421>
- Verhagen, A. M. C., & Meng, C. M. (2014). Schoolverlaters tussen onderwijs en arbeidsmarkt 2013. Feiten en cijfers [School-leavers between education and the labour market 2013. Facts and figures]. *ROA Fact Sheets*, (002). Advance online publication. <https://doi.org/10.26481/umarof.2014002>
- Wang, X., Hegde, S., Son, C., Keller, B., Smith, A., & Sasangohar, F. (2020). Investigating mental health of US college students during the COVID-19 pandemic: Cross-Sectional survey study. *Journal of Medical Internet Research*, 22(9), Article e22817. <https://doi.org/10.2196/22817>
- Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, 117(3), 180–185. <https://doi.org/10.1016/j.jad.2009.01.001>

Received December 15, 2021

Revision received March 25, 2022

Accepted April 7, 2022 ■