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Barriers and Facilitators to Employment for Young Adults with Mental Illness: A Scoping Review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2018-024487
Article Type:	Research
Date Submitted by the Author:	29-May-2018
Complete List of Authors:	Gmitroski, Taryn Bradley, Christl Heinemann, Lyn Liu, Grace Blanchard, Paige Beck, Charlotte Mathias, Steve Leon, Adelena Barbic, Skye; University of British Columbia, Occupational Science and Occupational Therapy
Keywords:	employment, young adults, scoping review

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Barriers and Facilitators to Employment for Young Adults with Mental Illness:

A Scoping Review

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Keywords: Young Adults, Employment, Mental Health, Barriers, Facilitators, Review

Word count: 3682

Funding Statement: This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests statement. All authors declare that none have any conflict of interest related to the development or publishing of this manuscript.

ACKNOWLEDGEMENTS: Appreciation is extended to Dr. Letitia Henville, Department of Occupational Science and Occupational Therapy, University of British Columbia, for editorial support.

ABSTRACT

Objectives: The issue of gaining employment for those with mental illness is a growing global concern. For many in the young adult population, who are at a transitional age, employment is a central goal. In response, we conducted a scoping review to answer the question, “What are the barriers and facilitators to young adults with mental illness seeking employment?”

Design: We conducted a scoping review in accordance to the Arksey and O’Malley framework. We performed a thorough search of Medline, EMBASE, CINAHL, ABI/INFORM, PsycINFO, and Cochrane.

Results. Our search resulted in 19 research articles that focused on employment for young adults with mental illness. Four main themes were extracted from the literature: (1) employment intervention in addition to treatment as usual, (2) age-related components of employment, (3) positive perception of self, and (4) ongoing support.

Conclusions. Our review suggests that the employment goals of young adults with mental illness are important should be recognized by the mental health system as a social determinant of health. Aligning the mental health and employment priorities of young adults may enable efficiency in achieving improved health and social outcomes for this population while promoting greater engagement of young adults in care.

Strengths and limitations of the study:

- Comprehensive summary of the barriers and facilitators to employment for young adults with mental illness.
- Scoping review according to published guidelines
- Full-text review and data extraction completed by two reviewers
- No quality of appraisal of the included studies

INTRODUCTION

Mental illness is a widespread global challenge that affects approximately 1 in 4 young people at some point in their lives¹⁻³ with 12–24 year olds experiencing the highest incidence of mental disorders of any age group.^{4 5} Adolescence and early adulthood are considered the peak periods for the onset of mental illness, with 75% of all diagnoses having an onset before the age of 25 years.⁶⁻⁸ Mental illness in young adults affects all education and income levels and all cultures.^{5 6} ⁹ The global economic and societal burden of mental health disorders for this age group is rising at an alarming rate.^{9 10} Nevertheless, this age group has been shown to have the greatest challenge in accessing mental health services.^{11 12} Global mental health services have been described as “largely inadequate and unsuited to their [age-related] needs”.^{13 14} There is an international call to urgently reexamine how mental health services are delivered for youth.^{10 12} ¹⁵⁻²⁰ In order to reduce the impact of mental illness, and to increase the likelihood of recovery for young people, transformative change and service redesign are necessary.²¹

Recovery, in the context of mental health care and psychosocial rehabilitation, is defined as “*the ability to live a full and meaningful life*”.²² The greatest chance of recovery is associated with having an illness identified, receiving an intervention early, and accessing ongoing support.^{9 15 21 23-25} One of the best indicators of recovery for all ages is the ability to obtain and maintain meaningful employment.^{11 26} High-quality studies have repeatedly shown that employment is associated with reductions in negative symptoms associated with a diagnosis of a mental illness, improvement in overall well-being, and enhanced perception of social inclusion and self-worth.^{11 27-32} Yet approximately 70-90% of people with a serious mental health condition are unemployed—this despite increasing evidence suggests that the majority of them desire to work³³⁻³⁵

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3 As research continues to emerge regarding young adults with mental illness, there is a
4 strong case for mental health services to integrate employment-support components within the
5 current model of service delivery.³⁶⁻³⁹ Incorporating employment into community mental health
6 services for young adults may have a substantial impact at the individual, familial, and societal
7 level, thereby advancing health-related outcomes for this population.^{40 41} These impacts include
8 decreased hospital admissions, interaction with the justice system, improved mental health, and
9 reduction of costs to the system.^{28 42} In order to strengthen the case for employment within the
10 mental health services framework, it is vital to researchers, clinicians, and policy makers to
11 understand the barriers and facilitators to employment for young adults with mental illness.
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24 The goal of this work is to lay a foundation to understand the barriers and facilitators to
25 employment for youth with mental illness. In this study, we outline the breadth of knowledge
26 currently available regarding obtaining and maintaining employment for young adults with
27 mental illness, as well as the implementation of programs designed to address the barriers
28 identified.
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36 **METHODS**

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38 The aim of our scoping review was to draw on existing literature to understand what is known
39 about the barriers and facilitators to employment for young adults with mental illnesses. As
40 compared to systematic reviews, scoping reviews have a very broadly defined research question,
41 include all study types, and track data according to key issues and themes.³⁸ We followed a five-
42 stage methodological framework⁴³ to complete this review, including: (1) identification of the
43 research question, (2) identification of all relevant studies, (3) selection of studies for detailed
44 analysis, (4) charting of the data according to key concepts, and (5) collation and summarizing
45 the findings of selected studies.
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3 For the first stage of the scoping review, the research question that guided the review
4 was: “*What are the barriers and facilitators to employment for young adults?*” In order to ensure
5 that all relevant studies were included in the search results, the terms were kept broad, and
6 included “young adults,” “employment,” and “mental disorder.” The population included were
7 young adults, aged 15–29 years of age with a mental health diagnosis, who are seeking
8 employment. This age group was chosen in order to best reflect the challenges faced by those
9 with an emerging mental illness who are attempting to seek paid work. The definitions of each
10 aspect of the population, age, mental health status, and gaining employment, have been left broad
11 in order to maintain a wide approach that generates a breadth of coverage of the topic.
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24 In order to identify all relevant studies into this scoping review, stage two of this study
25 included a search of the following databases on July 28, 2016: MEDLINE® (1946–July 2016),
26 ABI/inform® (1986–July 2016), CINAHL® (1982–July 2016), Embase® (1974–July 2016),
27 PsycINFO® (1880–July 2016), and Cochrane® (2005–July 2016) using the terms outlined in
28 Table 1. The search terms were divided into the following three categories: age, employment,
29 and mental illness. Each of these categories were then combined with “AND” to ensure that all
30 articles selected addressed each of these key elements.
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44 Next, the researchers generated an extensive list of relevant search terms in order to
45 include the greatest breadth of information, and to make sure to include valuable studies. In
46 addition to searching the databases, we screened the reference lists of all relevant articles. A
47 reference librarian was consulted in order to identify more search terms, exclude unnecessary
48 ones, identify relevant databases, and build the search and protocol with the team (TG, CB, SB).
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3 The initial cutoff day for this scoping review was July 28, 2016. A basic Google Scholar follow-
4 up search was conducted on June 4, 2017, to ensure any new studies were included.
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8 The researchers used electronic databases, reference lists from previously found studies,
9 and the technique of handpicking studies from key journals as needed. In the mid-1980s,
10 researchers began to develop the framework for incorporating employment into mental health
11 services for young adults. Given that the known research in this field began in the mid-1980s,
12 our scoping review began to draw our research from this January 1985.
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20 For stage three of the scoping review, two research team members (TG & CB)
21 independently screened all titles and abstracts of all studies identified in the electronic search.
22 We included all relevant articles published in English or French that described employment
23 services for young adults with mental illness. In addition, we limited our search to human
24 subjects, and studies with young adults under 30 years old. We did not screen for methodology
25 or levels of evidence.
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35 In order to chart the data, we synthesized the studies and sorted them according to key
36 themes, barriers, and facilitators. We charted data based on author, year of publication, study
37 location study type, intervention (if applicable), study population, and key results (barriers and
38 facilitators to employment).
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45 Finally, we synthesized and sorted data according to key issues and themes to present a
46 narrative account of the existing literature.⁴³ The main purpose of this scoping review was to
47 identify the breadth of literature in this area of study, and whether there are any gaps in service
48 found within the subject matter. As a result, we did not complete an assessment of the quality of
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3 evidence, nor did we determine whether particular studies provide robust or generalizable
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5 findings.⁴³
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8 **RESULTS**

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11 The initial search in ABI/Inform®, PsycINFO®, MEDLINE®, Cochrane®, Embase® and
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13 CINAHL®, using the search terms outlined above, generated a total of 8037 results. After
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15 removing duplicates and performing a preliminary screen to ensure the inclusion criteria was
16
17 met, a total of 488 titles and abstracts were identified. These were further screened to ensure that
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19 they addressed the appropriate age range, that they had a focus on employment, and that the
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21 participants had a diagnosis of a mental illness. Manual screening performed by the researchers
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23 generated a total of 33 articles that were carefully examined, and divided into relevant and non-
24
25 relevant studies (see Figure 1).
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30 [insert Figure 1 here]
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34 The main qualifications that determined if studies were included in the relevant tables
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36 were: (1) the population was in the young adult age range of 15–29 years, (2) the population had
37
38 a mental illness diagnosis, and (3) the study had a primary focus on attaining employment. If all
39
40 three of these criteria were addressed, the barriers and facilitators in the study were examined
41
42 and extracted. Country of origin and study format did not have any influence on determining
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44 relevance to this scoping review.
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48 Of the 19 relevant articles, ten were from the United States, four were from Australia,
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50 three from the United Kingdom, one from new Zealand, and one from the Netherlands. Results
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52 showed that a concentration on employment for young adults with mental illness is occurring, for
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54 the most part, in the western world, with the United States being the focal area of research. Of
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3 the 19 articles, eight were published between 1999–2009, and eleven were published between
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5 2010–2015. This increase shows that research into employment for young adults with mental
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7 illness is a growing field. Although the search criteria allowed for articles published from 1985,
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9 the researchers were unable to identify any relevant articles from 1985–1998.
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13 After a full text review, researchers collected and sorted the main components of articles
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15 from the 19 relevant and the 14 non-relevant studies. We examined all non-relevant studies to
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17 ensure there was an accurate adult literature comparison, which was necessary due to the lack of
18
19 literature related to young adults. See Table 2.
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23 [insert Table 2 here]
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26 This scoping review identified several themes in regards to the barriers and facilitators to
27
28 employment for youth with mental illness. As shown in Figure 2, the four main themes extracted
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30 from the literature were: (1) employment intervention in addition to treatment as usual, (2) age-
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32 related components of employment, (3) a positive perception of self, and (4) continual support.
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36 [insert Figure 2 here]
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41 **Employment intervention + mental health treatment as usual** 42 43

44 The scoping review found that having an employment intervention in addition to usual mental
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46 health treatment led to higher success rates for young adults with mental illness^{37-39 44-47} (as
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48 identified in Table 1). For example, one youth-tailored employment intervention resulted in 65%
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50 of the intervention group gaining employment, compared to only 9% of the control group.⁴⁰
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52 Another study found that youth-tailored employment support, when delivered concurrently with
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54 conventional mental health therapies, led to improved health and employment outcomes.
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3 Porteous and Waghorn⁴¹ suggested that having both interventions in the same physical site
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5 mutually reinforced these successes.
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8 The scoping review also revealed the two central frameworks used when addressing
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10 employment and youth with mental illness—specifically, the recovery-oriented framework and
11
12 the biomedical model. The biomedical model is defined as physical or biological aspects of
13
14 disease and illness. Success is achieved when there is an absence of the disease and/or disorder.⁴⁸
15
16 In contrast, the recovery model focuses on “living a satisfying, hopeful, contributing life, despite
17
18 psychiatric disability or symptoms”. (p.168)⁴⁹ Our results suggest that the paradigm used to
19
20 guide intervention and care may shape how young adults gain and maintain employment. For
21
22 instance, one study in our review found that the biomedical model was a major barrier to finding
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24 employment for this population, and the recovery-oriented framework led to higher rates
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26 employment for young adults, based on its holistic perspective of physical, mental, social, and
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28 spiritual health^{36 45 50}
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37 **Age-related components to employment**

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39 While the literature is still growing for this age population, the scoping review found many age-
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41 related components that had an effect on young adults with mental illness finding employment.
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43 Studies found that a younger age increased the participants’ access to programs, allowing them
44
45 to reap benefits and receive support for longer.^{36 37 39 41 44 47 51} One study in our review also
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47 suggested that early diagnosis of a mental illness may allow youth to receive treatment and
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49 interventions in general, giving them more opportunities to learn to self-manage with their
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51 condition.⁵²
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3 One of the main differences for programs that support young adults in seeking
4 employment was the focus on finding a job as opposed to seeking a long-term career. The goal of
5 finding a career was described in the literature as not always applicable to this age group. Some
6 finding a career was described in the literature as not always applicable to this age group. Some
7 studies in the review highlighted that youth felt many existing programs were too focused on
8 “getting a job” rather than supporting milestones along journey of employment and career
9 construction. The results of this review yielded a concentration of studies focused on finding any
10 kind of competitive employment and thereby helping a young adult achieve their goal of finding
11 a first job.^{36 37 39 41 53}

24 **Perception of self**

25
26
27 The studies in this review collectively identified that seeking employment can be a challenging
28 endeavor, especially for young adults doing so for the first time. For better chances of success in
29 finding employment, studies in the review suggested that harnessing feelings of hope and
30 optimism about themselves and their career prospects is vital to employment success.³⁶ Some
31 studies identified that young adults reported feeling more optimistic about jobs in which they can
32 learn and progress, leading to greater senses of accomplishment and self-worth.^{36 53} One
33 participant in study #2 described the impact of employment on self-esteem as

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44 *“a vicious circle, ‘cause you don’t have any work and you don’t bring in an income and*
45 *it gives you no self-esteem, and then you don’t want to get up and go get a job”*²⁷ (p. 68).

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49 Self-worth and self-esteem were identified throughout all studies as being important for this age
50 group.
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3 Our review also found that programs that allowed participants to choose the jobs they
4 pursue empowered these youth to take control of their career goals and aspirations for the future,
5 in addition to finding employment.^{37 39} The ability to choose was identified as a central asset for
6 this age group: our review identified that, while many programs focus primarily on the retention
7 of jobs, the young people themselves do not always share this priority. Giving young adults the
8 right to both choose and leave jobs, allowing them to explore career opportunities, and pursuing
9 opportunities to develop more skills were key facilitators to job and career development for this
10 population.^{36 39}

21 22 **Long Term Integrated Support**

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24
25 Many of the studies identified in this systematic review did not continue to provide support for
26 participants beyond the end of the job-seeking period. The duration of the support was identified
27 as a major barrier. However, many of the studies reviewed lacked continued support beyond the
28 end of the program. The short duration of support was identified as a major barrier for young
29 adults with mental illness (ranging from 2-16 weeks). The scoping review showed that programs
30 with short follow-up periods were more likely than programs with long follow-up periods to
31 result in poor employment outcomes for youth.^{27 37 46} (2007). Although the studies reviewed are
32 relatively recent, the data supports the benefits of continued support to help youth with their
33 employment goals.⁵¹ For example, a number of studies^{37 39 54} suggested that youth employment
34 programs may work best when focusing on the continued success of retaining employment and
35 career development in general. Of critical importance, most studies in this review suggested that
36 ongoing support that integrates both health and employment or career development goals is a
37 significant factor to ensuring that young adults with mental illness have the capacity to gain the
38 skills necessary to manage long-term employment.^{27 31 36 41 44 50 51 55}

DISCUSSION

This review was conducted to describe the current literature related to the facilitators and barriers for young adults with mental illness who are seeking employment. A scoping review was chosen in order to determine the breadth of the literature for this topic. While there were no other systematic reviews or meta-analyses of the literature identified in this research area, this scoping review did identify a number of studies that investigated adults (age 29+) with mental illness who were seeking employment. These studies were excluded based on the allotted age range criteria. However, they nonetheless found similarities to the studies included as relevant in the scoping review.

This scoping review identified 19 relevant articles, of which there were a number of methodologies including randomized control trials (n=3), qualitative (n=3), naturalistic (n=2), longitudinal (n=2), pre-post design (n=3), descriptive (n=3), non-randomized control trial (n=1), cross-sectional interview (n=1), and prospective cohort (n=1) studies. When examining the studies found, the review was unable to find similarities in the methodology, type of intervention, or research question. This disparity suggests that the literature in this field of study is still developing, and alludes to the diverse approaches to the understanding the field. The articles were published between 1999–2015, with the majority (n=11) published between 2010–2015. The studies were predominantly completed in English-speaking countries (n=18) with a high volume from the United States (n=10), with others completed in Australia (n=4), New Zealand (n=1), and the United Kingdom (n=3). Common facilitators included high self-efficacy³¹ early intervention,^{38 50} participation in a supported employment program,^{31 36 40 41 44 50 56} and a long-term follow-up after intervention.^{27 36} Barriers included the use of exclusion criteria,^{36 44 50} criminal justice involvement,^{39 44} and lack of funding for programming.^{27 50} The

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2
3 four main themes extracted from the facilitators and barriers identified within the literature were
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5 the:

- 6
7 (1) need for employment intervention in addition to mental health treatment as usual,
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9 (2) unique age-related components associated with young adults,
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11 (3) impact of a young adult's perception of self, and
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13 (4) need for continual long-term support with training and career development.

14
15 The key themes that this scoping review identified may add value to the way that
16
17 employment services are currently designed and implemented for the young adult population.
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19 The transition from adolescence to adulthood is a typical process of development, but for many
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21 young adults with mental health conditions, this transition can be especially difficult.⁵¹ Young
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23 adults are within an age range that has unique needs that are often different from those of older
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25 adults. Creating a program designed specifically for this age group allows professionals to better
26
27 understand their needs, and provides opportunities to further young people's professional
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29 development despite the barriers of mental illness. For the young adult population, retaining the
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31 same job may not be indicative of a successful employment pattern; rather, our review suggests
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33 that young people with mental illness may require the opportunity to explore various jobs in
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35 order to expand their skill set. Our review suggests that young adults with mental health
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37 conditions should be afforded the same opportunity as their peers by receiving tailored supported
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39 employment programs designed to support their dynamic health and employment goals.³⁶ Most
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41 studies in our review emphasized that long-term follow-up support is critical for this population
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43 to help them to navigate the employment landscape. As youth acquire new jobs, they may also
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45 benefit from continued support throughout these subsequent transitions to maximize their
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47 success, self-esteem, and overall well-being.
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3 Our scoping review results support emerging literature that suggests that vocational
4 interventions at the onset of illness can have both short-term and long-term effects, including the
5 development of skills and interests, and a decrease in the likelihood of chronic unemployment
6 which in turn can shape health outcomes.^{27 36-40 44 50 51 53 57 58} Our review did highlight notable
7 heterogeneity in the interventions delivered; however, one common theme was that supported
8 employment intervention, when integrated with mental health treatment, may offer young adults
9 an increased probability for employment success. More research is needed to outline evidence-
10 based models of employment support for this group. Such information will be important when
11 helping youth learn to self-manage their illness while achieving their employment goals.³⁹

12
13 Another area of future research is to understand the components of supported
14 employment interventions that can produce meaningful outcomes for youth. Our review
15 identified a lack of standardization for how these services have been developed and delivered.
16 More work in close collaboration with youth and key stakeholders is needed (i.e., clinicians,
17 family, funders) to tailor supported employment programs that can be scaled across mental
18 health services and can be delivered early in the care pathway.⁵⁹ Given the increasing emphasis
19 on patient-oriented research across developed countries,⁶⁰⁻⁶³ there is an ideal opportunity for
20 future research in this area to be conducted in partnership with relevant stakeholders, notably
21 youth. By working with youth research partners to develop and test such interventions, mental
22 health services have the opportunity to foster evidence-informed health care by bringing
23 innovative rehabilitation approaches to the point of care for young adults with mental illness.

24
25 While it is not the main tenet of a scoping review, it must be acknowledged that a
26 thorough investigation into the quality of the literature was not completed. Despite the lack of
27 analysis based on study rigor, our review did identify that many studies were descriptive in
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3 methodology and did not include control groups. As well, most studies had small sample sizes
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5 and lacked consistent measurement of outcomes. In order to optimize decision-making, evidence
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7 from well-designed studies is needed to develop health services, guidelines, and policies that
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9 apply to this young adult population. Such clarity around employment and integrated approaches
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11 to treatment may have significant potential to improve performance, accountability, and
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13 innovation of youth mental health services worldwide.
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17 In conclusion, the health and wellbeing of young adults with mental illness is a topic of
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19 global concern. Our review suggests that the employment goals of the young adult population are
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21 important to them, and therefore should be recognized by the mental health system as an area to
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23 address and improve upon. This paper presents preliminary evidence for the benefit of
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25 integrating employment intervention and mental health services, specifically highlighting the
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27 barriers and facilitators for this population to obtain employment. Collectively, the studies
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29 included in the review emphasize that it cannot be assumed that young adults can be fit into an
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31 adult model of care in relation to their employment and mental health needs; tailored programs
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33 are required to address youth-specific needs. Aligning the mental health and employment
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35 priorities of young adults may enable efficiency in achieving improved outcomes for this
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37 population while promoting greater engagement of young adults in care and accountability of
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39 mental health services worldwide.
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46 **Authors' contribution:**

- 48 • Taryn Gmitroski and Christl Bradley conducted the scoping review, extracted all the data,
49 and contributed to preparation of the manuscript.
- 50 • Charlotte Beck developed the search strategy and contributed to writing the methods
51 section of the manuscript.
52 Lyn Heinemann, Grace Liu, and Steve Mathias provided content expertise to the design
53 of protocol and review of the manuscript.
- 54 • Paige Blanchard provided expertise as a youth-peer partner in the study.
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- Adelen Leon contributed to the study design, study process, and preparation and review of the manuscript.
 - Skye P. Barbic was the senior author of the manuscript, conceptualized the study, provided input to the research question and study design and analysis. Dr. Barbic oversaw all aspects of manuscript preparation.

For peer review only

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Tables

For peer review only

Table 1. Summary of studies included in the review

Study Information	Country of Study	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
Baksheev Allot Jackson McGorry Killackey Date: 2012	Australia	Age: 15-24 Mean age: 21.4 years N: 41 Dx: First episode psychosis	Randomized control study. Intervention: Compared Individual placement and support (IPS) plus treatment, with just treatment on its own. There was a 6-month intervention period and a 6-month follow-up period.	Intervention group were 14.17 times more likely to have worked or studied during the 6-month <i>assessment</i> period compared to the control group. Intervention group were 16.26 times more likely to obtain work or study during the 6-month <i>follow up</i> period Baseline factors that were found to be <i>not significant</i> in determining if a participant would have found work or studied in the 6-month follow up period included: - gender - being occupied at baseline - whether participants were receiving government benefits - educated beyond secondary level - duration of untreated psychosis	The main facilitator to employment was having participated in the IPS program and not only the intervention as usual. Clinicians should not exclude any client based on 'work readiness', current symptoms, or any other personal factors.	No barriers to employment were identified in this paper.	Short follow up (6 months) Small sample size
J. Bassett Lloyd H. Bassett Date: 2001	Australia	Age: 18-28 N: 10 Dx: Psychotic disorder	Qualitative Study Intervention: Focus groups on participants' perceived barriers to employment	Themes of focus groups: - Loss -Stigma -Treatment issues -Symptom management -Life goals -Need for support	Programs aimed to assist in the development of time management, stress management, self-confidence, and problem-solving skills	Low self-esteem Low self- worth Negative effects of medication (low motivation & tiredness) Lack of strategies to manage conflict / frustration	Small sample size Only male participants Participants were only from one health district

					Skills at how to manage the lifestyle change from not working to being employed		
Burke-Miller et al. Date: 2012	USA	Age: 18-30 *divided into 3 groups: youth (18-24), young adults (25-30), older adult (31+) N= 1272 Dx: Any mental health dx	Multi-site randomized control trial Examined if participants had any kind of work, and if they were employed in a competitive job* *Definition of competitive job: pays minimum wage or higher, located in a mainstream/integrated setting, is not set aside for mental health consumers, is consumer owned.	Youth (after intervention): - any work: 69% Competitive employment: 50% - vocational hours received: 53 Young adults - any work 73% - competitive employment: 56% - vocational hours received: 56 Older adult: - any work: 58% - competitive employment: 42% - vocational hours received: 60	High future work expectations Greater hours of supported employment services - work history Positive work history (better able to provide references) Recovery focused Younger age Increased access to benefits counselling (for welfare)	Heavy emphasis on job retention for youth	Small sample size in the 'youth' category
Dudley Nicholson Stott Spoors Date: 2014	USA	Age: 14-35 N: 30 Dx: Psychosis	Naturalistic comparison of 2 studies Intervention: Individual Placement Support (IPS) model + vocational worker	Improve the engagement in meaningful education, training or employment for young people with psychosis	IPS Younger age Small caseload size for vocational therapist Funding for vocational specialist	Psychiatric illness Lack of follow-up support	The findings rest on the assumption that the only difference between the services was the presence of the vocational worker

					<p>Zero exclusion policy for clients</p> <p>Diversity of jobs developed</p> <p>Jobs as transitions (positive experiences on the path of vocational growth and development)</p> <p>Follow-along supports (provided to employer and client on a time-unlimited basis)</p> <p>Rapid job searches (within 4 weeks)</p> <p>Ongoing work-based vocational assessments</p>		
<p>Ellison et al.</p> <p>Date: 1999</p>	USA	<p>Age: 18-35</p> <p>N = 36</p> <p>Dx: Any mental health diagnosis</p>	<p>Longitudinal study comparing original intervention group and the same participants at 5 years' follow-up</p> <p>*follow-up from Danley, Sciarappa & MacDonald-Wilson, 1992</p>	<p>Data from 2 groups (original career education group, and follow-up group) were examined</p> <p>The main significant differences were found between baseline (prior to original intervention) results and the follow-up five years later.</p> <p>Near significant decrease in proportion of participants</p>	<p>Higher work satisfaction</p>	<p>Decreased quality of life</p>	<p>No control group</p> <p>Not all original participants were located, therefore their data were not included</p>

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				currently in school or a training program Findings indicate that positive results seen at the end of the original intervention period were maintained for the 5 years since that time.			
Ferguson Date: 2013	USA	Age: 18-24 Mean age: 21 N: 28 Dx: Homeless youth with any mental health diagnosis	Randomized Control Trial (RCT) Intervention: Supported employment with 4 components: 1)Vocational skills 2)Small business skills 3)Social skills Clinical services	The study described a methodology for establishing a university-agency research partnership to design, implement, evaluate, and replicate evidence-informed and evidence-based interventions with homeless youth with mental illness to enhance their employment, mental health, and functional outcomes.	Vocational + clinical service integration Structuring participant time Social contact Social identity Zero exclusion from program Rapid job search Younger age	No barriers addressed in study	Majority of participants were male Small sample size
Ferguson Kie Glynn Date: 2012	USA	Age: 18-24 N: 20 Dx: Homeless youth with any mental health diagnosis	Pre-Post Quasi-experiment Intervention: Adapted IPS model targeted at low-income youth	The study sought to adapt an evidence-based intervention for homeless young adults with mental illness. At follow-up, the IPS group were 7.83 times more likely of working than the control group The IPS group worked 5.20 months compared to the control group at 2.19 months	IPS intervention Less “severe” mental health dx Younger age	Living on the streets Criminal activity Drug use The need to maintain personal hygiene Securing transportation Having enough food to eat	Majority of the participants were male Small sample size Non-random assignment to groups

<p>Gilmer Ojeda Leich Heller Garcia Palinkas</p> <p>Date: 2012</p>	USA	<p>Age: 18-24</p> <p>N: 74</p> <p>Dx: Any mental health diagnosis</p>	<p>Qualitative Study</p> <p>Intervention: Integrating employment services into mental health services</p>	<p>The study assessed the needs for mental health services for transition-age youths at youth-specific programs</p>	<p>Services that foster a transition to independence</p> <p>Age-specific housing</p>	<p>Inconvenient scheduling</p> <p>Weak patient - provider relationship</p> <p>Limited program funding</p> <p>Lack of mentorship from peers experiencing similar struggles</p> <p>Need for holistic approach to recovery</p>	<p>Sampling bias of transition-aged youth</p>
<p>Haber, Karpur, Deschens Clark</p> <p>Date: 2008</p>	USA	<p>Mean age: 17</p> <p>N= 562</p> <p>Dx: Any mental health dx</p>	<p>Descriptive</p>	<p>The most consistent improvement was shown on the indicators of educational advancement and employment progress</p> <p>There was a post hoc improvement on employment/educational advancement</p> <p>Productivity, education, and employment all increased</p>	<p>Education for younger participants</p> <p>Longer period of support for employment and education related goals for younger participants</p>	<p>Advanced age (within the youth population)</p>	<p>Lack of uniform data across sites on program characteristics</p> <p>Lack of control group</p>
<p>Killackey, Jackson, McGorry</p> <p>Date: 2008</p>	Australia	<p>Age range: 15-25</p> <p>N= 41</p> <p>Dx: first episode psychosis</p>	<p>Non-randomized control trial</p> <p>IPS + treatment as usual</p>	<p>65% of intervention group found employment compared with 9% of control group</p> <p>The intervention group was able to find more jobs (23 compared to the control group's 3)</p> <p>80% of the intervention group listed welfare benefits as their</p>	<p>Participation in a vocational intervention for young people</p> <p>Acquiring jobs in a wide range of occupations that are congruent</p>	<p>Little or no work history can be a barrier to longer term employment</p>	<p>Small sample size</p> <p>No follow up to determine whether a short 6-month intervention is sufficient to lead to lasting gains in employment and</p>

				primary source of income	with personal interests and needs		employment skills
<p>Luciano Carpenter-Song</p> <p>Date: 2014</p>	USA	<p>Age: 22-32</p> <p>N: 12</p> <p>Dx: Psychosis Substance use disorder</p>	<p>Cross-Sectional interview study</p> <p>Intervention: Explored past / current participation experiences with school & work</p>	<p>This study examines the meaning and importance of career exploration and career development in the context of integrated treatment for young adults with early psychosis and substance use disorders.</p>	<p>Prioritizing career oriented opportunities (not finding 'just a job')</p> <p>Optimism in developing a career</p> <p>External support</p> <p>Prioritizing career-oriented opportunities</p>	<p>Family pushing for participants to obtain low wage / low skill jobs</p> <p>Placement in job with no potential to advance</p> <p>Decreased confidence</p>	<p>Data was cross-sectional, precluding causal interpretation</p> <p>Study did not include:</p> <ul style="list-style-type: none"> · Women · People with low socioeconomic status
<p>Nochajski Schweitzer</p> <p>Date: 2014</p>	USA	<p>Age: 14-19</p> <p>N: 47</p> <p>Dx: Emotional + Behavioural disorders</p>	<p>Qualitative</p> <p>Intervention: School-to-work transition program (STWTP) focusing on additional supports needed for youth</p>	<p>This study examines the transition of students with disabilities from high school to adult occupations, such as work and independent living. 30% of youth were still employed after the 10-week follow-up period</p>	<p>Transition program starting in the beginning of high school</p> <p>Pay youth to participate in specific program</p>	<p>Unemployment of parents</p> <p>Family living in poverty</p> <p>Substance use within family</p> <p>Incarceration of prominent family member</p>	<p>Only one diagnosis involved in study</p> <p>Only youth enrolled in high school examined</p> <p>Short follow-up period</p>
<p>Porteous, Waghorn</p> <p>Date: 2009</p>	New Zealand	<p>Age: 14-26</p> <p>N= 135</p> <p>Dx: first episode psychosis (schizophrenia, major depression,</p>	<p>Implementation of fidelity scale to determine effectiveness of supported employment services for young adults</p>	<p>Occupational therapists and other allied health professionals can help facilitate system change towards the routine delivery of employment services integrated with public mental health treatment and care</p>	<p>Co-location of employment services and publicly funded mental health services</p> <p>Employment was identified as an unmet</p>	<p>Youth not being on the caseload for a mental health team</p>	<p>Exploratory and anecdotal nature of study</p>

		bipolar affective disorder)			occupational need		
					Established in the early intervention team		
Rinaldi McNeil Firm Koletsi Perkins Singh Date: 2004	UK	Age: 18-32 Median age: 21 N= 40 Dx: First episode psychosis	Pre-post study Compared baseline to 6-month follow-up and 12 month follow-up	Employment: Baseline: 10% were employed, 55% were unemployed. 6 months: 28% employed, 7% unemployed. 12 month: 41% employed, 5% unemployed. Everyone employed at 6 months, continued to be employed at 12 months	Participation in vocational intervention program Team-based approach to recovery & employment Proactively help participants retain and keep jobs Welfare benefit advice	Not addressed in article	Only diagnosis was psychosis Small sample size Lack of comparison group
Rinaldi Perkins McNeil Hickman Singh Date: 2010	UK	Age: 17-32 N= 166 Dx: Schizophrenia	Pre/post design naturalistic evaluation Supported education was delivered	40% of participants were working/studying at start of intervention, this increased to 71% by 6 months 47% of those who were unemployed at baseline, achieved open employment by 24 months follow up	Transition from education/training to the labour market is critical for independence Short work history is acceptable Use of a 'place and train' method	Not addressed in article	No control group Quality of life was not explored
Tapfumaneyi et al. Date: 2015	UK	Age: 14-35 N= 1067 Dx: Any mental health dx	Naturalistic study Intervention Multidisciplinary service that focused on recovery and relapse prevention for	After 1 year 34.1% had been employed or studied towards a qualification 61.2% were in employment 50.4% were in educational	Reduction in duration of untreated psychosis Engagement in early intervention	Welfare benefits (relatively high reward for being unemployed) Stigma, discrimination	Differences in outcomes between teams was not analyzed The study was not able to control for

			2-3 years	courses employment/education at baseline	services for more than 1 year (compared to those engaged for less than 1 year) Involvement in the IPS model	Lack of professional help Illness related factors	premorbid functioning
Vander Stoep et al. Date: 2000	USA	Age: 18-21 years N= 181 Dx: Anxiety disorder, depressive disorder, disruptive disorder	Longitudinal study Compares 33 participants with psychiatric disorder and 148 participants without psychiatric disorder	39.4% of participants with psychiatric disorder had not completed secondary school (6 times less likely than other youths to accomplish this task) 4.07 times less likely to be employed or in college/trade school	No diagnosis of psychiatric condition	Diagnosis of a psychiatric condition	Examined multiple areas of life: gainful employment, criminal involvement, sexual activity, and secondary school completion. Small numbers hampered the ability to draw firm conclusions about the magnitude of the effects of exposure
Veldman Reijneveld Ortiz Verhulst Bultmann Date: 2015	Holland	Age: 11-19 N: 1711 Dx: Any mental health dx	Prospective cohort study Intervention: Tracking Adolescents' Individual Lives Survey (TRAILS)	Examines the etiology and course of psychopathology Study found that Mental health dx affect education and employment in negative ways	Being diagnosed with a mental illness later in life	Mental health diagnosis indicated as a high-stable trajectory, meaning they had serious mental illness at a younger age compared to others in the population	Measuring the outcome at the same time point as the end of the trajectory, allowing reverse causation Limited number of young adults at work without basic education level and in neither education nor

<p>Waghorn Collister Killackey Sherring</p> <p>Date: 2007</p>	<p>Australia</p>	<p>Age: 15-25</p> <p>N: 7</p> <p>Dx: Any mental health diagnosis Socially & economically marginalized people</p>	<p>Descriptive study</p> <p>Intervention: Supported Employment</p>	<p>The study sought to determine what the major and minor <u>barriers</u> were when integrating supported employment services into already existing mental health services.</p>	<p>Setting clear goals throughout treatment</p> <p>Establishing sustainable partnerships between the health and employment sectors</p>	<p>Time it takes to integrate vocational staff into mental health team</p> <p>Lack of resources/ funding for programming</p> <p>Differences in organizational cultures</p> <p>Legal, insurance, and confidentiality issues</p> <p>Large caseload size for employment specialists</p> <p>Limited follow-up support</p> <p>Having to participate in a program while not working / being paid</p> <p>Additional training to vocational staff from a mental health perspective</p>	<p>training</p> <p>No clear number of population</p>
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Table 2. Summary of excluded studies in the review where content was considered

Study Information	Country of Study	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations / Exclusion Factors (If applicable)
1 Achterberg Wind de Boer Frings-Dresen Date: 2009	Netherlands	Age: 18 and younger N: 12,484 Dx: Cancer, transplants, Kidney disease, Arthritis Chronic diseases Physical disabilities	Systematic Review	To study factors that promoted or hindered disabled people to work	Male sex High school education level or higher Low depression scores High psychosocial functioning High dispositional optimism	Not applicable to article	Population not relevant
2 Bond Becker Drake Rapp Meisler Lehman Bell Blyer	USA	Age: Adult – not specified N: 11 studies reviewed Dx: Any	Systematic Review Intervention: Supported employment	A systematic review examining the facilitators and barriers to mentally ill persons finding employment from a	Work history Supported employment program is close integrated within the mental health team	Access to supported employment Government barriers – lack of funding Clinicians	Although a work history predicts better employment outcomes in supported employment programs, supported

<p>Date: 2001</p>		<p>mental health dx</p>		<p>systematic and individual level</p>	<p>Follow-along supports are maintained indefinitely</p> <p>Government – Clear outcome priorities</p> <p>Making a total commitment to competitive employment without diluting focus and resources to traditional forms of voc rehab</p>	<p>view clients as un-motivated to work</p> <p>Resistance to change within an organization</p> <p>Inadequate resources</p> <p>Clients not having accurate information about supported employment</p>	<p>employment remains more effective than traditional vocational services for clients with both good and poor work histories</p>
<p>3 Bond Drake</p> <p>Date: 2008</p>	<p>USA</p>	<p>Age: Adults- not specified</p> <p>N: All papers published in 2007/2008</p> <p>Dx: Any</p>	<p>Systematic Review</p> <p>Interventions: IPS</p>	<p>The conclusion of the systematic review revealed that IPS models will not result in employment unless more critical barriers are addressed</p>	<p>Younger age</p> <p>Providing client perceived need supports</p> <p>Help youth obtain long-lasting, satisfying, and</p>	<p>Unequal access to supported employment across populations</p> <p>Negative societal influences</p>	<p>Based on adults with mental illness, not youth</p>

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		mental illness dx			meaningful careers – not just a job	Increasing unemployment rate for the general population	
4 Crowther Marshall Bond Huxley Date: 2010	USA	Age: 18-65 N: 18 RCT Dx: Any mental health diagnosis	Cochrane Review of 18 RCT	Primary outcome: Number of clients in competitive employment at various time points Findings suggest that supported employment is more effective than pre-vocational training when helping mentally ill people obtain competitive employment 5 randomized trails (n=484 showed that clients in supported	Not Applicable	Not Applicable	Age range was not within the scope of review

				employment were significantly more likely to be in competitive employment at six time points across 18 months			
5 Elliott Konet Date: 2014	USA	Age: 19-62 Mean age: 36 N: 54 Dx: Borderline personality disorder	Descriptive Intervention: Implementation of a job preparedness program (The Connections Place) to connect treatment and employment more fluidly	Of the 54 clients, 48% (26) obtained full-time employment, 22% (12) significantly improved their job preparedness, 26% (14) made limited progress toward job preparedness, and 4% (2) made no progress in job preparedness	Meaningful friendships / partnership Vocational skills Focus on learning more about interests and aptitudes vs. just getting a job for an income Attend the program in a real work-like environmen	Emotional barriers (not specified)	Lack of pre and post evaluations of clients Absence of a control group

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<p>6 Fergusson Horwood Woodward</p> <p>Date: 2001</p>	<p>New Zealand</p>	<p>Age: 16-21</p> <p>N: 1265</p> <p>Dx: Any mental health dx</p>	<p>Longitudinal Study</p> <p>Personal interviews</p>	<p>The study examined exposure to unemployment and the positive correlation between the development of a mental health diagnosis or other disruptions in behaviour Related due to the virtue of common or correlated risk factors and causal processes “The selective process by which young people become unemployed may also be related to (or involved in) the process that young people develop psychosocial disorders”</p>	<p>Not applicable to article</p>	<p>More likely to be unemployed overall...</p> <ul style="list-style-type: none"> • Alcohol use (20.8%) • Depression (15.3%) • Substance use (11.8%) • Suicidal Ideation (9.9%) • Property offending (9.6%) <p>Violent offending (8.4%)</p>	<p>Questionable where this article fits...as it discusses a correlation between unemployment, with no true intervention?</p>
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				<p>47.2% of the sample reported being unemployed at some time during the interval from 16-21 years</p> <p>25.2% reported being unemployed for at least 3 months in at least one year</p> <p>13.4% reported being unemployed for at least 6 months in at least 1 year over the 5-year period</p> <p>Young people exposed to 6 months or greater unemployment in any given year had rates of mental health problems between 1.4 and</p>			
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				8.4 times higher than their employed peers			
7 Froundfelker Teachout Bond Drake Date: 2010	USA	Age: Mean age 37 N: 154 Dx: Any mental health diagnosis	Descriptive Intervention: Comprehensive vocational services at an array of mental health and rehabilitation services <ul style="list-style-type: none">• Vocational engagement• Vocational assessment• Job searching• Job retention• Job leaving supports	The study examined whether criminal justice involvement predicted decreased access / trouble acquiring a job for youth	Criminal justice involvement did not predict negative competitive employment outcomes = not a significant barrier to employment Employment specialists augmented job development strategies to overcome barriers	Poor employment histories Laws that restrict employment of ex- offenders in certain fields Informal employer screening that blocks ex- offenders	Self-reporting regarding criminal justice involvement Lack of employment history data Possible sampling bias Age too great for scope of review
8 Guada Conrad Mares Date: 2012	USA	Age: 18-29 N: 10 Dx: Indigenous youth (no mental	Descriptive Intervention: Collaboration between college & service providers targeted at indigenous youth	Study sought to implement a program (Aftercare Support Program) that supported indigenous	Support groups Notion of helping someone else to increase self- efficacy	Not fully accessible programs (due to age restrictions) Programs that are too	Population (no mental health dx) Small sample size

				youth in a simple, cost-effective and supportive way.		narrowly targeted “Feast or famine” either perfect or not at all Timing of programs <ul style="list-style-type: none"> • Length too long • Start time too early Limited follow-through skills	
9 Henry Hasemi Zhang Date: 2014	USA	Age: 16-69 N: 3474 Dx: Any mental health diagnosis	Retrospective Study Intervention: Examining employment outcomes achieved by SE programs	SE programs with higher fidelity to evidence-based practice standards found that clients served were 45% more likely to obtain jobs, and 52% more likely to work 20 hours or more per week. Younger clients	High school education / GED Younger age Prior experience	None identified in this article	Age range not within scope of review Only able to assess fidelity at a single point in time at the end of the observation period → Do not know how the programs were performing

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				were more likely to acquire jobs Younger clients were more likely to have higher wages Younger clients were more likely to work greater hour			prior to the intervention
10 Sherring Robson Morris Frost Tirupati Date: 2010	Australia	Age: 19-39 Mean age 27 N: 43 Dx: Any mental health dx	Descriptive Intervention: Establishing formal communication processes between occupational therapists and three employment agencies	Examining the onset/diagnosis of mental illness occurring in late adolescence, which can result in a major disruption of vocational and educational development. This suggests employment should be a high priority in early intervention mental health programs Employment	Having prior work experience Occupational therapist involved in the vocational rehabilitation process to promote <ul style="list-style-type: none"> • Education goals • Gain competitive employment Educating other mental health	The following items were not identified as barriers: <ul style="list-style-type: none"> • Length of illness • Self-reported course of illness Excessive alcohol / substance use	Age not within scope of review

				<p>Outcomes:</p> <ul style="list-style-type: none"> • 78.8% were in entry-level positions in retail, customer service and hospitality • 57.6% were employed in areas identified as their job preference <p>At the evaluation period (post 24 months), 60.6% of participants were still working</p>	clinicians about evidence-based practices in vocational rehabilitation		
<p>11 Shor Aivhod</p> <p>Date: 2011</p>	Israel	<p>Age: 16-60</p> <p>N: 6 staff members of the program</p> <p>Dx: Any mental health diagnosis</p>	<p>Qualitative</p> <p>Intervention: Culturally oriented supported-education program investigated via open-ended interviews with staff members</p>	<p>Main themes of the article:</p> <ul style="list-style-type: none"> • Strength-oriented approach • Providing individualized support as needed • Discussing Judaic 	Not Applicable	Not Applicable	<p>Study focused on supported education</p> <p>Age range not applicable to review</p>

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				Contents as a method to advance rehab process Enhancing the sense of belonging and sense of inclusion			
12 Suvisaari et al. Date: 2009	Finland	Age: 19-34 N: 1316 Dx: Axis 1 mental health dx	Structured clinical interviews Intervention: Neuropsychological intervention	Lower education and unemployment were strongly associated with current life-long mental health disorders, particularly involving substance use.	Mental health dx Lower education No treatment for mental health dx	Not addressed in article	Not specifically to do with employment
13 Tandon Latimore Mitchell Clay Date: 2015	USA	Age: 16-23 Mean age 19 N: 782 Dx: Employment training program attendees (no formal	Quasi-experimental study Intervention: Employment training model (Youth Opportunities) combined with social and educational	This study explored if a mental health intervention integrated into an employment training program for youth disconnected from school and work can reduce	Coping skills Great exposure to intervention indicated higher employment rates compared to control group	Depressive Symptoms	The propensity score analysis adjusted only for observed covariates - Differences between intervention and control groups may still have

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		mental health diagnosis)	services	<p>depressive symptoms and improved engaged coping strategies</p> <p>New employment training model included:</p> <ul style="list-style-type: none"> • Certification classes • Resume building • Career development • Job placement services <p>Great depressive symptoms at the beginning of the study, after the intervention, gave way to greater reduction in depressive symptoms and greater use of engaged coping strategies when</p>			existed due to unobserved confounders
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				compared to participants not receiving mental health services.			
14 Tandon Pallab Maulik Tucker Sonenstein Date: 2012	Australia	Age: 16-24 Mean: 18.8 N: 136 Dx: Depression	Pre-Posttest to assess 3 outcomes: <ul style="list-style-type: none"> • Depressive symptoms • Coping strategies • Receipt of mental health services Intervention consisted of 3 components: <ul style="list-style-type: none"> • Referral to onsite mental health clinician • Depressive prevention curriculum Training for Youth opportunity staff	Study found no significant differences in race, sex, or age between participants completing baseline self-interview and those enrolling in youth opportunity centers CES-D self-report instrument used to measure depression CES-D Standard Deviation (SD) at baseline was 15.0 (10.1) SD of baseline stress was 10.2 (5.5) SD level of baseline social	Not Applicable	Not Applicable	Small sample size Study did not look at any aspects of employment

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				<p>support was 32.9 (5.7) CES-D during 12-month F/U increased to 16.5 (Not a significant change)</p> <p>Intervention did not have an overall effect on reducing the severity of depressive symptoms or increasing the use of coping strategies</p> <p>Challenge Model of Resilience— Findings concluded that moderate levels of stress were associated with a decrease in depressive symptoms (Curvilinear relationship)</p>			
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For peer review only

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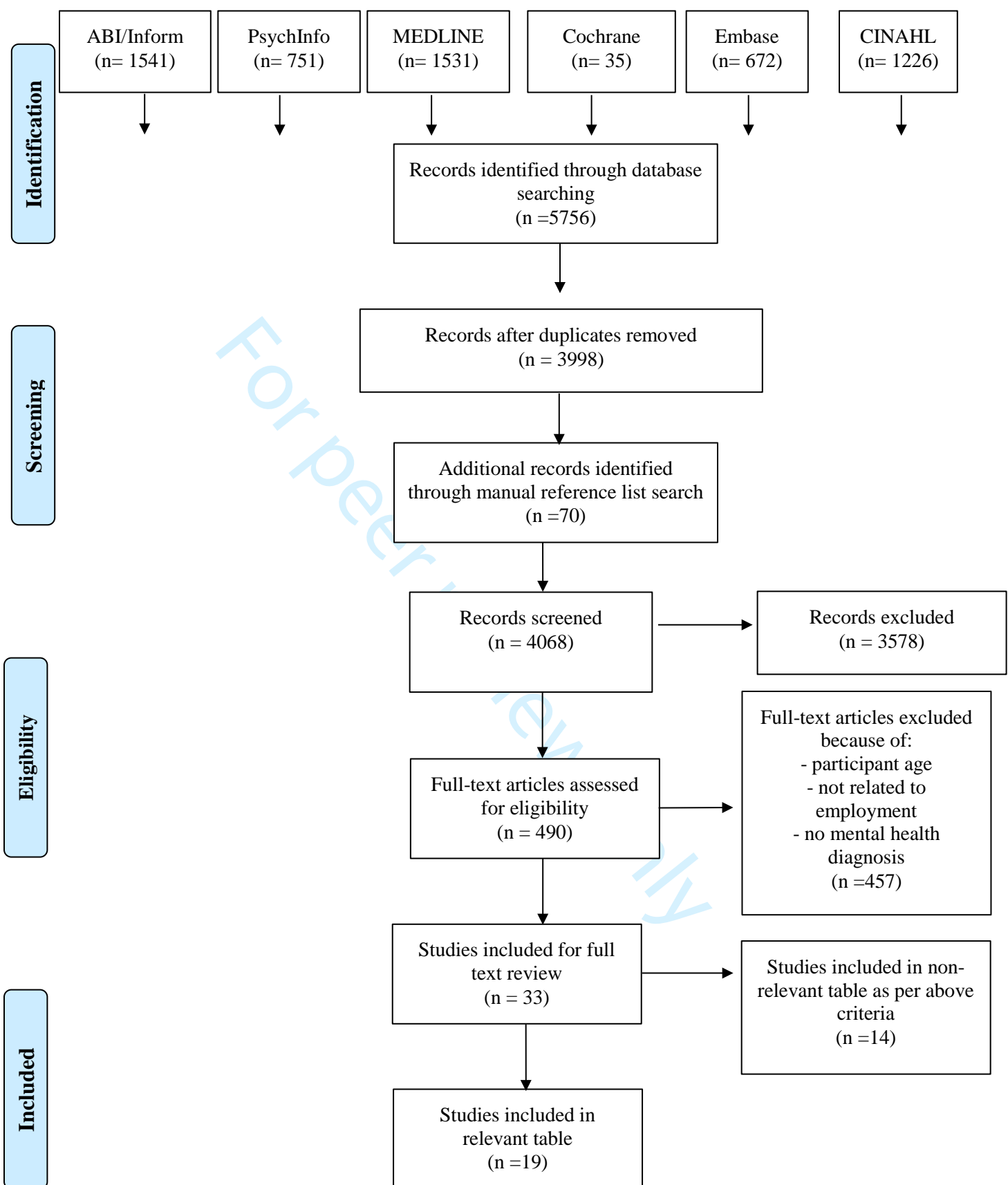
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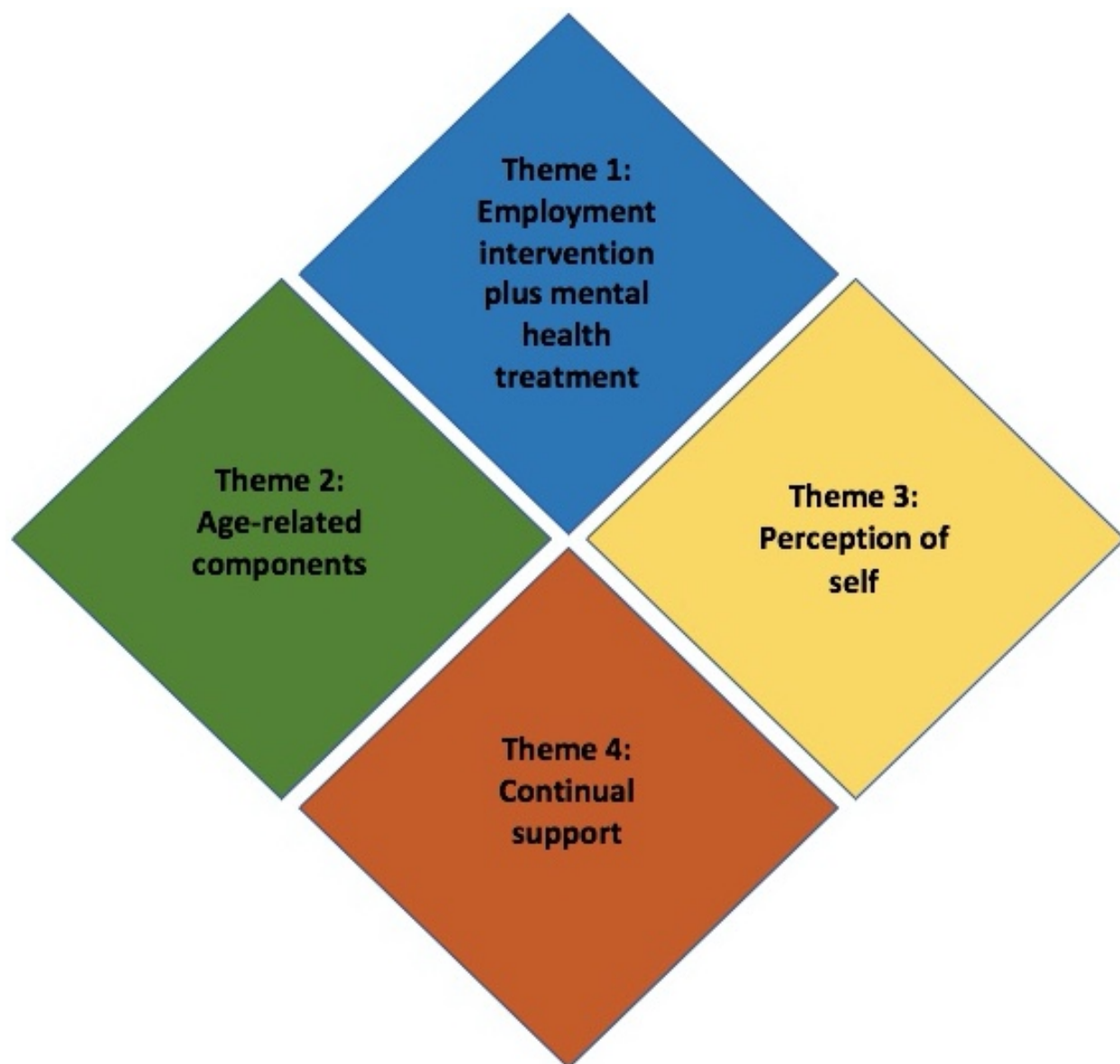


Figure 2. Summary of key themes found in the scoping review



BMJ Open

Barriers and Facilitators to Employment for Young Adults with Mental Illness: A Scoping Review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2018-024487.R1
Article Type:	Research
Date Submitted by the Author:	04-Oct-2018
Complete List of Authors:	Gmitroski, Taryn; University of British Columbia, Occupational Science and Occupational Therapy Bradley, Christl ; University of British Columbia, Occupational Science and Occupational Therapy Heinemann, Lyn; Canadian Mental Health Association, Vancouver Fraser Branch Liu, Grace; Foundry, Vancouver Granville Centre Blanchard, Paige; Foundry, Vancouver Granville Centre Beck, Charlotte; University of British Columbia, Woodward Library Mathias, Steve; Foundry; Centre for Health Evaluation Outcome Sciences Leon, Adelena; University of British Columbia, Department of Occupational Science and Occupational Therapy Barbic, Skye; University of British Columbia, Occupational Science and Occupational Therapy; Centre for Health Evaluation and Outcome Sciences
Primary Subject Heading:	Mental health
Secondary Subject Heading:	Health services research
Keywords:	employment, young adults, scoping review, MENTAL HEALTH

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Barriers and Facilitators to Employment for Young Adults with Mental Illness:

A Scoping Review

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Keywords: Young Adults, Employment, Mental Health • Barriers, Facilitators • Review

Word count: 4304

DATA SHARING STATEMENT: “dataset available from corresponding author upon request.

CONFLICT OF INTEREST: All authors declare that none have any conflict of interest related to the development or publishing of this manuscript.

ACKNOWLEDGEMENTS: Appreciation is extended to Dr. Letitia Henville, Department of Occupational Science and Occupational Therapy, University of British Columbia, for editorial support.

ABSTRACT

Objectives: The issue of gaining employment for those with mental illness is a growing global concern. For many in the young adult population, who are at a transitional age, employment is a central goal. In response, we conducted a scoping review to answer the question, “What are the barriers and facilitators to employment for young adults with mental illness?”

Design: We conducted a scoping review in accordance to the Arksey and O’Malley framework. We performed a thorough search of Medline, EMBASE, CINAHL, ABI/INFORM, PsycINFO, and Cochrane. We included studies that considered young adults, aged 15–29 years of age with a mental health diagnosis, who were seeking employment or we included in an employment intervention.

Results. Our search resulted in 24 research articles that focused on employment for young adults with mental illness. Four main themes were extracted from the literature: (1) integrated health and social services, (2) age-exposure to employment supports, (3) self-awareness and autonomy, and (4) sustained support over the career trajectory.

Conclusions. Our review suggests that consistent youth-centred employment interventions, in addition to usual mental health treatment, can facilitate young adults with mental illness to achieve their employment goals. Aligning the mental health and employment priorities of young adults may result in improved health and social outcomes for this population while promoting greater engagement of young adults in care.

Strengths and limitations of the study:

- Overview summary of the barriers and facilitators to employment for young adults with mental illness.

- Wide scope of barriers and facilitators were reviewed
- Full-text review and data extraction completed by two reviewers
- Most studies had small sample sizes and lacked consistent measurement of outcomes.

INTRODUCTION

Mental illness is a widespread global challenge that affects approximately 1 in 4 young people at some point in their lives,¹⁻³ with 12–24 year olds experiencing the highest incidence of mental disorders of any age group.^{4,5} Adolescence and early adulthood are considered the peak periods for the onset of mental illness, with 75% of all diagnoses having an onset before the age of 25 years.⁶⁻⁸ Mental illness in young adults affects all education and income levels and all cultures.^{5,6} ⁹ The global economic and societal burden of mental health disorders for this age group is rising at an alarming rate.^{9,10} Nevertheless, this age group has been shown to have the greatest challenge in accessing mental health services.^{11,12} Global mental health services have been described as “largely inadequate and unsuited to their [age-related] needs”.^{13,14} There is an international call to urgently reexamine how mental health services are delivered for youth.^{10,12} ¹⁵⁻²⁰ In order to reduce the impact of mental illness, and to increase the likelihood of recovery for young people, transformative change and service redesign are necessary.²¹

Recovery, in the context of mental health care and psychosocial rehabilitation, is defined as “*the ability to live a full and meaningful life*”.²² The greatest chance of recovery is associated with having an illness identified, receiving an intervention early, and accessing ongoing support.^{9,15,21,23-25} One of the best indicators of recovery for adults with mental illness is the ability to obtain and maintain meaningful employment.^{11,26} High-quality studies have repeatedly shown that employment is associated with reductions in negative symptoms

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3 associated with a diagnosis of a mental illness, improvement in overall well-being, and enhanced
4 perception of social inclusion and self-worth.^{11 27-32} Yet approximately 70-90% of people with a
5 serious mental health condition are unemployed—this despite increasing evidence suggests that
6 the majority of them desire to work³³⁻³⁵ Although limited research is available about how young
7 adults with mental illness view employment as an outcome important for recovery, the promise
8 of shifting towards what is important to youth and their families is now emphasized.^{12 36-40}
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10 Employment may not only be a promising outcome for young adults in terms of symptomatic
11 and functional recovery, but also a mechanism to engage young people who may not otherwise
12 have sought support from mental health services.¹²
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24 As research continues to emerge regarding timely integrated youth health services for
25 young adults with mental illness¹², there is a strong case for mental health services to integrate
26 employment-support components within the current model of service delivery.⁴¹⁻⁴⁴ Incorporating
27 employment into community mental health services for young adults may have a substantial
28 impact at the individual, familial, and societal level, thereby advancing health-related outcomes
29 for this population.^{45 46} These impacts may include decreased hospital admissions, interaction
30 with the justice system, improved mental health, and reduction of costs to the system.^{28 47} Yet,
31 most often, health and employment services are offered in silos, inherently rigid systems that do
32 not communicate and can increase the potential for poor quality patient experiences and
33 outcomes. In order to strengthen the case for preparing youth with mental illness early for
34 employment, it is vital to researchers, clinicians, and policy makers to understand the barriers
35 and facilitators to employment for the individuals and the system. This information will help
36 communities strategize ways for health and social services to work together and meet the needs
37 of young people and their families.
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3 The goal of this work is to understand the barriers and facilitators to employment for
4 youth with mental illness. In this study, we outline the breadth of knowledge available regarding
5 obtaining and maintaining employment for young adults with mental illness and implementing
6 employment programs in mainstream mental health services.
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12 **METHODS**

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16 Our scoping review draw on existing literature to understand what is known about the barriers
17 and facilitators to employment for young adults with mental illnesses. As compared to systematic
18 reviews, scoping reviews have a very broadly defined research question, include all study types,
19 and track data according to key issues and themes.⁴³ We followed a five-stage commonly used
20 methodological framework⁴⁸ to complete this review, including: (1) identification of the research
21 question, (2) identification of all relevant studies, (3) selection of studies for detailed analysis,
22 (4) charting of the data according to key concepts, and (5) collation and summarizing the
23 findings of selected studies.
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35 For the first stage of the scoping review, the research question that guided the review
36 was: *“What are the barriers and facilitators to employment for young adults with mental*
37 *illness?”* In stage 2 of the review, a reference librarian was consulted in order to identify search
38 terms, identify relevant databases, and build the search protocol with the team. Our team derived
39 significant terms derived from the research question and expanded upon these terms to create a
40 comprehensive list of primary search words and their variants, including “mental disorders”,
41 “anxiety disorders”, “bipolar”, “dissociative disorders”, “multiple personality disorder”, “mood
42 disorders”, “personality disorders”, and “schizophrenia or psychotic disorders”, as well as a
43 combination of the following work-related terms: “employment”, “employment, supported”,
44 “unemployment”, “workplace”, and “occupation” (see Table 1). Combination of these terms
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3 were tested iteratively across the following databases on July 28, 2016: MEDLINE® (1946–July
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5 2016), ABI/inform® (1986–July 2016), CINAHL® (1982–July 2016), Embase® (1974–July
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7 2016), PsycINFO® (1880–July 2016), and Cochrane® (2005–July 2016) to allow for the
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9 identification of new combinations of terms or other related citations. In the late–1980s,
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11 frameworks for incorporating employment into health services for young adults with disabilities
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13 began to be incorporated in clinical practice.^{49–54} As a results, our scoping review search was
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15 limited to studies from January 1985 and beyond. We also searched Medical Subject Heading
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17 (MeSH) terms, MeSH tree, and related terms found in keywords and article references, and
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19 truncation was used for maximum recall when applicable. All searches included at least one
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21 identifier for mental disorder linked to at least one identifier for employment. The initial cutoff
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23 day for this scoping review was July 28, 2016. A Google Scholar and Medline follow-up search
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25 was conducted on October 1st, 2018, to ensure any new studies were included. Table 1 outlines
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27 the search strategy used in each data base.
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33 We included studies with employment-seeking young adults, aged 15–29 years of age
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35 with a mental health diagnosis. This age group was chosen in order to best reflect the context of
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37 study and the challenges faced by those with an emerging mental illness who are attempting to
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39 seek paid work. We recognize, in many bodies of literature, youth are defined as 15-24 years¹².
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41 Many sources of peer-reviewed literature reference the 1981 United Nations report⁵⁵, where the
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43 Secretary-General first referred to this age definition in a report to the General Assembly on
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45 International Youth Year (A/36/215, para. 8 of the annex)⁵⁶ and endorsed it in ensuing reports
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47 (A/40/256, para. 19 of the annex)⁵⁷. However, in the report⁵⁵, the Secretary-General also
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49 highlighted that, “the meaning of the term ‘youth’ varies in different societies around the world.”
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52 For example, in Canada, most youth employment programs are targeted for youth <30 years old.
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3 As such, the definitions of age (<30) and each other aspect of the population (mental health
4 status, gender, ethnicity), have been left broad in order to maintain a wide approach that
5 generates a breadth of coverage of the topic.
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10 For stage three of the scoping review, two research team members (TG & CB)
11 independently screened all titles and abstracts of all studies identified in the electronic search.
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13 We included all relevant articles published in English or French that described employment
14 services for young adults with mental illness. In addition, we limited our search to human
15 subjects, and studies with young adults under 30 years old. The main qualifications that
16 determined if studies were included in the relevant tables were: (1) the population was in the
17 young adult age range of 15–29 years, (2) the population had a mental illness diagnosis, and (3)
18 the study had a primary focus on attaining employment. If all three of these criteria were
19 addressed, the barriers and facilitators in the study were examined and extracted. Country of
20 origin and study format did not have any influence on determining relevance to this scoping
21 review. We did not screen for methodology or levels of evidence.
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37 In order to chart the data, we synthesized the studies and sorted them according to key
38 themes, barriers, and facilitators. Barriers and facilitators were sorted according to have they
39 were specified in the article. If not such specification was available, three content experts (SB,
40 LH, GL) with over ten years of clinical experience were consulted to determine what category
41 the theme should be placed. We charted data based on author, year of publication, study location
42 study type, intervention (if applicable), study population, and key results (barriers and facilitators
43 to employment).
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53 Finally, we synthesized and sorted data according to key issues and themes to present a
54 narrative account of the existing literature.⁴⁸ Themes were categorized broadly. All team
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3 members reviewed the themes and consensus was reviewed for the label of each theme. The
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5 main purpose of this scoping review was to identify the breadth of literature in this area of study,
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7 and whether there are any gaps in service found within the subject matter. As a result, we did not
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9 complete an assessment of the quality of evidence, nor did we determine whether particular
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11 studies provide robust or generalizable findings.⁴⁸
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15 **Patient and Public Involvement:**

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18 This study is related to a prospective study currently underway examining the experiences of
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20 young adults participating in an employment interventions (study PI: Barbic). The research
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22 question and data extraction variables for this study were informed by young adults participating
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24 in an existing employment program in Vancouver, Canada. Two focus groups of eight youth, age
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26 19-29, were invited to participate. Participants were recruited through a youth health centre in
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28 Vancouver called Foundry (foundrybc.ca) and the surrounding community. Results of this study
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30 will be presented to these participants (November 2018) in a modified world-café format. A one
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32 page summary of project will also developed and disseminated to the Foundry centres in British
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34 Columbia (n=7) and targeted policy and health services decision-makers.
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39 **RESULTS**

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42 The initial search generated a total of 8037 results. After removing duplicates and performing a
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44 preliminary screen to ensure the inclusion criteria was met, a total of 488 titles and abstracts
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46 were identified. These were further screened to ensure that they addressed the appropriate age
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48 range, that they had a focus on employment, and that the participants had a diagnosis of a mental
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50 illness. As stated in terms of selection criteria, manual screening performed by the researchers
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52 generated a total of 33 articles that were carefully examined, and divided into relevant (n=19)
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3 and non-relevant studies (n=14). After the updated search from 2016- Oct 1st, 2018, we found an
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5 additional five articles include in the review (total n=24 articles). Table 2 lists the relevant
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7 studies and Figure 1 describes the details for how we arrived at the final set of studies.
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10 [insert Table 2 here]

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13 [insert Figure 1 here]

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16 Of the 24 relevant articles, 11 were from the United States, four were from Australia, four
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18 from the United Kingdom, two from Canada, one from New Zealand, and one from the
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20 Netherlands. Results showed that a concentration on employment for young adults with mental
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22 illness is occurring, for the most part, in the Western world, with the United States being the
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24 focal area of research, primarily in the area of first episode psychosis and early intervention
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26 treatment. Of the 124 articles, 8 were published between 1999–2009, and 15 were published
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28 between 2010–2018. Although the search criteria allowed for articles published from 1985, the
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30 researchers were unable to identify any relevant articles from 1985–1998.
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36 This scoping review identified several themes in regards to the barriers and facilitators to
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38 employment for youth with mental illness. As shown in Figure 2, the four main themes extracted
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40 from the literature were: (1) integrated health and social services, (2) age-exposure to
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42 employment supports, (3) self-awareness, and (4) sustained support over the career trajectory.
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45 [insert Figure 2 here]

46 47 48 49 50 51 **(1) Integrated health and social services**

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3 The scoping review found that having an employment intervention in addition to usual mental
4 health treatment led to higher success rates for young adults with mental illness^{15 42-44 58-64} (as
5 identified in Table 2). For example, one youth-tailored employment intervention resulted in 65%
6 of the intervention group gaining employment, compared to only 9% of the control group.⁴⁵ Two
7 studies found that youth-tailored employment support, when delivered concurrently with
8 conventional mental health therapies, led to improved health and employment outcomes.^{41 43}
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10 Porteous and Waghorn⁴⁶ suggested that having both interventions (health and employment) in
11 the same physical site mutually reinforced these successes.
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22 Throughout many of the studies review, the two central frameworks were often when
23 addressing employment outcomes for youth—specifically, the recovery-oriented framework and
24 the biomedical model. The biomedical model was defined as physical or biological aspects of
25 disease and illness. In these studies, success was achieved when there is an absence of the
26 disease and/or disorder or improvement in symptomology.⁶⁵ In contrast, the recovery model
27 focuses on “living a satisfying, hopeful, contributing life, despite psychiatric disability or
28 symptoms”. (p.168)⁶⁶ Our results suggest that the paradigm used to guide intervention and care
29 may shape how young adults gain and maintain employment. For instance, two studies
30 highlighted that the biomedical model was a major barrier to finding employment for this
31 population^{46 67}, and three studies suggested that the recovery-oriented framework was a
32 facilitator to increased rates employment for young adults, based on its holistic perspective of
33 physical, mental, social, and spiritual health^{41 59 68}
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53 **(2) Age-exposure to employment support**

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3 While the literature is still growing for this population, the scoping review found many
4 suggestions that age-exposure to employment-related interventions was critical to employment
5 success and sustainability. Studies in this review suggested that earlier exposure to employment
6 programming was associated improved long-term employment outcomes and more engagement
7 from youth in other areas of treatment and rehabilitation.^{41 42 44 46 58 61 63 69 70} Some studies also
8 emphasized that in addition to early employment intervention, early diagnosis of a mental illness
9 was also essential to ensure that young adults have access to the full range of treatments and
10 interventions needed to optimize their potential to self-manage with their condition and thrive in
11 the community.^{71 15 63} The review also highlighted a need to include and reach out to families
12 and social networks early. Family and friends were reported in two studies as discouraging youth
13 from employment and thereby acting as barriers.^{64 72 73}

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29 One of the main temporal issues that was discussed across several studies the focus on
30 “finding a job” as opposed to seeking a “long-term career”. The goal of finding a career was
31 described in the literature as a potential barrier and not always applicable to this age group.^{41 68}
32 Some studies in the review highlighted that youth felt many existing programs were too focused
33 on “getting a job” rather than supporting milestones along journey of employment and career
34 construction.^{60 74} The results of this review yielded a concentration of studies focused on
35 supporting young adults to have a variety of skill development experiences, thereby helping a
36 young adult achieve their goal of finding a first job.^{41 42 44 46 74}

31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 **(3) Self-awareness and autonomy**

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53 All studies collectively identified that seeking employment can be a challenging endeavor,
54 especially for young adults doing so for the first time. For better chances of success in finding
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3 employment, studies in the review suggested that harnessing feelings of hope and optimism
4 about themselves and their career prospects is vital to employment success.⁴¹ Some studies
5 identified that young adults reported feeling more optimistic about jobs in which they can learn
6 and progress, leading to greater senses of accomplishment and self-worth.^{41 74} One participant in
7 study #2 described the impact of employment on self-esteem as
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15 *“a vicious circle, ‘cause you don’t have any work and you don’t bring in an income and*
16 *it gives you no self-esteem, and then you don’t want to get up and go get a job”*²⁷ (p. 68).
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20 Self-worth and self-esteem were identified throughout all studies as being important for this age
21 group.
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26 Our review also found that programs that allowed participants to choose the jobs they
27 pursue empowered these youth to take control of their career goals and aspirations for the future,
28 in addition to finding employment.^{42 44} The ability to choose was identified as a central asset for
29 this age group: our review identified that, while many programs focus primarily on the retention
30 of jobs, the young people themselves do not always share this priority. Giving young adults the
31 right to both choose and leave jobs, allowing them to explore career opportunities, and pursuing
32 opportunities to develop more skills were key facilitators to job and career development for this
33 population.^{41 44}
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44 45 **(4) Sustained integrated care**

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47 Sustained employment support was identified as a major barrier to short- and long-term
48 employment success for young adults. Many of the studies identified in this review did not
49 continue to provide support for participants beyond the end of the job-seeking period.⁴¹⁻⁴⁴ The
50 short duration of support was identified as a major barrier for young adults with mental illness
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3 (ranging from 2-16 weeks). The scoping review highlighted that programs with short follow-up
4 periods were more likely than programs with long follow-up periods to result in poor
5 employment outcomes for youth.^{27 42 60} Although the studies reviewed are relatively recent, the
6 data support the benefits of continued support to help youth with their employment goals.⁶⁹ For
7 example, a number of studies^{42 44 75} suggested that youth employment programs may work best
8 when focusing on the continued success of retaining employment and career development in
9 general.^{68 76-79} Of critical importance, most studies in this review suggested that ongoing support
10 that integrates both health and employment or career development goals is a significant
11 facilitator to ensure that young adults with mental illness have the capacity to gain the skills
12 necessary to manage long-term employment.^{27 31 41 46 58 63 68 69 72 80}

DISCUSSION

29 This review describes the current literature related to the facilitators and barriers for young adults
30 with mental illness who are seeking employment. A scoping review was chosen in order to
31 determine the breadth of the literature for this topic. While there were no other systematic
32 reviews or meta-analyses of the literature identified in this research area, this scoping review did
33 identify a number of studies that investigated adults (age 29+) with mental illness who were
34 seeking employment. These studies were excluded based on the allotted age range criteria.
35 However, they nonetheless found similarities to the studies included as relevant in the scoping
36 review such as the importance of integrated support, sustained access to health and employment
37 services that are not time-limited, and a focus on employment as a vehicle towards improved
38 health outcomes.^{14 81 82}

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52 This scoping review identified 24 relevant articles, of which there were a number of
53 methodologies, type of interventions, and/or research questions. This disparity suggests that the
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3 literature in this field of study is still developing, and alludes to the diverse approaches to the
4 understanding the field. The articles were published between 1999–2018, with the majority
5 (n=16) published between 2010–2018. The studies were predominantly completed in English-
6 speaking countries (n=23) with a high volume from the United States (n=12), with others
7 completed in Australia (n=4), New Zealand (n=1), and the United Kingdom (n=4). Common
8 facilitators included high self-efficacy^{31 43 68} early intervention,^{27 41 46 68 69} participation in a
9 supported employment program,^{31 41 45 46 58 68 83} and a long-term follow-up after intervention.^{27 41}
10 Barriers included the use of exclusion criteria,^{41 58 68} lack of social capital^{61 64 75}, stigma in the
11 workplace^{27 64}, history of criminal justice involvement,^{44 58} inadequate training opportunities^{27 61}
12 ⁷³, and lack of ongoing integrated funding for programming.^{27 68}

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26 Amongst these barriers, four overarching themes were identified in this review. These
27 themes may add value to the way that employment and health services are currently designed
28 and implemented for the young adult population. Our review emphasized that the transition from
29 adolescence to adulthood is a typical process of development, but for many young adults with
30 mental health conditions, this transition can be especially difficult.⁶⁹ Most studies highlighted
31 that young adults are within an age range that has unique needs that are often different from
32 those of older adults. Creating a program designed specifically for this age group may allow
33 professionals to better understand their needs, and provides opportunities to further young
34 people's professional development despite the barriers of mental illness. For the young adult
35 population, retaining the same job may not be indicative of a successful employment pattern;
36 rather, our review suggests that young people with mental illness may require the opportunity to
37 explore various jobs in order to expand their skill set. Our review suggests that young adults with
38 mental health conditions should be afforded the same opportunity as their peers by receiving
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3 tailored supported employment programs designed to support their dynamic health and
4 employment goals.⁴¹ As well, increasing studies emphasize that young adults should be involved
5 in co-designing these integrated services so that they are centred on the needs of youth, rather
6 than the system alone.^{12 40} Most studies in our review emphasized that long-term follow-up
7 support is critical for this population to help them to navigate the employment landscape. As
8 youth acquire new jobs, they may also benefit from continued support throughout these
9 subsequent transitions to maximize their success, self-esteem, and overall well-being.

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19 Our scoping review results support emerging literature that suggests that vocational
20 interventions at the onset of illness can have both short-term and long-term effects, including the
21 development of skills and interests, and a decrease in the likelihood of chronic unemployment
22 which in turn can shape health outcomes.^{27 41-45 58 67-69 74 84 85} Our review did highlight notable
23 heterogeneity in the interventions delivered; however, one common theme was that supported
24 employment intervention, when integrated with mental health treatment, may offer young adults
25 an increased probability for employment success. More research is needed to outline evidence-
26 based models of employment support for this group that can be integrated into existing health
27 services. Such information will be important when helping youth learn to self-manage their
28 illness while achieving their employment goals.⁴⁴ As well, this information is critical information
29 to support policy decisions to fund employment interventions as core services for youth mental
30 health services and programs.

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47 Another area of future research is to understand the components of supported
48 employment interventions that can produce meaningful outcomes for youth. Our review
49 identified a lack of standardization for how these services have been developed and delivered.
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54 More work in close collaboration with youth and key stakeholders is needed (i.e., clinicians,

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3 family, funders) to tailor supported employment programs that can be scaled across mental
4 health services and can be delivered early in the care pathway.⁸⁶ Given the increasing emphasis
5 on patient-oriented research across developed countries,⁸⁷⁻⁹⁰ there is an ideal opportunity for
6 future research in this area to be conducted in partnership with relevant stakeholders, notably
7 youth. By working with youth research partners to develop and test such interventions, mental
8 health services have the opportunity to foster evidence-informed health care by bringing
9 innovative rehabilitation approaches to the point of care for young adults with mental illness.

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19 While it is not the main tenet of a scoping review, it must be acknowledged that a
20 thorough investigation into the quality of the literature was not completed. Despite the lack of
21 analysis based on study rigor, our review did identify that many studies were descriptive in
22 methodology and did not include control groups. As well, most studies had small sample sizes
23 and lacked consistent measurement of outcomes. In order to optimize decision-making, evidence
24 from well-designed studies is needed to develop health services, guidelines, and policies that
25 apply to this young adult population. Such clarity around employment and integrated approaches
26 to treatment may have significant potential to improve performance, accountability, and
27 innovation of youth mental health services worldwide.

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40 In conclusion, the health and wellbeing of young adults with mental illness is a topic of
41 global concern. Our review suggests that the employment goals of the young adult population are
42 important to them, and therefore should be recognized by the mental health system as an area to
43 address and improve upon. This paper presents preliminary evidence for the benefit of
44 integrating employment intervention and mental health services, specifically highlighting the
45 barriers and facilitators for this population to obtain employment. Collectively, the studies
46 included in the review emphasize that it cannot be assumed that young adults can be fit into an

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3 adult model of care in relation to their employment and mental health needs; tailored programs
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5 are required to address youth-specific needs. Aligning the mental health and employment
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7 priorities of young adults may enable efficiency in achieving improved outcomes for this
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9 population while promoting greater engagement of young adults in care and accountability of
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11 mental health services worldwide.
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16 **Figure Legends:**

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18 **Figure 1:** PRISMA diagram outlining study selection

19 **Figure 2:** Common themes found in the scoping review about the barriers and facilitators to
20 employment for young adults with mental illness
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23 **CONTRIBUTORSHIP STATEMENT**

24
25 Skye Barbic is the senior and corresponding author. She has taken the primary responsibility for
26 communication with the journal during the manuscript submission, peer review, and publication
27 process, and has ensured that all the journal's administrative requirements, such as providing
28 details of authorship, and gathering conflict of interest forms and statements, are properly
29 completed, although these duties may be delegated to one or more coauthors. Skye Barbic has
30 also designed the study, contributed to the writing of the manuscript and oversight of graduate
31 student responsibilities to complete this work.
32
33

34 Taryn Gmitroski and Christl Bradley conducted the scoping review, participated in data
35 extraction and synthesis, and wrote the first draft of the paper for submission as their research
36 project for completion of a Master's degree in Occupational Therapy at the University of British
37 Columbia.
38
39

40 Lyn Heinemann, Grace Liu, Paige Blanchard, and Steve Mathias contributed to the study design,
41 search strategy, interpretation of study results, and review of the manuscript. All four authors
42 reviewed the accuracy and integrity of the work. All four authors provided specific content
43 clinical expertise to inform the discussion and implications of the study results (from the
44 perspective of occupational therapy, psychiatry and peer support).
45
46

47 Adelen Leon was the research coordinator on the project. She coordinated all aspects of the
48 study, including drafting the protocol, acting as the byline between the library and the students,
49 reviewing the first draft of the manuscript, and addressing reviewer comments.
50

51 Charlotte Beck was the study librarian on the study. She co-built the search strategy with the
52 graduate students and contributed to the draft and review of the methods of this manuscript. She
53 also reviewed the accuracy and integrity of the work.
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3 **ACKNOWLEDGEMENTS:** Appreciation is extended to Dr. Letitia Henville, Department of
4 Occupational Science and Occupational Therapy, University of British Columbia, for editorial
5 support.
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Table 1: Search strategy terms used for each data based searched

Database(s)	Mental Health search terms	Boolean	Employment search terms
Medline	<ol style="list-style-type: none"> exp mental disorders or exp anxiety disorders or exp bipolar or exp dissociative disorders or multiple personality disorder or exp mood disorders or exp personality disorders or exp schizophrenia or psychotic disorders <p>OR</p> <ol style="list-style-type: none"> Mental Disorder* or Adjustment Disorder* or Mental illness or Affective Disorders or Depression or Dysthymic Disorder* or Anxiety Disorder* or Post Traumatic Stress Disorder or PTSD or Dissociative Disorder* or Multiple-Personality Disorder or Delusion* or Personality Disorder* or Psychotic Disorder* or Affective Disorder* or Bipolar Disorder* or Cyclothymic Disorder or Schizoaffective Disorder* or Paranoid Disorder* or Schizophrenia or Mood disorder* 	AND	<ol style="list-style-type: none"> employment/ or employment, supported/ or return to work/ or unemployment/ or workplace <p>OR</p> <ol style="list-style-type: none"> ((work or job) adj3 (site or place or location)) or worksite or workplace or job or work or employ*)
CINAHL & Psycinfo	<ol style="list-style-type: none"> Mental Disorders OR Adjustment Disorders OR Mental Disorders, Chronic OR Affective Disorders OR Depression OR Dysthymic Disorder OR Anxiety Disorders OR Post Traumatic Stress Disorder OR Dissociative Disorder OR Multiple-Personality Disorder OR Organic Mental Disorders OR Delusions OR Personality Disorders OR Psychotic Disorders OR Affective Disorders OR Bipolar Disorder OR Cyclothymic Disorder OR Schizoaffective Disorder OR Paranoid Disorders OR Schizophrenia <p>OR</p> <ol style="list-style-type: none"> Mental Disorder* OR Adjustment Disorder* OR Mental illness OR Affective Disorders OR Depression OR Dysthymic Disorder* OR Anxiety Disorder* OR Post Traumatic Stress Disorder OR PTSD OR Dissociative Disorder* OR Multiple-Personality Disorder OR Delusion* OR Personality Disorder* OR Psychotic Disorder* OR Affective Disorder* OR Bipolar Disorder* OR Cyclothymic Disorder OR Schizoaffective Disorder* OR Paranoid Disorder* OR Schizophrenia OR Mood disorder* 	AND	<ol style="list-style-type: none"> worksite or workplace or ((work or job) n3 (site or place or location)) or job or work or employ* <p>OR</p> <ol style="list-style-type: none"> Employment OR Part Time Employment OR Temporary Employment OR Employment Status OR Unemployment <p>OR</p> <ol style="list-style-type: none"> (MH "Work")
Cochrane Review & ABI/Inform	<ol style="list-style-type: none"> Mental Disorder* or Adjustment Disorder* or Mental illness or Affective Disorders or Depression or Dysthymic Disorder* or 	AND	<ol style="list-style-type: none"> employment or return to work or unemployment or

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	Anxiety Disorder* or Post Traumatic Stress Disorder or PTSD or Dissociative Disorder* or Multiple-Personality Disorder or Delusion* or Personality Disorder* or Psychotic Disorder* or Affective Disorder* or Bipolar Disorder* or Cyclothymic Disorder or Schizoaffective Disorder* or Paranoid Disorder* or Schizophrenia		workplace or job
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For peer review only

Table 2: Details of included articles (n=24) including stud origin, findings, barriers, facilitators, and limitations

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
Baksheev et al. ⁴³ Date: 2012	AUS	Age: 15-24 Mean age: 21.4 years N: 41 Dx: First episode psychosis	Randomized control study. Intervention: Compared Individual placement and support (IPS) plus treatment, with just treatment on its own. There was a 6-month intervention period and a 6-month follow-up period.	Intervention group were 14.17 times more likely to have worked or studied during the 6-month <i>assessment</i> period compared to the control group. Intervention group were 16.26 times more likely to obtain work or study during the 6-month <i>follow up</i> period Baseline factors that were found to be <i>not significant</i> in determining if a participant would have found work or studied in the 6-month follow up period included: - gender - being occupied at baseline - whether participants were receiving government benefits - educated beyond secondary level - duration of untreated psychosis	The main facilitator to employment was having participated in the IPS program and not only the intervention as usual. Clinicians should not exclude any client based on 'work readiness', current symptoms, or any other personal factors.	No barriers to employment were identified in this paper.	Short follow up (6 months) Small sample size
J. Bassett Lloyd H. Bassett ²⁷	AUS	Age: 18-28 N: 10	Qualitative Study Intervention: Focus groups on	Themes of focus groups: - Loss -Stigma	Programs aimed to assist in the development of time	Low self-esteem Low self- worth	Small sample size

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
Date: 2001		Dx: Psychotic disorder	participants' perceived barriers to employment	-Treatment issues -Symptom management -Life goals -Need for support	management, stress management, self-confidence, and problem-solving skills Skills at how to manage the lifestyle change from not working to being employed	Negative effects of medication (low motivation & tiredness) Lack of strategies to manage conflict / frustration	Only male participants included in this study Participants were only from one health district
Bond et al. ⁶² Date: 2015	USA	N/A	Systematic review of employment and education outcomes in early intervention programs.	Incorporating well-defined evidence-based supported employment services into comprehensive early intervention programs for patients in early psychosis significantly increases employment rates but does not improve educational outcomes compared with programs lacking these services.	Early intervention Integrated employment services with early intervention services.	Not specified	Review did not meet the full standards of a PRISMA review
Brimblecombe et al. ¹⁵ Date: 2017	UK	Age: 18-27 N: 20 Dx: General mental health disorder	Pre-post comparative treatment design	Employment rates improved, although the sample size for this is very small Cost effective intervention	Early intervention Youth-specific mental health services	Unmet mental health needs Lack of integration of services	Small sample size Lack of control group
Burke-Miller et al. ⁴¹ Date: 2012	USA	Age: 18-30 *divided into 3 groups: youth (18-24), young adults (25-30), older	Multi-site randomized control trial Examined if participants had any kind of	Youth (after intervention): - any work: 69% Competitive employment: 50% - vocational hours received: 53	High future work expectations Greater hours of supported employment services - work history	Heavy emphasis on job retention for youth	Small sample size in the 'youth' category

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
		adult (31+) N= 1272 Dx: Any mental health dx	work, and if they were employed in a competitive job* *Definition of competitive job: pays minimum wage or higher, located in a mainstream/integrated setting, is not set aside for mental health consumers, is consumer owned.	Young adults - any work 73% - competitive employment: 56% - vocational hours received: 56 Older adult: - any work: 58% - competitive employment: 42% - vocational hours received: 60	Positive work history (better able to provide references) Recovery focused Younger age Increased access to benefits counselling (for welfare)		
Dudley Nicholson Stott Spoons ⁴² Date: 2014	USA	Age: 14-35 N: 30 Dx: Psychosis	Naturalistic comparison of 2 studies Intervention: Individual Placement Support (IPS) model + vocational worker	Improve the engagement in meaningful education, training or employment for young people with psychosis	IPS Younger age Small caseload size for vocational therapist Funding for vocational specialist Zero exclusion policy for clients Diversity of jobs developed Jobs as transitions (positive experiences on the path of vocational growth and	Psychiatric illness Lack of follow-up support	The findings rest on the assumption that the only difference between the services was the presence of the vocational worker

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Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
					<p>development)</p> <p>Follow-along supports (provided to employer and client on a time-unlimited basis)</p> <p>Rapid job searches (within 4 weeks)</p> <p>Ongoing work-based vocational assessments</p>		
<p>Ellison et al.⁷⁷</p> <p>Date: 1999</p>	<p>USA</p>	<p>Age: 18-35</p> <p>N = 36</p> <p>Dx: Any mental health diagnosis</p>	<p>Longitudinal study comparing original intervention group and the same participants at 5 years' follow-up</p> <p>*follow-up from Danley, Sciarappa & MacDonald-Wilson, 1992</p>	<p>Data from 2 groups (original career education group, and follow-up group) were examined</p> <p>The main significant differences were found between baseline (prior to original intervention) results and the follow-up five years later.</p> <p>Near significant decrease in proportion of participants currently in school or a training program</p> <p>Findings indicate that positive results seen at the end of the original intervention period were maintained for the 5 years since that time.</p>	<p>Higher work satisfaction</p>	<p>Decreased quality of life</p>	<p>No control group</p> <p>Not all original participants were located, therefore their data were not included</p>

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
Ferguson ⁷⁸ Date: 2013	USA	Age: 18-24 Mean age: 21 N: 28 Dx: Homeless youth with any mental health diagnosis	Randomized Control Trial (RCT) Intervention: Supported employment with 4 components: 1) Vocational skills 2) Small business skills 3) Social skills Clinical services	The study described a methodology for establishing a university-agency research partnership to design, implement, evaluate, and replicate evidence-informed and evidence-based interventions with homeless youth with mental illness to enhance their employment, mental health, and functional outcomes.	Vocational + clinical service integration Structuring participant time Social contact Social identity Zero exclusion from program Rapid job search Younger age	No barriers addressed in study	Majority of participants were male Small sample size
Ferguson et al. ⁵⁸ Date: 2012	USA	Age: 18-24 N: 20 Dx: Homeless youth with any mental health diagnosis	Pre-Post Quasi-experiment Intervention: Adapted IPS model targeted at low-income youth	The study sought to adapt an evidence-based intervention for homeless young adults with mental illness. At follow-up, the IPS group were 7.83 times more likely of working than the control group The IPS group worked 5.20 months compared to the control group at 2.19 months	IPS intervention Less “severe” mental health dx Younger age	Living on the streets Criminal activity Drug use The need to maintain personal hygiene Securing transportation Having enough food to eat	Majority of the participants were male Small sample size Non-random assignment to groups
Gilmer et al. ⁶⁸ Date: 2012	USA	Age: 18-24 N: 74 Dx: Any mental health	Qualitative Study Intervention: Integrating employment services into	The study assessed the needs for mental health services for transition-age youths at youth-specific programs	Services that foster a transition to independence Age-specific housing	Inconvenient scheduling Weak patient -provider relationship Limited program funding	Sampling bias of transition-aged youth

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
		diagnosis	mental health services			Lack of mentorship from peers experiencing similar struggles Need for holistic approach to recovery	
Haber et al. ⁶⁹ Date: 2008	USA	Mean age: 17 N= 562 Dx: Any mental health dx	Descriptive	The most consistent improvement was shown on the indicators of educational advancement and employment progress There was a post hoc improvement on employment/educational advancement. Productivity, education, and employment all increased	Education for younger participants Longer period of support for employment and education related goals for younger participants	Advanced age (within the youth population)	Lack of uniform data across sites on program characteristics Lack of control group
Henderson, et al. ⁶³ Date: 2017	CAN	Age range: 12-24 N= 690 Dx: Youth not in employment or in education training (NEET)	Cross-sectional	NEET youth showed multiple psychosocial risk factors. They were also more likely to endorse substance use and crime/violence concerns than their non-NEET service-seeking counterparts. Gender-based differences were observed.	Integrated services Working with schools Working with employers to increase internship opportunities.	Substance Dependence History of crime/violence High level of need related to internalizing and externalizing behaviors. Gender based differences	Participants not asked how long they were NEET. Study cross-sectional in nature.
Killackey, Jackson, McGorry ⁸⁰	AUS	Age range: 15-25	Non-randomized control trial	65% of intervention group found employment compared with 9% of	Participation in a vocational intervention for young people	Little or no work history can be a barrier to longer term employment	Small sample size

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
<p>Date: 2008</p>		<p>N= 41</p> <p>Dx: first episode psychosis</p>	<p>IPS + treatment as usual</p>	<p>control group</p> <p>The intervention group was able to find more jobs (23 compared to the control group's 3) 80% of the intervention group listed welfare benefits as their primary source of income</p>	<p>Acquiring jobs in a wide range of occupations that are congruent with personal interests and needs</p>		<p>No follow up to determine whether a short 6-month intervention is sufficient to lead to lasting gains in employment and employment skills</p>
<p>Lindsay^{64*}</p> <p>Date: 2011</p>	<p>CAN</p>	<p>Age Range: 15-24</p> <p>N=1898</p> <p>Dx: Teens with disabilities (all)</p>	<p>2006 Participation and Activity Limitation</p>	<p>Severity of disability, type and duration of disability, level of education, gender, low income, geographic location and the number of people living in the household all influenced the kind of barriers and work discrimination for these young people.</p>	<p>High school diploma</p> <p>Age (older +)</p> <p>More social capital</p>	<p>Low income</p> <p>Geographical location</p> <p>Family/Friends discourage youth</p> <p>Information about jobs is not adapted</p> <p>Family responsibilities</p> <p>Worry about isolation by other workers</p> <p>Been victim of discrimination in the past</p> <p>Inadequate training</p> <p>Inaccessible transportation</p> <p>Lost income support</p> <p>No jobs available</p>	<p>Dataset cross-sectional</p>

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
Luciano Carpenter-Song ⁷³ Date: 2014	USA	Age: 22-32 N: 12 Dx: Psychosis Substance use disorder	Cross-Sectional interview study Intervention: Explored past / current participation experiences with school & work	This study examines the meaning and importance of career exploration and career development in the context of integrated treatment for young adults with early psychosis and substance use disorders.	Prioritizing career oriented opportunities (not finding 'just a job') Optimism in developing a career External support Prioritizing career-oriented opportunities	Family pushing for participants to obtain low wage / low skill jobs Placement in job with no potential to advance Decreased confidence	Data was cross-sectional, precluding causal interpretation Study did not include: · Women · People with low socioeconomic status
Nochajski Schweitzer ⁷⁵ Date: 2014	USA	Age: 14-19 N: 47 Dx: Emotional + Behavioural disorders	Qualitative Intervention: School-to-work transition program (STWTP) focusing on additional supports needed for youth	This study examines the transition of students with disabilities from high school to adult occupations, such as work and independent living. 30% of youth were still employed after the 10-week follow-up period	Transition program starting in the beginning of high school Pay youth to participate in specific program	Unemployment of parents Family living in poverty Substance use within family Incarceration of prominent family member	Only one diagnosis involved in study Only youth enrolled in high school examined Short follow-up period
Noel et al. ⁷² Date: 2017	USA	Age: 16-24 N: 280 Dx: Psychiatric disorders	Cross-sectional survey of young adults in IPS programs. Intervention: IPS	Study team examined the barriers to employment for transition-age youth with disabilities enrolled in supported employment in eight community rehabilitation centers. Employment team members identified each youth's top three barriers to employment using a 21-	Outreach of IPS team to the youth and the youth's family	<i>Lack of work experience, transportation problems, and program engagement issues.</i> <i>Poor control of psychiatric symptoms</i> Families commonly discouraged their youth from employment.	Small amount of missing data Unable to explore demographic differences

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
				item checklist.			
Porteous, Waghorn ⁴⁶ Date: 2009	New Zealand	Age: 14-26 N= 135 Dx: first episode psychosis (schizophrenia, major depression, bipolar affective disorder)	Implementation of fidelity scale to determine effectiveness of supported employment services for young adults	Occupational therapists and other allied health professionals can help facilitate system change towards the routine delivery of employment services integrated with public mental health treatment and care	Co-location of employment services and publicly funded mental health services Employment was identified as an unmet occupational need Established in the early intervention team	Youth not being on the caseload for a mental health team	Exploratory and anecdotal nature of study
Rinaldi et al. ⁵⁹ Date: 2004	UK	Age: 18-32 Median age: 21 N= 40 Dx: First episode psychosis	Pre-post study Compared baseline to 6-month follow-up and 12 month follow-up	Employment: Baseline: 10% were employed, 55% were unemployed. 6 months: 28% employed, 7% unemployed. 12 month: 41% employed, 5% unemployed. Everyone employed at 6 months, continued to be employed at 12 months	Participation in vocational intervention program Team-based approach to recovery & employment Proactively help participants retain and keep jobs Welfare benefit advice	Not addressed in article	Only diagnosis was psychosis Small sample size Lack of comparison group
Rinaldi et al. ⁸⁴ Date: 2010	UK	Age: 17-32 N= 166 Dx: Schizophrenia	Pre/post design naturalistic evaluation Supported education was delivered	40% of participants were working/studying at start of intervention, this increased to 71% by 6 months 47% of those who were unemployed at baseline, achieved open employment	Transition from education/training to the labour market is critical for independence Short work history is acceptable	Not addressed in article	No control group Quality of life was not explored

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
				by 24 months follow up	Use of a 'place and train' method		
Tapfumaneyi et al. ⁶¹ Date: 2015	UK	Age: 14-35 N= 1067 Dx: Any mental health dx	Naturalistic study Intervention Multidisciplinary service that focused on recovery and relapse prevention for 2-3 years	After 1 year 34.1% had been employed or studied towards a qualification 61.2% were in employment 50.4% were in educational courses employment/education at baseline	Reduction in duration of untreated psychosis Engagement in early intervention services for more than 1 year (compared to those engaged for less than 1 year) Involvement in the IPS model	Welfare benefits (relatively high reward for being unemployed) Stigma, discrimination Lack of professional help Illness related factors	Differences in outcomes between teams was not analyzed The study was not able to control for premorbid functioning
Vander Stoep et al. ⁶⁷ Date: 2000	USA	Age: 18-21 years N= 181 Dx: Anxiety disorder, depressive disorder, disruptive disorder	Longitudinal study Compares 33 participants with psychiatric disorder and 148 participants without psychiatric disorder	39.4% of participants with psychiatric disorder had not completed secondary school (6 times less likely than other youths to accomplish this task) 4.07 times less likely to be employed or in college/trade school	No diagnosis of psychiatric condition	Diagnosis of a psychiatric condition	Examined multiple areas of life: gainful employment, criminal involvement, sexual activity, and secondary school completion. Small numbers hampered the ability to draw firm conclusions about the magnitude of the effects of exposure
Veldman et	NDL	Age: 11-19	Prospective	Examines the etiology and	Being diagnosed with	Mental health diagnosis	Measuring the

Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
al. ⁷¹ Date: 2015		N: 1711 Dx: Any mental health dx	cohort study Intervention: Tracking Adolescents' Individual Lives Survey (TRAILS)	course of psychopathology Study found that Mental health dx affect education and employment in negative ways	a mental illness later in life	indicated as a high-stable trajectory, meaning they had serious mental illness at a younger age compared to others in the population	outcome at the same time point as the end of the trajectory, allowing reverse causation Limited number of young adults at work without basic education level and in neither education nor training
Waghorn et al. ⁶⁰ Date: 2007	AUS	Age: 15-25 N: 7 Dx: Any mental health diagnosis Socially & economically marginalized people	Descriptive study Intervention: Supported Employment	The study sought to determine what the major and minor <u>barriers</u> were when integrating supported employment services into already existing mental health services.	Setting clear goals throughout treatment Establishing sustainable partnerships between the health and employment sectors	Time it takes to integrate vocational staff into mental health team Lack of resources/ funding for programming Differences in organizational cultures Legal, insurance, and confidentiality issues Large caseload size for employment specialists Limited follow-up support Having to participate in a program while not working / being paid	No clear number of population

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Study Information	Country	Population	Type of Study and Intervention (If applicable)	Summary of Results	Facilitators to Employment	Barriers to Employment	Study Limitations
						Additional training to vocational staff from a mental health perspective	

Abbreviations: UK= United Kingdom; USA= United States of America; CAN= Canada; AUS= Australia; NDL= Netherlands; IPS= Individual Placement Support

Note: *=Lindsay (2011) study included young people with all disabilities.

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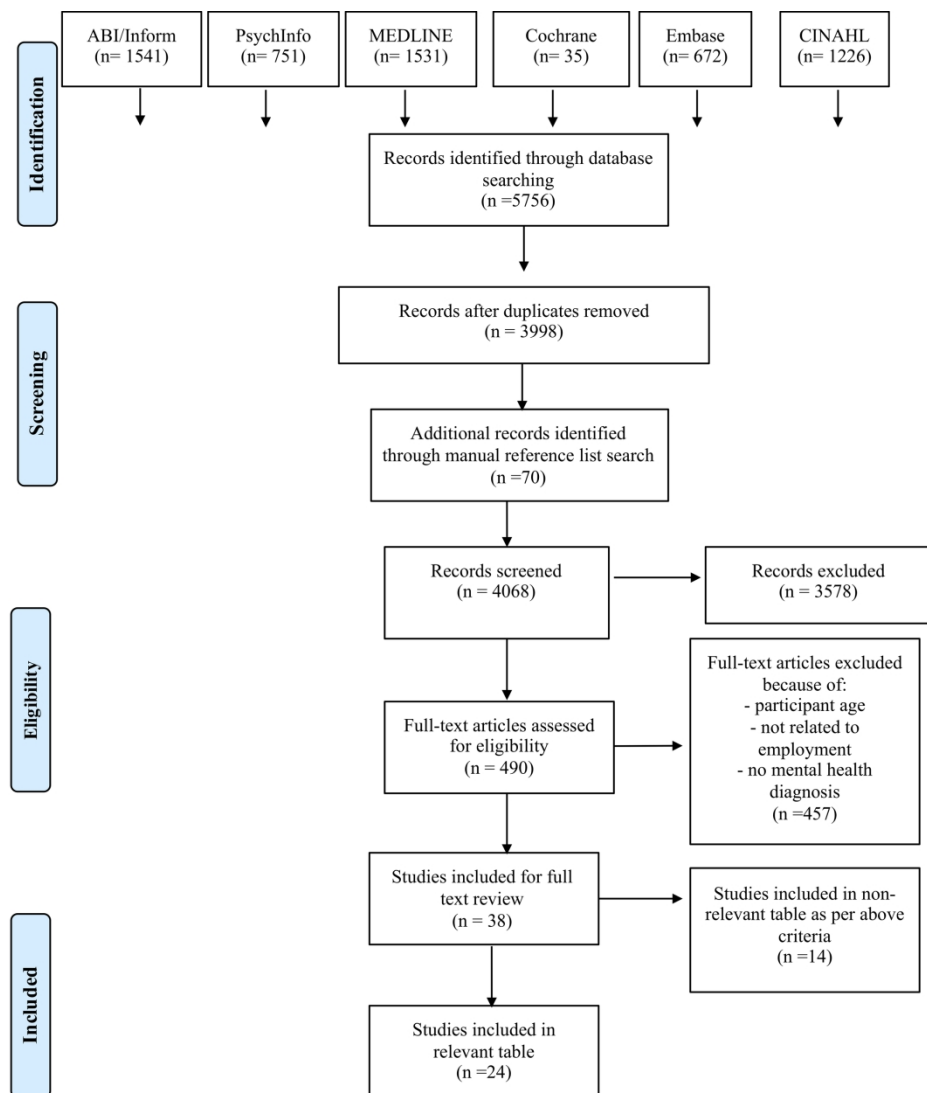
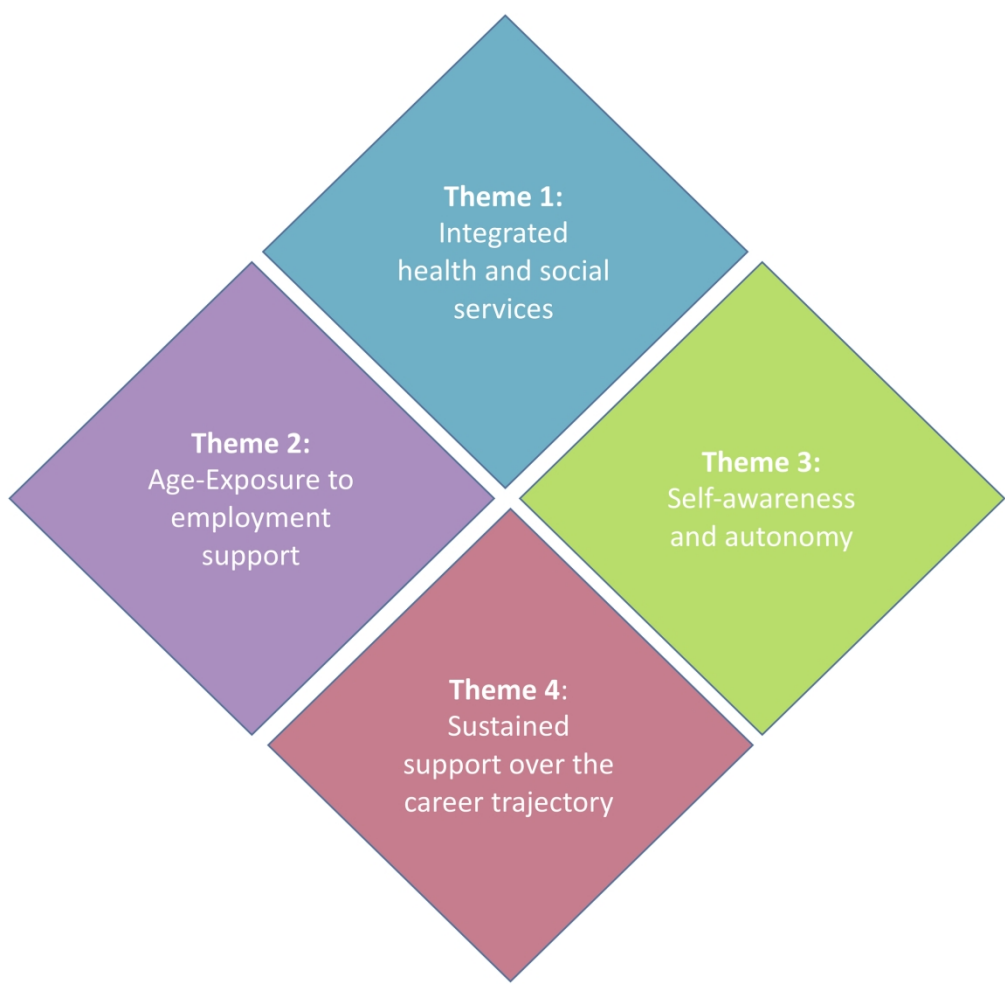


Figure 1. PRISMA diagram outlining study selection

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