Factors of Engagement in Employment or Education Following a First Episode of Psychosis: A Systematic Review and Narrative Synthesis

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Employment/Education Post-First Episode Psychosis

Abstract

Despite 75% of people who experience a first episode of psychosis (FEP) reaching clinical remission, this population continue to face lower rates of vocational recovery. This review aimed to identify the factors which help and hinder individuals' employment and post-secondary education engagement post-FEP. Three electronic databases (Psych INFO, Medline and Social Science Database) were searched up to 21st August 2023. Primary research on employment/education status or engagement within FEP populations ages 18-40 were included. A narrative synthesis was applied to the findings. Of the 10,575 articles screened, 18 were included in the final review. Younger age, non-affective psychotic diagnoses and stigma were identified as common barriers to engagement. Ceasing substance use and having family/financial support were reported as facilitators. Conflicting findings were reported as to the impact of positive and negative symptoms. The range of factors emerging from this review highlight several potential barriers and facilitators for individuals seeking employment or further education opportunities post-FEP. This underlines the need for further research into how and why they influence employment and educational outcomes, with a view to improving treatment outcomes by incorporating these factors into care planning.

Keywords: First Episode Psychosis, Vocational Recovery, Schizophrenia, Stigma, Employment

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Introduction

Psychosis, defined as a condition where one experiences a "loss of touch with reality" is characterised by distortions of thoughts and beliefs through delusions and paranoia, as well as sensory experiences via hallucinations (Kuharic et al., 2019). Experiencing a first episode of psychosis (FEP) places an individual at a higher risk of further episodes (Fusar-Poli et al., 2017). As such, early intervention is crucial for those presenting with FEP symptoms to prevent or delay this escalation (Fusar-Poli et al., 2017). Several demographic risk factors for FEP have been highlighted, including age (Jongsma et al., 2019). It is consistently reported in the literature that adolescence/young adulthood is a peak period for the emergence of psychotic conditions (Simon et al., 2017), with younger adults – ages 18 to 25 years - typically facing a worse prognosis and higher rates of relapse (Aguey-Zinsou et al., 2023; Simon et al., 2017). In a review of FEP in the United States of America, Simon and colleagues (2017) recorded the highest occurrence of FEP in the 15–29-year-old cohort. In a review of global incidence rates, Jongsma and colleagues (2019) recorded a significantly higher first episode occurrence amongst those 40 years of age and younger across countries and continents. This age-specific sensitivity reflects a heightened probability for younger adults to be negatively impacted by FEP. For most individuals, early adulthood represents a salient milestone of exiting secondary education and progressing to further education and/or employment. The loss of or disruption to one's career during this key period may have long-term negative consequences, with deteriorating mental states, higher relapse rates and a greater disabling impact on individuals repeatedly reported across the literature (Aguey-Zinsou et al., 2023).

For some persons who experience FEP, returning to their work/studies is not just a product of their recovery, but an important contributor to it (Aguey-Zinsou et al., 2023). From the individual's perspective, vocational engagement is often ranked as more important than symptom reduction, with many people still experiencing symptoms engaging in occupations

(Aguey-Zinsou et al., 2023; Wallstroem et al. 2021). This can contrast the traditional medical model of recovery, which defines psychosis recovery in terms of the absence of symptoms and can delay social rehabilitation until these are managed (Aguey-Zinsou et al., 2023; Wallstroem et al. 2021). This view of 'clinical recovery' before 'personal recovery' has been challenged, with a growing movement of prioritising both simultaneously (Wallstroem et al., 2021). However, the negative impact of symptoms on vocational engagement, even in years following a FEP, is also well reported (Aguey-Zinsou et al., 2023). Although this presents as conflicting findings in the literature, it may indicate the variety of influences, including but beyond symptomatology, on an individual's engagement following FEP. As such, a deeper investigation on this issue is warranted to assess the range of factors that may impact this cohort in their vocational recovery.

The role of educational attainment in improving wellbeing for people with mental health conditions is well established (Abdel-Baki et al., 2013). However, most research on college students with mental health conditions focuses on mood/anxiety disorders (Sanderson et al., 2020). In a recent review of psychosis amongst post-secondary students, Sanderson and colleagues (2020) recorded a difficulty in sourcing studies of interventions that were of good quality. The authors also recorded risk and protective factors; however, this was in regard to symptom prevalence and not in relation to the students' engagement (Sanderson et al., 2020). As previously mentioned, this focus on symptom remission does not capture the breath of factors influencing recovery. It has also been noted that individuals receiving treatment for FEP are significantly more likely to be unemployed than others with mental health conditions (Aguey-Zinsou et al., 2023). However, despite the widespread use of vocational-based interventions in FEP services, the research which informs most service provision refers to mental health conditions in a generalised way (Wallstroem et al., 2021). As such, a collective

analysis of the barriers and facilitators of persons with FEP engaging in education/employment may better inform these services of the population's specific needs.

In this review we aimed to collectively assess the barriers and facilitators of engagement in education/employment for populations who have experienced a FEP. As stated above, the protective factors of education/employment engagement, as well as the negative impact of disengagement, are well recorded in the literature with regards to other mental health conditions. However, this review addresses a gap in the current understanding as to what can help/hinder engagement amongst FEP populations. Furthermore, this review aimed to analyse the current understanding of which barriers and facilitators are most prevalent for individuals with FEP. With global epidemiological data indicating that the FEP incidence is highest within the 18 - 40 age range (Jongsma et al., 2019), the current review will focus on this cohort solely due to the notably elevated occurrence observed and vulnerability to career loss in adults up to 40 years of age.

Methods

Search Strategy

PRISMA guidelines for systematic literature searches informed the current review. A PRISMA flowchart of the selection and exclusion processes is available in Fig.1. A systematic bibliographic search of PsycINFO, MEDLINE and Social Science Database was conducted on 30th December 2022, with an additional updating search conducted on 21st August 2023. Search terms were created based on current operational definitions of FEP, prior Systematic Reviews of FEP (Aguey-Zinsou et al., 2023; Fusar-Poli et al., 2017), as well as employment engagement and education engagement by people with mental health conditions (Sanderson et al., 2020; Wallstroem et al., 2021). Controlled vocabulary and free-text searches were utilised in order to broadly capture literature relating to the review objectives. These search terms (available in

Appendix S1) were crafted by the review team in conjunction with the DCU School of Psychology librarian. Identified studies were imported into *Covidence* software to conduct screening and record resulting votes. Duplicate studies were removed manually prior to screening. Both abstract and full-text screening stages were completed independently by two authors in tandem, with meetings held to discuss conflicting votes against the criteria and to reach agreement. In the case that agreement could not be met, the third author was nominated as the deciding vote, however this was not required.

Eligibility Criteria

The PICOS framework was utilised for this review (Moher et al., 2010). Studies were included if they met the following criteria: 1) published in a peer-reviewed journal, 2) original studies (primary or secondary analysis of original data), 3) published in English, 4) included data of populations from the ages of 18 years to 40 years of age inclusively, 5) included data of populations with a diagnosis of or self-reported FEP, 6) where multiple forms of psychosis and/or mental health conditions were reported; studies which provided separate data on FEP participants and 7) included data of populations with a FEP and their engagement in employment or education. Studies were excluded if they: 1) were case studies or reviews, 2) included populations aged 17 years of age or younger and/or 41 years of age or older, or 3) did not include data on engagement with post-secondary education or employment.

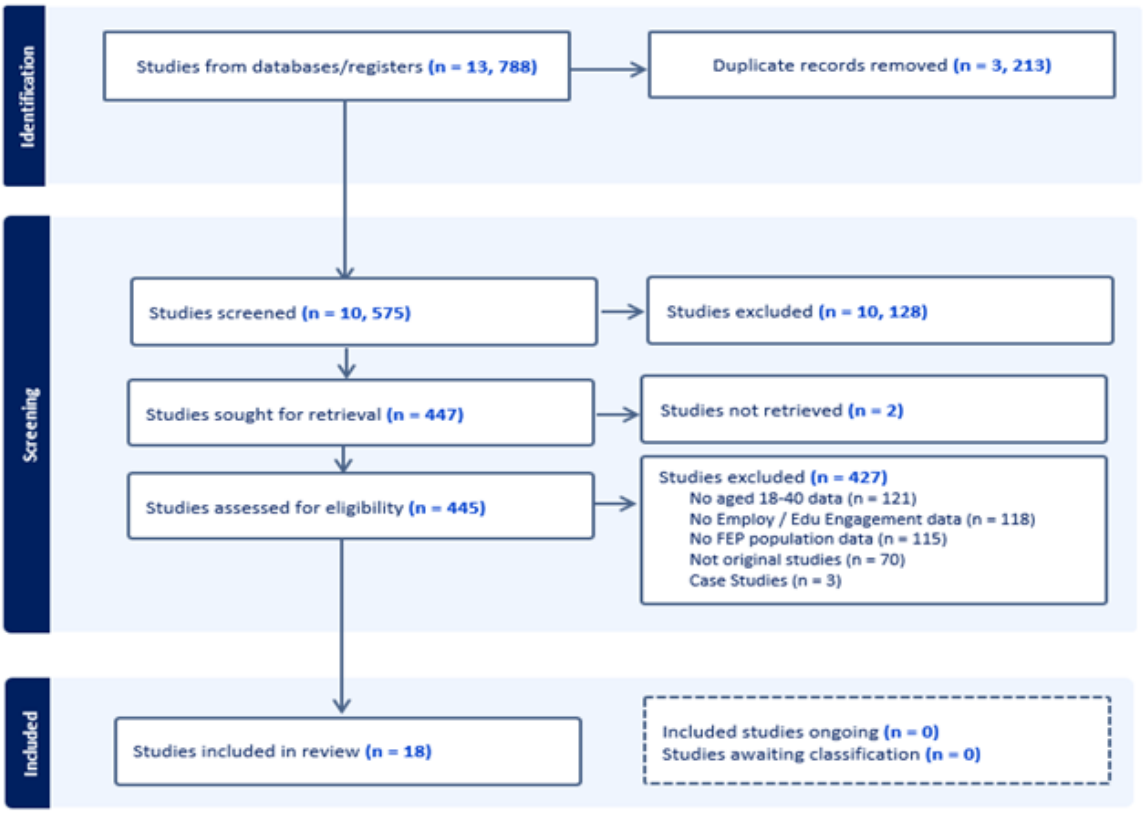
Data Extraction and Quality Assessment

The following parameters were recorded from each study on an agreed data tracker by two authors; Lead Author, Year of Publishing, Country of Study, Age Range of Participants, Participant Total Number, Engagement Outcome (Education, Employment or Both), and Outcome Measure as well as the agreed score on the relevant Quality Assessment tool. Quality Assessment was also completed independently by two authors and similarly to screening

procedures, variance in scores were discussed at meetings in which an agreed final score was applied. For quantitative studies, a pre-developed assessment tool (Dunne et al., 2017) was applied; the Critical Appraisal Skills Programme (CASP) tool was utilised for qualitative studies and the one mixed-methods study was assessed via the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). In addition, quantitative measures of engagement and results as well as qualitative themes were extracted as they emerged from the data. A narrative synthesis was utilised due to the multifaceted factors that influenced engagement present across studies.

Figure 1

PRISMA Chart



Results

Included Studies

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See Fig. 1 for PRISMA flowchart. 18 studies were included in this review: eight quantitative, nine qualitative and one mixed design study. Of these, seven originated in Canada (one included participants in Canada and Australia), five from the United States of America, two from England, one from Australia (not including the aforementioned joint-jurisdiction study), one from Switzerland and one from China. Combined, these studies represent 1,193 participants of which 1,106 were persons with FEP; four studies included comparison groups or retrieved data from secondary sources, such as family members. See Appendix S1. for a list of included papers, their FEP sample/total sample sizes and their engagement outcome(s). The final quality ranking for each study and the full scoring on each appraisal tool is available in Appendix S1.

"Occupational status", whether or not the participant was in employment and/or education, was the most used measurement of engagement. All eight quantitative studies measured "occupational status" and for six of these studies, it was the only post-FEP employment/education measurement captured. The nine qualitative and one mixed-design studies offered a greater range of engagement measurements via the participants' "experiences of engagement"; see Table 1. for further details. Included results extracted from quantitative studies are available in Table 2. A full table of results (including effect sizes and non-significant findings) is available in Appendix S1.

Table 1. *Qualitative Data Extraction Table*

Lead Author	Year	Engagement Phenomenon	Participant Group	Barriers Identified	Facilitators Identified
Bassett	2001	Barriers to Employment	Unemployed FEP group	Loss of Self-Esteem Stigma Fear of Disclosure Medication Effects Negative Symptoms Uncertainty of Future	Vocational Supports Mental Health Supports
Blajeski	2020	Vocational Recovery vs Disability	FEP (employed, students and	Views of Mental Health staff Impact of Symptoms	Views of Mental Health staff Family and Financial support Accommodations by Employers

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Lead Author	Year	Engagement Phenomenon	Participant Group	Barriers Identified	Facilitators Identified
			unemployed)		University Disability services
Blajeski	2021	Barriers to Employment and Education	FEP (employed, students and unemployed)	Views of Mental Health staff Stigma from Diagnosis Loss of Self-Identity	Attending FEP Support Groups Peer Support Boosting Confidence
Boychuk	2018	Career Decision Making post-FEP	FEP young adults, family and Mental Health staff	Impact of Symptoms Substance Use Low Motivation Loss of Self-Esteem Disengaging during FEP	Prior Occupational History Family and Financial Support Ceasing Substance Use Renewed Vocational Interest following FEP
Fox	2020	Occupations (broadly, includes Education and Employment)	FEP (employed, students and unemployed)	No prior Career History Age-Related Social Norms (Pressure to Engage)	Prior Career History Age-Related Social Norms (Career Exploration Common)
Jones	2023	Career Development post-EIS*	FEP (employed, students and unemployed)	Impact of Symptoms Loss of Vocational Identity Lack of Accommodations /Supports Lowered Expectations by Family, Mental Health staff and Self	Family and Financial Support Post-Secondary Education
Krupa	2010	Occupational Engagement pre and post FEP	FEP young adults, family and friends	Younger Age No prior Career History Impact of Symptoms Fear of Relapse	Older Age Established Career History Finding Work / Life Balance Family and Financial Support
Lam	2011	Barriers to Employment	FEP (employed, students and unemployed)	Stigma Fear of Disclosure Effects of Medication	FEP changing Priorities (Work / Life Balance) Maturing effect of FEP
Woodside	2010	Career Re-engagement post-FEP	FEP (employed and unemployed)	(None identified)	Established Career History Financial Commitments Providing for Family Value placed on Work
Roy	2016	Education Attendance and Performance	FEP and Comparison (students and non-students)	Lack of Supports Views of Mental Health staff Stigma from Family Low Motivation	Adapting Engagement Strategies Re-evaluating Standards Family and Financial Support

EIS = specialised Early Intervention in psychosis Service

Table 2. *Quantitative Engagement Measurements and Results*

Lead Author	Year	Engagement Measure	Engagement Measurement	Predictor	*p* values
Abdel- Baki	2013	Occupational Status	Work/education vs NEET	*Working at admission:* At 3 months follow up At 18 months follow up	 **<0.0001**** **0.007****
				Working within the previous year: At 3 months follow up At 36 months follow up	 **< 0.0001**** **0.016***
			No. of days spent in work/education	*Working within previous month:* At 3 months follow up At 24 months follow up	 **< 0.0001**** **0.019***
				Non-schizophrenic psychosis: At 24 months follow up At 36 months follow up At 60 months follow up	 **0.042*** **0.009**** **0.002****
Abdel-Baki	2017	Occupational Status	Work/education vs NEET	*Never had Substance Use Disorder:* At 12 months follow-up At 24 months follow-up	 **< 0.01**** **< 0.05***
				Substance Use Disorder ceased: At 12 months follow up At 24 months follow up	 **< 0.01**** **< 0.05***
Bourdeau	2012	Occupational Status	CASIG vocational subscale	**BPRS Negative*** BDI-I Depression	**0.039*** 0.711
Craig	2014	Occupational Status	Employment vs Unemployment in Intervention and TAU	*At 12 months follow up:* **Motivational Interview Intervention**	 **0.002****

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Lead Author	Year	Engagement Measure	Engagement Measurement	Predictor	*p* values
DeTorre	2021	Occupational Status Role Functioning	Work/education vs NEET No. of hours worked GFR	*Occupational status:*	
				QLS Motivation*	**< 0.01****
				BPRS Positive*	**0.019***
				BPRS Negative	0.085
				Internalised stigma scale*	**0.036***
				Stigma scale total	0.201
				Role functioning (GFR):	
				QLS Motivation*	**< 0.01****
				BPRS Positive	0.051
				BPRS Negative*	**0.049***
				Internalised stigma scale	0.435
				Stigma scale total	0.869
Golay	2021	Occupational Status	MVSI work activity	*At 18 months:*	
				Age	0.067
				Socioeconomic status	0.432
				Clinical Global Impression baseline	0.161
				GAF baseline score**	**0.003****
				GAF 6 months score**	**< 0.001****
				Diagnosis*	**0.024***
				At 36 months:	
				Age	0.634
				Socioeconomic status**	**0.001****
				Clinical Global Impression baseline*	**0.022***
				GAF baseline score**	**< 0.001****
				GAF 6 months score**	**< 0.001****
				Diagnosis	0.055

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Lead Author	Year	Engagement Measure	Engagement Measurement	Predictor	*p* values
Goulding	2010	Occupational Status	SFS occupational subscale	**PANSS Positive**** **PANSS Negative*** **PANSS Psychopathology***	**< 0.01**** **0.028*** **0.048***
Wright	2019	Occupational Status	Employment status TUS	Age **PANSS Positive*** PANSS Negative **PANSS Cognitive***	0.50 **0.01*** 0.11 **0.02***
Roy	2016	Academic Performance Performance Satisfaction	Enrolled vs Not Enrolled No. hours in class Engagement Questionnaire	**Age** Living with family **Family as source of income**** **Relationship status***	**0.049*** 0.110 **< 0.001**** **0.026***

NEET = Not in Employment/Education/Training, CASIG = Client's Assessment of Strengths, Interests and Goals. BPRS = Brief Psychiatric Rating Scale. BDI-I = Becks Depression Inventory. QLS = Quality of Life Scale. GFR = Global Functioning Role scale. MVSI = Modified Vocational Status Index. GAF = Global Assessment of Functioning. SFS = Social Functioning Scale. PANSS = Positive and Negative Syndrome Scale. CDSS = Calgary Depression Scale for Schizophrenia. TUS = Time Use Survey. * *p* = < .05, ** *p* = < .01

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Age

Eight of the studies examined the role of the participant's age with regards to their engagement with education/employment. Of the quantitative studies (n = 6), three found a significant negative effect of younger age on engagement outcomes (Golay et al., 2021; Goulding et al., 2010; Roy et al., 2016). Of the qualitative studies where age emerged as a factor, younger participants appeared to face greater difficulty engaging in employment/education as their FEP interrupted a crucial period of career development (Krupa et al., 2010; Roy et al., 2016). Furthermore, Woodside and colleagues (2010) specifically focused on an 'older' FEP cohort, aged 25-39 years at time of first episode and reported that FEP typically disrupted already established careers. Whilst their vocational histories facilitated re-engagement post-FEP, this group also faced greater pressures – such as financial and familial responsibilities – to return to employment.

Positive/Negative Symptoms

Nine studies reported results regarding symptom impact on employment/education engagement. Of the quantitative studies (n = 5), three studies posited that higher scores on positive symptom measures negatively influenced engagement outcomes significantly (DeTorre et al., 2021; Goulding et al., 2010; Wright et al., 2019), whilst two studies reported a non-significant relationship (Abdel-Baki et al., 2013; Bourdeau et al., 2012). Likewise, four of the quantitative studies examined the role of negative symptoms (Bourdeau et al., 2012; DeTorre et al., 2021; Goulding et al., 2010; Wright et al., 2019). Two studies found a significant inverse relationship of negative symptoms with engagement (Bourdeau et al., 2012; Goulding et al., 2010), with two studies reporting a non-significant effect (DeTorre et al., 2021; Wright et al., 2019). DeTorre and colleagues (2021) found a difference in the type of effect, with positive symptoms – but not negative symptoms - predicting the occupational status of

participants, and negative symptoms – but not positive symptoms – impacting the individual's ability to function in the role. Low motivation – considered a negative symptom of psychosis –significantly influenced both occupational status and role functioning in this cohort (DeTorre et al., 2021).

Positive/negative symptoms were identified by participants as barriers to their engagement in seven of the qualitative studies. Onset of negative symptoms during the FEP led to decreased energy levels and motivation to pursue/maintain vocational goals (Boychuk et al., 2018; Krupa et al., 2010). Behaviours related to positive symptoms led to exclusion from education/employment for some participants (Boychuk et al., 2018; Jones et al., 2023; Krupa et al., 2010). Following their FEP, some participants spoke of re-evaluating their priorities, opting for education/employment that was less taxing (Blajeski, 2020; Boychuk et al., 2018) or lowering their expectations of their own performance (Jones et al., 2023; Roy et al., 2016). Ongoing symptoms also presented as a barrier for this cohort, with the stress created by low motivation or hallucinations cited as leading to employment breakdown by some participants (Bassett et al., 2001; Blajeski, 2020).

Stigma

Six studies recorded the impact of stigma on participants' engagement in education/employment. One quantitative study reported a significant negative effect of internalised stigma - but not total stigma scores – on occupational status (DeTorre et al., 2021). The same study reported that neither measure of stigma significantly affected role functioning. Craig and colleagues (2014) reported that providing motivational interviewing to staff in mental health services – targeting staffs' ambivalence towards clients' vocational recovery - saw a significant increase of clients obtaining paid employment. Of the ten qualitative studies, six reported that stigma acted as a barrier to engagement. This included self-stigmatising beliefs

(Boychuck et al., 2018; Roy et al., 2016), fearing stigma from employers (Bassett et al., 2001; Lam et al., 2011) as well as experienced stigma from family (Blajeski et al., 2020; Roy et al., 2016) or staff during treatment regarding their perception of the individual's capacity to engage in employment/education (Blajeski et al., 2021; Roy et al., 2016).

Diagnosis

Four quantitative studies investigated the relationship of clinical diagnosis and engagement outcomes. Three reported that participants with a diagnosis of schizophrenia were significantly less likely to be in education/employment when compared to participants with affective-psychotic disorders (Abdel-Baki et al., 2013; Craig et al., 2014; Golay et al., 2021). This effect was recorded as significant at 18 months but not at 36 months by Golay and colleagues (2021), but with a growing significance at 24 months, 36 months and 60 months by Abdel-Baki and colleagues (2013). The impact of having a diagnosis also featured in two qualitative studies. Clinical labels such as 'schizophrenia' or 'bipolar disorder' were viewed as highly stigmatising and suggesting an identity characterised by disability (Blajeski et al., 2021; Lam et al., 2011). In comparison, 'psychosis' or 'anxiety and depression' were understood by some participants to be more socially acceptable conditions that allowed them to share their mental health information and engage in their vocational pursuits (Lam et al., 2011). The act of 'disclosing' – sharing one's diagnosis with employers/educational institutions – elicited fear from most participants (Blajeski et al., 2021; Lam et al., 2011), however some reported that doing so allowed for accommodations and supports to be offered to them; a protective factor for their ongoing engagement (Blajeski, 2020).

Two studies examined the impact of substance use disorder (SUD) on occupational status. When comparing three trajectory cohorts – A) Never had SUD, B) ceased substance-use and C) ongoing SUD – Abdel-Baki and colleagues (2017) found that those who ceased

substance-use had similarly high engagement levels as the 'Never had SUD' group; both groups significantly higher than the 'ongoing SUD' group at 1 and 2 years follow up. From the qualitative perspective, Boychuk and colleagues (2018) also identified ongoing substance-use as a barrier to meaningful career consideration and decision-making; but those who ceased substance-use were able to engage in these processes.

Family and Financial Support

Five qualitative studies reported on the role of family support – including financial but also emotional support – in employment/education engagement. Parents of young people with FEP featured as facilitators of engagement by encouraging vocational recovery (Boychuk et al., 2018; Krupa et al., 2016; Roy et al., 2016) but also as potential barriers due to over-protectiveness and deterring engagement (Boychuk et al., 2018; Krupa et al., 2016). This support was noted as specifically important during the FEP; individuals who had the relational and financial resources to disengage from stressors – including employment/education – and focus on their recovery reported better engagement outcomes post-FEP than those who did not have these means (Blajeski, 2020; Jones et al., 2023; Roy et al., 2016).

Discussion

The aim of this review was to systematically examine the barriers and facilitators of engagement with employment/education following FEP. It is widely recognised that this population experience difficulties in obtaining/retaining this engagement, even when the individual is actively seeking opportunities (Wallstroem et al.,2021). Supported employment/ educational programmes tailored to individuals with severe mental health difficulties have not only demonstrated effectiveness in improving occupational engagement and retention, but also in facilitating personal and clinical recovery (Wallstroem et al., 2021). However, less is known of other potential facilitators of occupational engagement for individuals post-FEP. Whilst

experiencing FEP is typically detrimental to educational/employment engagement, a detailed exploration of the barriers is required to further inform professionals working with individuals during and post-FEP. The results of this review highlight a multitude of factors which can help/hinder persons with FEP in their engagement, as well as conflicts within the literature regarding these factors.

Younger age was associated with lower engagement with education/employment post-FEP. This finding is consistent with the literature; younger adults across mental health conditions - and specifically FEP - engage less with vocational activities than older cohorts with mental health difficulties (Fusar-Poli et al., 2017; Wallstroem et al., 2021). The relationship of age and disruption to one's career path is most damaging for young adults due to the critical transition period of school to further education/employment. Furthermore, the prodromal phase of psychosis development – onset of disturbances prior to clearer psychotic symptoms – can impact individuals' vocational engagement long before it is recognisable that they are unwell (Kuharic et al., 2019). For young adults who experience FEP, such unrecognised prodromal symptoms – as well as periods of untreated FEP – are more likely to occur at pivotal periods of transition from secondary school and attempts to progress to further education/employment (Kuharic et al., 2019; Sanderson et al., 2020). This places a particular vulnerability on young adults experiencing FEP; continuing engagement with education/employment may have negative impacts on their recovery, or simply not be possible due to severity of their symptoms, yet disengagement during this important transitional time can forecast greater difficulties with re-engagement post-FEP (Fusar-Poli et al., 2017; Kuharic et al., 2019).

Having an occupational history prior to FEP was found to facilitate engagement post-FEP. This reflects the need for rapid vocational supports for this age group to prevent inactivity during this critical period, but also for the inclusion of such supports alongside initial treatment

for FEP (Golay et al., 2021; Wallstroem et al., 2021). However, the availability of these early intervention models (EISs) varies globally, which may explain differences in recovery trajectories based on age of FEP onset. For example, countries such as the UK and Australia have specialized FEP-EIS programmes that prioritise rapid supports for young people, while other countries still lack these services (Jones et al., 2023). Furthermore, Woodside et al. (2010) who completed a qualitative study with FEP participants who were aged 25 – 39 at the time of FEP-onset, identified a protective factor of having an established career history in engaging in employment post-FEP. There is currently a dearth of literature that specifically focuses on this 'older cohort' and education/employment outcomes; whilst studies may include them in their design, the resulting samples are over-representative of younger adults. Future research may target this population in order to understand their challenges/enablers of engagement, as well as examine retrospectively factors which may be applicable to younger cohorts.

Both positive and negative symptoms featured as significantly impacting engagement, however there was no clear consensus amongst the quantitative findings of this review. The predictability of either positive/negative symptoms on occupational status and engagement continues to receive scrutiny in the literature (Ajnakina et al., 2021). A possibility for this may be the measures of engagement employed; DeTorre et al. (2021) examined both occupational status and role functioning, reporting that higher positive symptoms predicted whether the participant was employed but negative symptoms predicted how the participant preformed. Qualitative studies may offer a greater insight into how symptoms effect engagement. The impact of symptoms was discussed in four of the included studies directly whereby participants reported difficulties with declining energy, motivation and self-esteem levels which impacted their occupational engagement both prior to and post-FEP. The lived experience of FEP was also noted to impact individuals, with participants noting reducing expectations of themselves and striving for less stressful pursuits in order to avoid relapse. This reflects the wider literature

as persons with FEP report several barriers resulting from their symptoms, such as stress, fatigue and depletion of cognitive capacity for tasks due to managing residual symptoms (Wright et al., 2019).

The discrepancy we observed amongst included studies could reflect a possible predictor of engagement that requires further investigation, how the individual copes with these symptoms. Adaptive strategies – such as seeking low-stress employment opportunities or sheltered job positions – have been reported by people experiencing chronic psychotic symptoms as ways to maintain employment even with symptoms remaining (Wallstroem et al., 2021). However, this population also faces the risk of being herded towards low-pay, segregated employment, or underemployment through these avenues (Jones et al. 2023). Future research should consider more nuanced understandings of the impact of symptoms on employment/education, such as the suitability of the occupation to the participant over an over-simplified approach such as the binary "employed"/ "unemployed" framework.

The role of stigma was most evident in the qualitative studies included in this review. Actions and perceived beliefs of mental health staff were cited as having a negative effect on participants' vocational recovery. This influence featured during inpatient treatment, outpatient treatment as well as engagement with early intervention and vocational supports (Blajeski et al., 2021; Roy et al. 2016). Such experiences are not uncommonly reported by people with psychosis, some researchers note that development of an illness-based identity typically stems from negative, stigmatising experiences with mental health services (Blajeski et al., 2021). The findings of Craig et al (2014) – following an intervention targeting ambivalence amongst mental health staff towards their client's vocational recovery – presents evidence that this translates not just in a reduction of stigmatising attitudes, but better outcomes for the person with FEP. Supportive staff – who displayed belief in the participant's vocational recovery – as well as peer support groups were shown to facilitate engagement post-FEP, further

demonstrating the role that stigma – and reducing it – can have for this cohort's vocational recovery. As such, an avenue of future research we recommend is interventions targeting stigmatising/ambivalent attitudes amongst professional teams in FEP services; with a focus on the translation of adjusting staff attitudes on client outcomes.

Stigma also varies significantly between cultural contexts. In collectivist societies, mental health conditions may be more hidden due to family shame (Lam et al., 2011), while individualist cultures might promote greater autonomy, but also increase expectations for personal disclosure (Blajeski, 2020). This highlights the critical consideration of institutions and cultural contexts by professionals supporting individuals in their occupational engagement post-FEP. It is also important to consider how cultural and economic contexts influence the services available to FEP populations beyond just mental health supports. For example, countries with robust social welfare programmes may mitigate some of the financial disruptions to education or employment, whereas countries with more limited support structures may pose additional barriers to recovery. Existing vocational recovery models, such as Individual Placement and Support, typically promote social welfare reduction and open disclosures of mental health needs (Wallstroem et al., 2021). Such approaches may not align with cultural expectations in regions where discussing mental health is discouraged and thus may need adaptation for different cultural contexts. Future research is needed to explore the applicability of these models across diverse regions, ensuring they address the personal recovery needs of individuals as well as country-specific barriers and resources.

Diagnosis was found to significantly affect engagement in several included quantitative studies. Furthermore, a longitudinal effect was observed, with those with non-affective psychoses – such as schizophrenia – having poorer engagement outcomes at 18 months (Golay et al., 2021) and 60 months (Abdel-Baki et al., 2017). There are several possible contributors to these results. Firstly, schizophrenia typically presents as a condition with chronic symptoms

in comparison to affective psychoses which may fluctuate (Khokhar et al., 2018). As previously mentioned, managing such symptoms can deplete the individual's capacity to engage in demanding tasks (Lam et al., 2011) and steer them towards underemployment (Aguey-Zinsou et al., 2023). Secondly, this can make masking symptoms more difficult and thus more visible to others – such as employers – who may discriminate against the individual. Diagnostic labels may also produce internalised stigma, discourage engagement, as well as create a self-view that aligns with a disability identity (Blajeski, 2020; Lam et al., 2011). This elicitation of stigma by a diagnosis has previously been recorded as a barrier to vocational activity for people with mental health conditions (Morgan et al., 2018). Whilst stigma towards some conditions has lessened over time and with anti-stigma interventions (Morgan et al., 2018), for people with psychotic disorders, anti-stigma interventions hold a small to medium - but also short-lasting – effect (Morgan et al., 2018). This presents an area warranting further research; exploring the sources that contribute to this highly stigmatised association with psychosis in order to inform interventions aiming to reduce it.

Substance use by people with FEP is recognised as a high-risk issue, with higher rates of FEP cohorts having SUDs than the general population, and continued substance use – whether sporadic or persistent - correlating with long-term detrimental outcomes post-FEP (Fusar-Poli et al., 2017; Khokhar et al., 2018). As reflected in the literature, two studies in this review reported that participants who did not use psychoactive substances had higher rates of employment/educational engagement or had greater capacity for career decision-making than participants with active substance use. However, both studies also referred to another cohort; participants who historically used substances but have since ceased. Both studies found that this cohort preformed to similar levels as their peers who never engaged in substance use. Although further research is required to fully assess this recovery trajectory, these initial findings support the need for co-ordinated care for individuals with FEP and SUDs amongst

mental health services; addressing these issues as inter-related (Fusar-Poli et al., 2017). Our findings also suggest that targeted treatment in these domains may facilitate vocational recovery indirectly, further highlighting the importance of access to early intervention services and treatments for both FEP and SUD symptoms amongst this population.

Family/financial resources are recognised facilitators of education/employment engagement for non-FEP populations. However, these supports can counterbalance the effect of illness onset as well as promote recovery. Early Intervention models often highlight the importance of family support, with services offered to family members of clients with FEP (Blajeski, 2020). Having the financial security to disengage from employment/education during the FEP was highlighted as supporting faster re-engagement post-FEP. Social and financial capital are recognised protective factors in mental health recovery, both in building resilience but also in meeting the individual's basic needs (Fusar-Poli et al., 2017; Wallstroem et al., 2021). As such, those working with individuals with FEP on their vocational recovery should assess the relational and financial resources of the individual, aiming to highlight protective assets or hindering deficits that may impact the client's outcomes.

To our knowledge, we present the first collective review of barriers/facilitators of employment/educational engagement post-FEP for adults. As demonstrated by the search results, there is a significant body of literature related to this topic. Furthermore, conflicts exist within the literature – such as the impact of positive and negative symptoms – which were highlighted by this review, indicating a need for further research. The final included studies feature a mixture of quantitative, qualitative studies and mixed-methods studies. This balanced variance of study design strengthens the review's analysis by providing multiple sources of data from FEP populations. Finally, this review intended to assess the range of factors – at individual, social and environmental levels – which are typically beyond the scope of individual studies. This has allowed for a multifaceted investigation of barriers/facilitators.

There were also limitations to the knowledge we could generate. The inconsistency of language used for FEP limited the studies which could be included, which may have impacted the analysis. The findings presented in this review are not an exhaustive list of factors influencing occupational engagement for individuals post-FEP; a number of results were not included – available in Appendix S1 - as they were beyond the scope of the current review. Thus, further investigation of the individual, social and environmental factors is encouraged. Despite this, an adequate number of studies met the inclusion criteria (n = 18), meaning the findings of this review may offer evidence-based recommendations to researchers/practitioners aiming to support vocational recovery of individuals post-FEP.

Conclusion

Our findings highlight key factors influencing the vocational recovery of individuals post-FEP, offering a more nuanced understanding of their impact by integrating both quantitative and qualitative data. This was most evident in the discussion of symptoms, where quantitative studies produced conflicting results (DeTorre et al., 2021), and qualitative studies offered more information on the individual impacts of both positive and negative symptoms (Jones et al., 2023). Our review not only consolidates existing evidence but also provides novel insights into how factors such as age, symptom severity, and social support interact to influence recovery outcomes. These findings underscore the need for targeted interventions and suggest areas for future research to explore gaps in understanding, particularly for long-term vocational recovery strategies. Factors such as family/financial support (Blajeski, 2020) or ceasing substance use (Boychuck et al., 2018) were shown to counterbalance barriers to engagement. The reoccurrence of these factors – as well as age – show that, despite diversity within the FEP population, there are common themes of barriers reported in the literature. Our findings also provide critical insights that can directly inform clinical practice, therapeutic interventions, family support, and workplace consulting aimed at improving vocational recovery post-FEP.

Employment/Education Post-First Episode Psychosis

For clinical practice, the integration of vocational rehabilitation into early intervention services is recommended. In therapeutic contexts, the focus should move beyond symptom reduction only to include enhancing patients' vocational skills and supporting their ability to manage workplace stressors. Creating inclusive workplace environments where individuals recovering from FEP are supported through accommodations and flexible work arrangements is another avenue to increasing vocational engagement in this cohort.

Ultimately, this review highlights the need for an interdisciplinary approach to vocational recovery, involving collaboration between individuals who've experienced FEP and their families, employers, and mental health and vocational professionals. It is through this lens that practitioners, therapists, employers, and families can better understand and address the complex needs of individuals during their recovery process. Future research should focus on developing comprehensive interventions that address both clinical and vocational aspects of recovery, with a view to improving both immediate and long-term outcomes for individuals post-FEP. Comparative studies examining how different educational systems, labour markets, and immigration policies affect individuals with FEP across regions are also warranted. Future research should explore partnerships across countries to develop culturally informed best practices. Collaborative studies can identify universal principles while accommodating regional differences in policy, stigma, and mental health infrastructure. These insights could guide the development of culturally sensitive interventions that account for both individual and systemic differences in recovery pathways. We also conclude this review with a call for more research; particularly in gathering data on the lived experience of individuals seeking employment/education opportunities post-FEP, as well as studies exploring our identified factors as mediators/moderators of vocational recovery.

Compliance with Ethical Standards Section

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