DOI:
10.1037/prj0000585

Document Version
Peer reviewed version

Individual Placement and Support focusing on employment and education for young people at clinical high risk of psychosis: a feasibility study.

Running Head: IPS for young people at clinical high risk of psychosis

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Keywords: individual placement and support, psychosis risk, young people mental health, employment support, education support

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Objective: This study aimed to assess the feasibility of implementing Individual Placement and Support (IPS) with a focus on educational and employment goals, within a clinical service for the early detection of individuals at clinical high risk of psychosis (CHR).

Methods: Between June 2019 and April 2021, participants were recruited and received up to 6 (+/-2) months support. *Primary outcome*: enrolled participants, attended sessions and disengagement rates were analysed to assess feasibility. *Secondary Outcomes:* enrolment in mainstream education or/and employment, hours spent working or/and studying, salary, level of functioning and self-efficacy at baseline and follow-up were compared.

Results: Thirty-one participants were recruited, 13 of whom were remotely recruited after the first Covid-19 lockdown. Dropout rates were relatively low (16.1%), and 26 participants (83.9%) completed the programme. Each participant received on average 9 sessions (mean=9.65; min=2; max=22; SD=4.92). *Secondary outcomes:* At follow-up, 73.1% participants were employed, were working on average more hours per week [t(25)=-2.725; p=0.012] and were earning significantly more money [t(25)=-3.702; p=0.001] compared to baseline. Gains in educational outcomes were less clear. Global Assessment of Functioning [t=248.50; p=0.001] and Social Occupational Functioning [t(25)=-3.273; p=0.003] were significantly higher at 6-month follow-up compared to baseline. No differences were found in participants' self-efficacy.

Conclusions and Implications for Practice: Findings indicate that research procedures are appropriate and that IPS implementation within a CHR clinical team is feasible. Secondary outcomes also suggest that IPS may be a beneficial intervention for young people at CHR. A longer follow-up might be needed to assess its impact on educational outcomes.

Impact and Implications

Findings from this study indicate that Individual Placement and Support (IPS) implementation within a Clinical High Risk for psychosis (CHR) service is feasible. Secondary outcomes also suggest that IPS may be a beneficial intervention for young people at CHR. Finally, a longer follow-up might be needed to assess its impact on educational outcomes.

1. INTRODUCTION

People at Clinical High Risk of psychosis (CHR) are a highly heterogeneous clinical population with an increased risk of developing a psychotic disorder (Fusar-Poli et al., 2016). Many present with at least one non-psychotic comorbid mental health disorder (Rutigliano et al., 2016) and impairments in social and occupational functioning, including impairments in academic performance and low rates of employment (Addington, Penn, Woods, Addington, & Perkins, 2008; Fusar-Poli, Byrne, Badger, Valmaggia, & McGuire, 2013). Despite the many barriers they experience, including attenuated psychotic symptoms, social anxiety, high levels of self-stigma, and social withdrawal, most individuals report being hopeful about the future and hold employment and career aspirations (Cotter et al., 2019).

Outreach and Support in South London (OASIS) is a community mental health service for the detection and treatment of this clinical population (Fusar-Poli et al., 2013; Fusar-Poli et al., 2020). Its multidisciplinary team offers two years of treatment, including initial assessment, medical reviews, keyworker support and Cognitive Behavioural Therapy (CBT) (Fusar-Poli et al., 2020). Despite employment and education being significant factors in promoting recovery, having a central role in identity building, improving finances and quality of life (Drake, Bond, & Becker, 2012), and despite high rates of unemployment and school dropout within the CHR population (Fusar-Poli et al., 2013), there is no general consensus regarding what vocational and educational intervention should be offered to this population (Schultze-Lutter et al., 2015; Tognin et al., 2019).

Individual Placement and Support (IPS) is an evidence-based intervention which aims to integrate a vocational component within the clinical treatment team and emphasises the rapid placing of the individual into competitive jobs and mainstream education (Deborah R. Becker & Drake, 2003; Drake et al., 2012). Compared to traditional approaches, IPS has proven to be effective in improving employment and educational outcomes in people with severe and moderate mental illness (Kinoshita et al., 2013). IPS efficacy was found to be generalisable to several settings (G. R. Bond et al., 2015) and across different cultural, social and economic contexts (Brinchmann et al., 2020; Modini et al., 2016). In 2008, IPS principles were extended to include education to better support the educational aspirations of younger people (Nuechterlein et al., 2008). Results from a Randomised Controlled Trial (RCT) found this adaptation effective in supporting people with first episode psychosis to gain competitive work or enrol in mainstream education (Hegelstad, Joa, Heitmann, Johannessen, & Langeveld, 2019; Killackey et al., 2019; Nuechterlein et al., 2020).

In 2019, our group conducted an audit to evaluate the presence and quality of bespoke interventions aimed at improving employment and educational outcome within the OASIS team. Results showed that a more standardised vocational and educational intervention and the presence of an IPS worker within the team might be beneficial (Tognin et al., 2019).

To the best of our knowledge, the feasibility and efficacy of IPS focusing both on educational and employment goals, has never been tested in a CHR service. The primary aim of this study was to implement IPS focusing on both educational and employment goals within the OASIS team, a well-established CHR service which is part of the South London and Maudsley NHS Foundation Trust (SLaM), to investigate its feasibility and to evaluate the fidelity of the intervention (G. Bond, Becker, Drake, & Vogler, 1997). The secondary aim was to investigate whether the implementation of IPS has the potential to improve vocational, educational and clinical outcomes in CHR clients and to calculate an estimate of the main effects of interest.

2. METHODS

2.1 DESIGN

This was a mixed methods feasibility study with a variable length of follow-up (6 months +/- 2). To evaluate the acceptability of the intervention, qualitative data were collected at the end of the intervention from clients and staff (manuscript in preparation). The study was approved by the London-Dulwich research Ethics committee (IRAS Project No. 243427).

2.2 PARTICIPANTS

Between June 2019 and December 2020, OASIS clients who had expressed a desire to receive support in achieving or staying in competitive employment or support to complete or re-engage with education were recruited into the study. The expected target was of 25 participants. Individuals were eligible if they were current OASIS clients and therefore meeting criteria for at-risk mental state for psychosis according to the *Comprehensive Assessment of an At-Risk Mental State* (CAARMS) (Yung et al., 2005) associated with a marked impairment in psychosocial functioning (Fusar-Poli et al., 2013).

Participants were excluded if they: 1) were unable to provide informed consent, 2) they had received antipsychotic medication for more than 30 days in the three months prior to the baseline assessments at doses

that would be adequate for treating a first episode of psychosis, or 3) had any past episode of frank psychosis. In agreement with the clinical teams, individuals who made transition to psychosis were retained into the study to ensure continuity of the support.

2.3 INTERVENTION

IPS is a highly defined evidence-based form of supported employment and education guided by the following principles (Drake et al., 2012; Killackey et al., 2017): *IPS focuses on competitive employment or enrolment in main-stream education or training course; IPS is open to any person and eligibility is based on client choice; IPS is integrated with the mental health treatment team; Attention to client preferences focusing on clients educational and career goals; Personalised benefit counselling; Rapid job search; The IPS worker make systematic relationship with local providers; The support provided is individualised and time unlimited.*

The IPS programme was fully integrated within OASIS standard care; the IPS worker's office was shared with the mental health treatment team, and documentation of mental health treatment, employment and educational services were integrated and recorded on the shared electronic clinical records. The IPS worker actively participated in weekly multi-disciplinary team meetings during which individual clients and their employment and educational goals were discussed. Furthermore, the IPS worker actively discussed employment and educational needs of those clients who were not referred to IPS. The IPS worker conducted all the phases of the intervention. The support provided was tailored to each individual and reflected clients' goals and needs; this included job searching, preparing applications, CVs writing, practicing job and university interviews, writing supporting letters and applying for student loans. Support was also provided to clients experiencing difficulties in their current job or educational path. A discussion around advantages and disadvantages of disclosing a mental health condition was offered and clients were supported in making an informed decision by using a disclosure decision tool (Brohan, Henderson, Slade, & Thornicroft, 2014). The type of contact was flexible, based on individual's preference and needs, and included face-to-face and virtual appointments, phone calls, texts, and emails. When appropriate, the IPS worker liaised with the education or employment providers and family members. The frequency of the sessions varied between once a week and once a month depending on individuals' needs and availability. Due to the research nature of the intervention, clients were followed-up for up to 6 months. Following the intervention, clients received support as usual from other members of the

OASIS team. Missed appointments are common in this young population therefore we applied a flexible approach, and the intervention was terminated only if the participant explicitly expressed the intention to be withdrawn.

The IPS worker attended weekly supervision meetings centred around client-related matters, this included discussions around how to be achieve client specific objectives. The supervisor in turn received bimonthly advice from an international learning collaborative of IPS experts.

The Covid-19 outbreak led to severe limitations including reduced access to clinical services, limiting the delivery of mental health support (Pierce et al., 2020). As of March 2020, the IPS worker began working remotely and recruitment, assessments and IPS sessions were carried out over the phone or other virtual means.

In May 2021, an external experienced and recognised fidelity reviewer conducted virtual interviews with 3 IPS clients, 1 IPS employment specialist, 4 OASIS mental health practitioners (psychiatrist, psychologist, and 2 mental health nurses), the OASIS team leader, the IPS supervisor, and an IPS employment specialist from a different team. The external assessor was also able to attend and observe the IPS weekly meeting and review the IPS collected data and anonymised clients' record.

2.4 DATA COLLECTION

Outcome measures were collected by a research assistant and the IPS worker at baseline, 3-month, and 6-month (+/- 2 months) follow-up or at the end of the intervention in the case of early termination.

2.5 OUTCOME MEASURES

An electronic bespoke *Case Report Form* (CRF) was used to collect demographic information, including employment and educational history, current employment status, welfare benefit status, monthly income and medical history. At follow-up, the CRF also included changes in employment and educational history and questions on educational or work difficulties experienced since the previous assessment.

Clinical characteristics of the sample were assessed using the Comprehensive Assessment of At-Risk Mental States (*CAARMS) (Yung et al., 2005)* and the *Health of the Nation Outcome Scale* (HoNOS) (Orrell, Yard, Handysides, & Schapira, 1999). The *Time Use Survey* (TUS) (Hodgekins et al., 2015) was used to measure time spent in structured activity including work and education. The *General Self-Efficacy Scale* (GSE)

(Schwarzer & Jerusalem, 1995) was used to assess clients' belief in their competence to cope with stressful events. Global functioning was assessed using the assessor-rated single-item scale *Global Assessment of Functioning* (GAF) (Goldman, Skodol, & Lave, 1992). Social and occupational functioning was assessed using the assessor-rated single-item scale *Social and Occupational Functioning Scale* (SOFAS) (Rybarczyk, 2011).

2.6 PRIMARY OUTCOME

Number of clients recruited into the study, rates of disengagement and number of sessions attended by each participant were recorded to assess the feasibility of implementing and delivering IPS.

2.7 SECONDARY OUTCOMES

To investigate differences between pre-post intervention which will be used to plan a future randomised controlled trial, the following key measures were collected:

Employment and education outcomes. The number of participants enrolled in mainstream education or in employment at the beginning and at the end of the programme. Numbers of hours spent working each week and monthly salary at baseline and at 6-month follow-up.

Clinical outcomes. The level of functioning and the level of self-efficacy at baseline and at 6-month follow up.

2.8 STATISTICAL ANALYSIS

Data were analysed using the IBM's statistical software SPSS Statistics (Version 26). Descriptive analyses were conducted on demographic characteristics, dropouts, rates of employment and enrolment in education at baseline and 6-month follow-up. For not-normally distributed continuous data, the related-Samples Wilcoxon Signed Rank Test was used. For normally distributed continuous data, we compared means using a dependent sample t-test. Missing data (N=5) were excluded in the analysis.

3. RESULTS

3.1 PRIMARY OUTCOME

Between June 2019 and December 2020, 31 participants were included in the study. Dropout was relatively low (16.13%), and 26 participants (83.87%) completed the programme. Thirteen participants (41.93%) were

remotely recruited after the beginning of the lockdown and received the virtual provision of the intervention only, whilst 7 participants (22.6%) received a combination of face to face and virtual sessions. 11 participants (35.5%) completed the intervention before the beginning of the lockdown. Sociodemographic and clinical characteristics are reported in TABLE 1.

----------Table 1 ----------

Twenty-six participants (83.9%) completed the 3-month and the 6-month follow-up assessments. The amount of direct contact provided by the IPS worker varied from a minimum of 2 to a maximum of 22 sessions across participants based on the individual's choice and needs. Each participant received on average 9 sessions (mean=9.65; min=2; max=22; SD= 4.92).

At baseline, participants were working an average of 14.90 hours per week (N=31; SD=16.39) compared to 23.15 hours per week at 6-month follow-up (N=26; SD=16.96, 5 missing). The dependent sample t-test (N=26, missing 5) showed a significant difference in hours worked per week [t(25)=-2.725; p=0.012]. *Bias corrected* and *accelerated* (BCa) 95% Confidence Interval (CI) [-14.96, -2.28].

On average, at 6-month follow-up participants were earning more money per month after tax £886.5 (N=26; SD=679.48, 5 missing) compared to baseline £498.77 (N=31; SD=579.50). The dependent sample t-test (N=26, missing 5) showed a significant difference [t(25)=-3.702; p=0.001] BCa 95% CI [-611.990, -171.879].

Education

At baseline, three participants were full-time students (9.7%), and four were in part-time education (12.9%). At 6-month follow-up, among those who completed the assessment, one participant was enrolled in full-time education (3.8%), five were in part-time education (19.2%) and one was undertaking an apprenticeship (3.8%). Due to the low number of participants enrolled in education both at baseline and 6-month follow-up (N=5) it was not possible to perform an appropriate statistical analysis.

Employment and educational outcomes are reported in **TABLE 2**.

----------Table 2 ----------

3.2 SECONDARY OUTCOMES

Employment

At baseline (N=31), ten participants worked part-time (32.3%), one participant was part-time self-employed (3.2%), seven were in full-time employment (22.6%) and thirteen were unemployed (41.9%). At 6-month follow up (N=26), among those who completed the final assessment, ten participants were in part-time employment (38.5%), nine participants were in full-time employment (34.6%), and seven were unemployed (26.9%).

Level of functioning

At 6 months follow-up, participants' average GAF score was significantly higher (65.73, SD=9.73, mean rank = 14.62) than at baseline (56.6, SD=13.49, mean rank = 4.58); [T=248.50, p=0.001], r=0.66. At 6 months follow-up, participants' average SOFAS score was significantly higher (61.81, N=26; SD=14.258) than at baseline (54.32, N=31; SD=13.338); [t(25)=-3.273; p=0.003] BCa 95% CI [-13.111; -2.731] and represented an effect of d= 0.60.

Self-efficacy

At baseline, participants' average GSE score was 27.42 (SD=5.864) compared to 29.69 (SD=5.327) at 6-month follow-up. The dependent sample t-tests showed no significant differences in level of GSE at baseline compared to 6-month follow-up [t=1.672; p=.107].

Transition to psychosis

At 6-month follow-up, a total of four (12.9%) participants had developed psychosis and had been referred to the Early Intervention Team for Psychosis.

IPS Fidelity

Due to the small number of participants enrolled in education and scares data in education, the standard IPS fidelity scale was used (Deborah R Becker, Swanson, Reese, Bond, & McLeman, 2015). A fair degree of IPS fidelity was achieved at the end of the implementation period (score = 90/125).

4. DISCUSSION

This study examined the feasibility of implementing IPS focusing on educational and employment goals within OASIS, a clinical service for the early detection and treatment of young CHR people. From May 2019, we received a regular influx of referrals from the OASIS team to such an extent that a waiting list was established, demonstrating a generalised interest in the project and a positive integration of IPS within OASIS standard care. Recruitment rates and low level of dropouts indicate that implementing IPS within OASIS is feasible. Although several participants were in some form of employment at baseline, the level of functioning was low as measured by the SOFAS and GAF, and comparable to other similar samples (Mongan et al., 2021; Tognin et al., 2022). In addition, the participant's level of functioning and clinical symptoms at baseline, and the relatively high (Salazar de Pablo et al., 2021) 6-month transition to psychosis rate (12.9%) at follow-up, demonstrated the feasibility of real-life clinical setting implementation.

Assessing the effectiveness of IPS was beyond the scope of this study, nevertheless, the study provides positive preliminary results, which are consistent with prior research (G. R. Bond, Drake, & Campbell, 2016; Killackey et al., 2017). At 6-month follow-up, most participants who completed the final assessment had a favourable outcome. Furthermore, at follow-up, participants were working on average more hours per week and were earning significantly more money, with a medium effect size.

At 6-month follow-up, six participants were enrolled in mainstream education or professional courses, and one was enrolled in a paid apprenticeship. In line with recent findings (Gary R. Bond et al., 2023), educational gains were less clear which could be due to the time-limited nature of the intervention and the relatively short follow-up period.

Significant improvement in participants' GAF and SOFAS were observed, with a medium effect size. Importantly, the observed changes in GAF and SOFAS scores were clinically significant (>60). We did not detect a significant difference in GSE at 6-month follow-up compared to baseline. This might be due to the short and time-limited nature of the study or to the general nature of the GSE scale (Luszczynska, Scholz, & Schwarzer, 2005) which may not have been sensitive enough to detect an effect in this context. Future studies should investigate individuals' efficacy expectations with respect to the career search process, using, for example, the Career Search Efficacy Scale (CSES) (Solberg et al., 1994).

The external fidelity review showed a fair degree of fidelity (total fidelity score = 90/125). This is likely due to the challenges associated with the nature of the study (time limited due to funding and time restrictions) and Covid-19 limitations. In line with government guidelines (Smith, Ostinelli, Macdonald, & Cipriani, 2020), we adopted a new way of working to be able to provide clients with the support they need while avoiding face-to-face contacts. For the same reason, particularly at the beginning of Covid-19, engagement with employers decreased and was conducted exclusively over the phone or via email. Despite these significant barriers, results showed that it was possible to implement IPS with a fair degree of fidelity and moving forward, a flexible and hybrid mode of delivery should be offered (Shore, Schneck, & Mishkind, 2020).

This study has a number of strengths. Firstly, IPS was implemented in a well-established CHR service, and, to the best of our knowledge, this was the first study to investigate its feasibility in this clinical population. Secondly, despite the significant changes in service delivery that were brought about by the Covid-19 outbreak, the fact that recruitment (i.e., above target) and retention rates were minimally affected demonstrate the importance that both clients and the OASIS team place in employment and education support.

There are also a number of limitations. Firstly, this is an uncontrolled study, and it is not possible to determine whether results from secondary outcomes would have occurred without the intervention. However, previous studies within the OASIS population, indicating severe impairments in academic performance and low rates of employment (Fusar-Poli et al., 2013; Tognin et al., 2019), provide reassurance that IPS might be beneficial to this population. Due to the funding and study nature limitations, the IPS programme was time-limited, and it is not possible to establish the long-term impact of the intervention, especially for educational outcomes. In

future studies, given the young age of this population and the risk of transition to psychosis, which may require for the intervention to be paused, a longer intervention might be needed.

CONCLUSION

People with mental illness have less employment and educational opportunities compared to rest of the community (Killackey et al., 2017). Offering an evidence-based and client-centred vocational/educational intervention to young individuals at CHR may significantly improve vocational and educational outcomes and ultimately, prevent disability. The findings from this study indicate that the implementation of IPS within the OASIS service is feasible. Secondary outcomes also suggest that IPS may be beneficial for people at CHR who would like support in gaining or maintaining competitive employment or in re-engaging or completing education.

Acknowledgements: We would like to thank all our participants and the OASIS clinical teams.

Conflicts of Interest: None

Funding Statement: Stefania Tognin was supported by a Maudsley Charity (Grant 1510). The authors acknowledge financial support from the National Institute for Health Research Biomedical Research Centre for Mental Health at South London and Maudsley National Health Service Foundation Trust and King's College London.

Data Availability Statement: Research data are not shared.

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Tables

TABLE 1. Characteristics of the sample (baseline)		
Socio-demographic characteristics		
	Mean	**Std. Deviation**
Age	23.77	4.76
	N	**%**
Gender		
Male	19	61.3
Female	12	38.7
Ethnicity		
White	12	38.7
Black African	4	12.9
Black British	5	16.1
Black Caribbean	3	9.7
Mixed	5	16.1
Latino	1	3.2
Prefer not to say	1	3.2
Qualification		
Post-graduate University (unfinished)	1	3.2
University (finished)	7	22.6
University (unfinished)	8	25.8
Professional Training (finished)	2	6.5
Professional Training (unfinished)	1	3.2
High school (finished)	12	38.7
Education status		
Full-time student	3	9.7
Part-time student	4	12.9
Not enrolled in school/education	24	77.4
Employment status		
Unemployed	13	41.9
Full-time employee	7	22.6
Part-time employee	10	32.3
Part-time self-employed	1	3.2
Clinical characteristics		
CAARMS	**Mean**	**Std. Deviation**
Unusual thought content		
Global rating scale	3.53	2.255
Frequency and duration	3.43	2.128
Non-bizarre ideas		
Global rating scale	3.80	2.107

Frequency and duration	3.60	2.238
Perceptual abnormalities		
Global rating scale	3.90	1.709
Frequency and duration	3.57	1.736
Disorganised speech		
Global rating scale	1.33	1.470
Frequency and duration	2.20	2.413
Valid 30 (96.8 %), Missing 1 (3.2%)		
Level of functioning	**Mean**	**Std. Deviation**
GAF	56.6	13.5
SOFAS	54.3	13.3
Valid 31 (100%); Missing 0 (0%)		

TABLE 2. Employment and education status baseline → follow up

	EMPLOYMENT STATUS		EDUCATION STATUS		N° of IPS sessions	OUTCOME
	Baseline	**Follow-up**	**Baseline**	**Follow-up**		
1	Unemployed	Unemployed	High school (finished)	Professional training (enrolled)	12	POSITIVE OUTCOME Enrolment in training course
2	Part-time employee	Full-time employee	University (unfinished)	University (unfinished)	3	POSITIVE OUTCOME Part-time → full-time
3	Part-time employee	Full-time employee	High school (finished)	High school (finished)	11	POSITIVE OUTCOME Part-time → full-time
4	Part-time employee	Part-time employee	High school (finished)	High school (finished)	9	No change
5	Full-time employee		High school (finished)		4	Missing data Disengaged
6	Full-time employee	Full-time employee	University (unfinished)	University (unfinished)	6	POSITIVE OUTCOME Secured better job
7	Unemployed	Unemployed	High school (finished)	High school (finished)	8	No change
8	Part-time employee	Part-time employee	University (finished)	University (finished)	12	No change
9	Unemployed		University (unfinished)		7	Missing data Disengaged
10	Part-time employee	Full-time employee	University (unfinished)	University (unfinished)	4	POSITIVE OUTCOME Part-time → full-time
11	Unemployed	Unemployed	High school (finished)	High school (finished)	14	No change and transitioned
12	Unemployed	Unemployed	Professional training (unfinished)	Professional training (finished)	22	POSITIVE OUTCOME Completion of professional training
13	Unemployed	Full-time employee	High school (finished)	High school (finished)	12	POSITIVE OUTCOME Unemployed → full-time
14	Part-time employee	Part-time employee	University (finished)	University (finished)	16	POSITIVE OUTCOME Retained current employment
15	Unemployed	Unemployed	High school (finished)	High school (finished)	7	No change
16	Part-time employee	Part-time employee	University (finished)	University (finished)	4	No change
17	Full-time employee		High school (finished)		5	Missing data Disengaged

18	Full-time employee	Full-time employee	Post-graduate university (unfinished)	Post-graduate university (unfinished)	9	No change
19	Unemployed	Unemployed	University (drop-out)	University (re-enrolled)	7	POSITIVE OUTCOME Re-engaged with education
20	Full-time employee	Part-time employee	Professional training (unfinished)	Professional training (unfinished)	9	Negative change
21	Full-time employee	Full-time employee	University (finished)	University (finished)	15	No change and transitioned
22	Unemployed	Part-time employee	University (finished)	University (finished)	8	POSITIVE OUTCOME Unemployed → part-time
23	Unemployed	Unemployed	High school (finished)	High school (finished)	10	no change
24	Part-time employee	Part-time employee	University (finished)	University (finished)	11	POSITIVE OUTCOME Secured better job
25	Part-time employee	Part-time employee	University (unfinished)	University (unfinished)	10	No change
26	Unemployed		Professional training (finished)		2	Missing data Disengaged
27	Unemployed		High school (finished)		5	Missing data Disengaged
28	Part-time employee	Full-time employee	University (finished)	University (finished)	14	POSITIVE OUTCOME Part-time → full-time
29	Full-time employee	Full-time employee	University (unfinished)	University (unfinished)	21	POSITIVE OUTCOME Retained current employment
30	Unemployed	Part-time employee	Professional training (finished)	Professional training (finished)	15	POSITIVE OUTCOME Unemployed → part-time
31	Part-time self-employed	Part-time employee	University (unfinished)	University (unfinished)	7	POSITIVE OUTCOME Part-time → full-time