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The Youth Online Training and Employment System: Study protocol for a randomized controlled trial of an online vocational intervention for young people with mental ill health

Running title: Online vocational intervention (YOTES)

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Abstract

Aim

People diagnosed with mental disorders experience higher rates of unemployment than those without. Career adaptability, defined as the ability to respond flexibly and make informed career decisions in work and throughout career transitions, is becoming increasingly important as the nature of work changes rapidly. Early vocational intervention may ameliorate poor education and employment outcomes experienced by young people with mental ill-health and promote transferable skills and adaptability. Online-based career support allows for easy access throughout different career stages. The current study combines mental health-informed digital career and peer motivation, to create a Youth Online Training and Employment System (YOTES) that supports young people with mental ill-health obtain and remain in education or employment.

Methods

This study is an unblinded randomized controlled trial for young people with mental ill-health, aged 16-25, who are seeking vocational support. Participants will be randomised to receive either YOTES, a moderated, online intervention with vocational, social, and peer motivation, or a control intervention, the headspace Digital Work and Study Service. Both groups will have access to in-person career support if seeking employment. The primary outcome will be career adaptability compared between the YOTES and control groups at 6-months post baseline. Secondary outcomes include number of hours worked in the past seven days, hope, career confidence, psychological distress and health economic outcomes at 6- and 12-months post baseline.

Conclusion

Results will demonstrate whether an online career intervention moderated by career practitioners with peer motivation can result in improved career adaptability in young people with mental ill-health.

Key words: digitial innovation, career development, peer support, vocational support, youth mental health

1. Introduction

Securing and maintaining employment is important both to mental health recovery, and as a protective factor against future mental ill-health (Moll, Huff, & Detwiler, 2003). Despite this, people diagnosed with mental disorders are approximately twice as likely to be unemployed than the general population (Department of Health, 2013). For most, the age of onset of mental ill-health (Kessler et al., 2007), and impact on functioning, coincides with formative educational and vocational years (E. Killackey, 2010). This negatively impacts rates of secondary or tertiary education completion, as well as paid, competitive, and sustainable employment (Australian Bureau of Statistics, 2009; Australian Institute of Health and Welfare, 2015). Young people with mental ill-health disproportionately face high levels of actual and anticipated workplace stigma and discrimination (Farrelly et al., 2014). Yet employment ranks as a top priority for young people with mental ill-health (Iyer, Mangala, Anitha, Thara, & Malla, 2011).

The importance of work to mental health is well established in both the general population (McKee-Ryan, Song, Wanberg, & Kinicki, 2005) and among those with mental ill-health (E. J. Killackey, Jackson, Gleeson, Hickie, & McGorry, 2006) Beyond being a net positive for mental health, people with lived experience cite a number of reasons for pursuing employment, including economic autonomy, social contact, structure, contribution to, and participation, in society (Christensen et al., 2019; Modini et al., 2016; Subramaniam et al., 2020). Importantly, unemployment has been linked to psychological distress and decreased psychological and physical wellbeing, and for people with mental ill-health, employment can improve symptoms and symptom management (McKee-Ryan et al., 2005; Modini et al., 2016). There is, however, a danger of viewing work as a panacea and a number of studies identify that some jobs, typically those with low control, high pressure characteristics, may be detrimental to mental health (Butterworth, Leach, McManus, & Stansfeld, 2013; Butterworth et al., 2011). Work, therefore, can be beneficial, but those at higher risk of being exploited by the labour market (including young people with mental ill-health, who are at a point of

intersecting vulnerability) must be provided with more support to navigate their entry or re-entry to work. This imperative is now even stronger as nature of work is currently becoming more precarious through drastic changes in automation, globalization, and flexible work arrangements (Foundation for Young Australians, 2017; Kamerade, Wang, Burchell, Balderson, & Coutts, 2019). Associated challenges include decreased job security, workforce casualization, and higher career transitions, which disproportionately impact young people (Foundation for Young Australians, 2017).

Career adaptability, that is, one's readiness and resources for coping with work and study related tasks, career transitions, setbacks, and work-related trauma (Savickas, 2005), is therefore becoming increasingly important. Career adaptability leads to decreased turnover intentions and job stress, and increased job satisfaction, career success, and person-organisational fit (Coetzee & Stoltz, 2015; Fiori, Bollmann, & Rossier, 2015; Koen, Klehe, & Van Vianen, 2012). Adaptability may be particularly important during career transitions, such as between education and employment or re-entering the workforce following unemployment (Savickas, 2005).

Early vocational intervention to increase career adaptability and develop vocational skills may minimize the long-term negative outcomes associated with disruption to the educational and vocational pathway caused by the onset of mental ill-health. The most successful vocational intervention for people with mental ill-health is Individual Placement Support (IPS; Bond, Drake, & Becker, 2012), whereby employment specialists are co-located within mental health services, to provide intensive, in-person vocational assistance. IPS is effective for employment outcomes among young people experiencing their first episode of psychosis (E. Killackey et al., 2019) . However, these effects were not sustained over time, highlighting the importance of novel strategies to maintain employment and educational involvement (E. Killackey et al., 2017). Delivering IPS in person requires a workforce trained specifically in IPS. As IPS is delivered intensively, in person and is not limited by duration, IPS caseloads can fill quickly resulting in many young people unable to gain access to the IPS program at their service . Rapid job placement is a key aim of IPS, with programs focussed on connecting young people with employers within 30 days of registering. Some young people prefer

to undertake career exploration at their own pace, are not ready, or do not want to engage with intensive employment support programs such as IPS. Others may be seeking support from a career practitioner trained specifically in providing career planning advice. Some young people also find it difficult to meet with their IPS worker once they commence study or employment. Aside from individual barriers to accessing IPS, availability is scarce in rural and remote areas where services are fewer and unemployment is often worse (ACTU, 2018).

Online interventions address these challenges, providing support to young people remotely, at a time and place that suits the young person, regardless of study and work commitments or geographical location. Online interventions have proven efficacy in mental health (Karyotaki et al., 2018; Karyotaki et al., 2017), including youth mental health (Merry et al., 2012). Young people are pervasive owners and users of technology and the Internet (Australian Bureau of Statistics, 2018; Australian Communications and Media Authority, 2019), and Birnbaum, Rizvi, Confino, Correll, and Kane (2017) reported that 74.3% of young people with either a psychotic or mood disorder endorsed receiving advice and support from professionals via social media. Therefore, online vocational support may have particular traction in this population.

Despite these benefits, engagement with digital interventions is often low (Carlbring, Andersson, Cuijpers, Riper, & Hedman-Lagerlöf, 2018). Human guidance to support online interventions leads to greater efficacy and engagement compared to stand alone interventions (Richards & Richardson, 2012; Shim, Mahaffey, Bleidistel, & Gonzalez, 2017). Importantly, online guidance is not only successful if provided by a clinician or career practitioner. Peer-to-peer online interventions are effective for depression, anxiety, and smoking addiction (Ellis, Campbell, Sethi, & O'Dea, 2011; Woodruff, Conway, Edwards, Elliott, & Crittenden, 2007). Peer support involves relationships between two or more people with lived experience of mental ill-health, where the peer worker has some experience of recovery and has undergone peer support training. Peer support is based on mutuality, hope, and recovery, in which a shared lived experience creates a strong interpersonal bond and cultivates hope, as meeting those who have navigated similar difficulties and challenges

fosters belief in a better future (Davidson, Chinman, Sells, & Rowe, 2006; Repper & Carter, 2011). Further, peer support has also been shown to improve social inclusion, empowerment, and stigma (Chinman et al., 2014). In the context of vocational peer support, peer workers provide the core components of peer support (e.g. unconditional positive regard and empathy) within a broad understanding of the employment landscape (Balogun-Mwangi, Rogers, Maru, & Magee, 2019).

The current study combines career development support, peer support, and interactive vocational resources to create a Youth Online Training and Employment System (YOTES) that supports young people with mental ill-health explore suitable career options, and obtain and remain in education or employment. It is based on the Moderated Online Social Therapy (MOST) platform, which delivers online therapy for young people with mental ill health, and combines all of these elements (professional moderation, peer support and peer-to-peer networking) (e.g. (Alvarez-Jimenez et al., 2020)). Rather than being a stand-alone platform, MOST was designed to deliver therapeutic intervention in a blended way, to *complement* existing in-person mental health services. In this way, YOTES is also designed to provide vocational support in addition to in-person therapeutic and vocational interventions.

The objective of this study is to test the effectiveness of YOTES when added to existing services. The primary aim is to compare career adaptability between the intervention (YOTES) and control groups at 6 months post baseline. Secondary aims are to compare i) number of hours worked, ii) congruence between preference for work hours and actual hours worked; iii) state based/dispositional hope; iv) career confidence; v) health economic outcomes; and iv) psychological distress, between the YOTES and control intervention groups at 6- and 12-month follow up. We will also explore experiences and beliefs of a subsample of young people who access YOTES, in terms of perceived usefulness, acceptability, and impact on their functioning, sense of hopefulness, and career confidence.

2. Methods

2.1 Design

This study is an unblinded randomized controlled trial. Participants will be randomised to either the intervention group (YOTES, described 2.5 below) or the control group. All participants will receive treatment as usual, which includes access to in-person and online vocational support (headspace Digital Work and Study Service, hDWSS; see Figure 1). Although participants in the intervention group will also have access to hDWSS as it is publicly available, control participants will be actively encouraged to use hDWSS, in that they will be provided with a card with the website address and provided with a demonstration. Figure 2 outlines the schedule of enrolment, intervention, and assessment according to standardised guidelines (Chan et al., 2013).

[Insert Figure 1 about here]

[Insert Figure 2 about here]

2.2 Setting

The study will be conducted at four headspace Centres across North (headspace Glenroy), North-west (headspace Sunshine), and South-east (headspaces Elsternwick and Bentleigh) Melbourne, Australia. headspace Centres are enhanced primary care services for young people aged 12-25 years with mental ill-health, providing a range of services including assessment and referral, individual counselling, appointments with general practitioners and psychiatrists, group programs, and vocational support (McGorry et al., 2007). Each centre provides a service to approximately 900 young people each year, 50% of whom are aged 15-20 years, 25-30% come from a culturally and linguistically diverse background, and 30% identify as being LGBTIQA+. Not all young people meet diagnostic criteria for a mental disorder.

2.3 Participants

2.3.1 Inclusion and exclusion criteria

To be eligible for the study, participants must be aged between 16 and 25, a current headspace client, seeking vocational assistance, and have access to a device with the Internet. Participants who are unable to provide informed consent or do not have the language proficiency to use the online platform will be excluded from the study. For all participants, proficiency will be based on informal assessment during the informed consent process. This will be conducted by a research assistant who will undertake Good Clinical Practice training and additional training by the lead investigator. Additionally, for all participants who are referred by a clinician, proficiency will be further based on clinician judgment. No formal measures will be used to assess decisional capacity.

2.3.2 Ethical Approval and study procedure

This study was approved by the University of Melbourne Human Research Ethics Committee in October 2017 (1750051.6). Eligible participants can be self-referred (posters will be displayed in site waiting rooms) or be referred by headspace staff. The research assistant will contact clients to introduce the study and screen for eligibility. Those interested will attend a research appointment, and if they provide informed consent they will complete a baseline assessment. For participants between 16 and 18 years of age, parental consent will be obtained in advance. The participant will then be randomised and the research assistant will provide an induction session on how to use their assigned intervention. Weekly assessment of employment hours will be completed via SMS or email, and follow-up assessments may occur in person, over the phone or online. The trial is registered on the Australian and New Zealand Clinical Trials Registry (ACTRN12618000449235). Participant recruitment commenced in November 2017.

2.4 Randomization and treatment allocation

The randomisation sequence will be generated by an independent statistician. Following informed consent, participants will be randomised on a 1:1 ratio to the intervention and control conditions via a remote, secure online Research Project Management System (RPMS) using a randomised block

design stratified for site. The RPMS notifies the research assistant of the randomisation outcome via email.

2.5 Intervention

2.5.1 Youth Online Training and Employment System (YOTES)

YOTES was adapted from Moderated Online Social Therapy (MOST; (Alvarez-Jimenez et al., 2020)). Instead of therapy, YOTES focuses on career development and vocational support and was developed by a multidisciplinary team of researchers, clinical psychologists, career practitioners, creative writers, graphic artists, software developers, and experts in human-computer interaction. Young people were involved in a co-design process for the initial and ongoing development of the MOST platform, youth advisory group members were consulted regarding the design and conduct of this study, and youth vocational peer workers were involved in co-writing content for the YOTES system. Upon registration, users are able to choose a nickname and avatar to use in the online community, and undertake a card sorting task to nominate their personal strengths. Participants will be free to choose their YOTES username and avatar image. Therefore, if a user wishes to remain anonymous or does not want to reveal identifying information, they can select and use a nickname and they choose an image not of themselves. Furthermore, clients can add a biographical description about themselves that will be displayed on their profile page, although this will be optional.

YOTES has three core components:

1. The **interactive vocational content** was developed using The Core Skills for Work Developmental Framework (Department of Industry, 2013), focusing on 'navigating the world of work', 'interacting with others', and 'getting the work done', to ensure skills, knowledge, and language align with employers and industry. Users will be directed to choose employability skills and use the system to improve existing skills or develop new ones.

2. **Expert vocational moderation and peer motivation**, informed by social cognitive theory (Bandura, 2001) and evidence that moderators can model appropriate online behaviours (Kiesler, Kraut, Resnick, & Kittur, 2016) and boost engagement (Alvarez-Jimenez et al., 2018; Rice et al., 2020). YOTES is moderated by qualified career development practitioners. Career Development is a specific discipline underpinned by accredited qualifications, proven theory and recognised practice. Practitioners provide services that help people make occupational and study decisions, find career information, plan and manage their careers and plan career transitions. Vocational moderators will guide and monitor engagement with YOTES, suggest content based on participant activity, and ensure safety. Vocational moderators will provide individualised career development support to young people, including career planning, help accessing educational opportunities, and support to gain and maintain employment. They will develop partnerships with external organisations to increase opportunities and promote them on the site. Peer motivators are young people with a lived experience of mental ill-health trained in vocational peer support. They will assist with induction and provide guidance, information, motivation, and peer support to foster engagement and empowerment (Kiesler et al., 2016; Lederman, Wadley, Gleeson, Bendall, & Alvarez-Jimenez, 2014; Mead, Kuno, & Knutson, 2013).
3. **Peer-to-peer social networking**, whereby participants will be encouraged to communicate with each other through interactive platform features. A newsfeed (akin to common social media feeds) allows participants and moderators to post comments and information, upload pictures and videos, and 'like' content curated by others. A group problem-solving forum guided by moderators enables participants to raise and discuss vocational issues. Once the problem is resolved, feedback is summarised and archived, thus creating a repository of user-generated, crowd-sourced knowledge.

Vocational peer motivators will be young people aged 18-24 years with lived experience of mental ill health. Vocational moderators will be qualified workers with completion or near completion of a

Postgraduate qualification in Career Development, relevant Bachelor-level Degree and/or equivalent work experience. Alongside training in how to use YOTES, vocational moderators will receive online training in vocational recovery, and a range of mental health (e.g. introduction to psychosis, Autism Spectrum Disorders, Borderline Personality Disorder, Depression) and related (e.g. gender diversity in young people, LGBQTIA+, cross-cultural, and Management of Clinical Aggression) in-person training. Peer motivators will also receive in-person external training in Intentional Peer Support, and Orygen-developed training in peer support for youth mental health. Unlike other employment-specific interventions (e.g. Individual Placement and Support), vocational moderators on YOTES can provide support to a higher number of young people (i.e. caseload size). YOTES assists with a range of career related decisions and activities (e.g. study, work, entrepreneurship, professional development) and is designed to be used to enter into these activities as well as in an ongoing way to support sustainable engagement (e.g. managing conflict in the workplace, remaining in study).

2.6 Active Control Group

In addition to treatment as usual, which includes access to in-person vocational services such as IPS, the control group will receive active encouragement to access the hDWSS. hDWSS is publicly available and has four primary functions providing: (i) static resources for core vocational skills, (ii) assistance navigating unemployment benefits, (iii) information about education options and financial support schemes, and (iv) individualized motivation and support (including via chat function). hDWSS hosts periodic group chats on specific vocational topics.

2.7 Outcome measures

2.7.1 Primary outcome

The primary outcome is career adaptability, measured by the Career Futures Inventory-Revised (CFI-R) at baseline, 6-months and 12-months follow up; the primary endpoint will be the 6-month time point score. The CFI-R measures career agency, negative career outlook, occupational awareness, support, and work-life balance on a self-report, 28-item, 5-point Likert scale (Rottinghaus et al., 2017). Cronbach's alpha estimates of internal consistency range from .78 to .90.

2.7.2 Secondary outcomes

In addition to the primary outcome measure, a number of secondary outcomes will be assessed.

2.7.2.1 Employment status

Employment status will be determined through a weekly assessment of the number of hours worked in the past seven days, collected via SMS or email, for the first 6 months of the study and again at 12-months.

2.7.2.2 Career confidence

Career confidence will be assessed using the 31-item, My Career Confidence Scale (McWhirter & Chronister, 2003).

2.7.2.3 Psychological distress

Psychological distress will be determined using the K-10, a simple 10-item measure of global distress based on the frequency and severity of symptoms related to depression and anxiety (Kessler et al., 2002). The measure has been validated in children and adolescents (Smout, 2018) and is used nationally in Australia in all headspace Centres as part of the minimum data set (Rickwood et al., 2019).

2.7.2.4 State hope

State hope will be measured using the 6-item State Hope Scale (Snyder et al., 1996), a brief self-report measure of ongoing goal-directed thinking.

2.7.2.5 Health economic outcomes

The Resource Use Questionnaire (Mihalopoulos, Chatterton, Lee, Magnus, & Shih, 2015) will be used to measure health economic outcomes. Developed by Deakin University, this measure covers a number of domains relating to health, mental health and other service use, transportation, housing education, and employment.

2.7.2.6 Experiences of using YOTES

Finally, a semi-structured qualitative interview will be conducted with a subset of participants (at least n=12 to ensure sufficient coverage of themes (Guest, Bunce, & Johnson, 2006)) who receive the intervention at either 6- or 12-month follow-up. The interview will explore participants' experiences accessing the intervention including perceived usefulness, acceptability, as well as examine, in their own words, the intervention's impact on their functioning, sense of hopefulness, and career confidence.

2.8 Safety Measures

A comprehensive protocol, established for other uses of the MOST online intervention platform (Gleeson et al., 2014), will be used to monitor and manage risk across the following areas:

2.8.1 System and privacy protection

The YOTES system is hosted on a secure server at The University of Melbourne and has inbuilt security and data protection measures. Access to the website will be made through standard SSL secured connections. Further login attempts (identified by IP address) are denied after consecutive failed attempts and system administration is automatically notified. Users can only access YOTES once they are enrolled by a research assistant. Sensitive database information is encrypted using state of the art encryption algorithms.

2.8.2 Online safety

Terms and conditions of use that promote online safety are explained to all participants. A 'report' function enables users to raise any concerns with moderators, in real time. Moderators have the ability to remove posts and deactivate user accounts. Users can also deactivate their own account. YOTES includes an automated keyword function that scans and blocks, or sends for moderator review, all submitted contributions for potentially offensive or triggering words.

2.8.3 Clinical safety

The vocational moderators will screen the platform daily to identify any evidence of clinical risk (e.g. deterioration in mental state) and raise this with clinical investigators or headspace clinical staff. Emergency guidelines and contact information are displayed within the platform. Any adverse events will be recorded, followed up until resolution, and reported over the study period.

2.9 Statistical methods and determination of sample size

2.9.1 Determination of sample size

A sample of 172 participants, 86 in each intervention group, will be recruited, which allows for 25% attrition. A review of 15 trials of IPS (Bond et al., 2012) reported an overall unweighted effect size of .77, .67 for studies conducted outside of the United States. As we are using a different measure, we therefore anticipate that a medium effect size will be seen for the intervention compared with the control group on the main outcome measure of CFI-R at 6 months. For continuous measures, setting alpha at 0.05 and power (1-β) at 0.80, we will require a sample size of 64 for both the intervention and control groups (total n=128). Unpublished data from the most recent randomised controlled trial conducted at headspace Centres indicate that 75% of young people remained in the study at the end of the intervention. Therefore, we will aim to recruit n=172 participants (n=86 in each the intervention and control groups) to account for attrition and retain 128 participants at 6 months.

2.9.2 Quantitative data analysis

Primary analyses will be undertaken on an intention-to-treat basis, including all participants as randomised. The YOTES intervention group will be compared with the control group using a planned contrast of change from baseline to the 6-month endpoint on the basis of primary (career adaptability) and secondary (employment status, career confidence, psychological distress and state hope) outcome measures. Linear mixed-effects models with restricted maximum likelihood estimators will be implemented to investigate these changes using the and *lmerTest* packages in *R* (R Core Team, 2019).

Fixed effects will include group (YOTES vs. control), time (baseline, 6-months, 12-months), and group-by-time interactions. Sex, age, whether or not the young person meets diagnostic criteria for a mental disorder, and outcome scores which are significantly different between groups at baseline will also be included as fixed effects to control for their effects. The outcomes of interest are the between-group changes from baseline to 6-months (primary time-point), using two-tailed tests with $p < .05$ denoting statistical significance. In addition to the planned contrast of interest for changes between baseline to 6-months, differences at 12-months will also be examined if there is a statistically significant overall group-by-time interaction.

Secondary analyses will be completed on an a priori established per protocol basis, including participants in the YOTES intervention group who received pre-specified sufficient exposure to the online intervention, which is defined as greater than three logins during the first 6-month period in line with a previously completed RCT based on the MOST model (Alvarez-Jimenez et al., 2019). Post-hoc subgroup analyses will be carried out separately for participants who had access to IPS and those who did not have access to IPS by means of linear mixed-effects models.

Assessing the cost-effectiveness of interventions to improve employment outcomes of young people presenting to health services is subject to many challenges. The generalisability of within study economic evaluations may be limited, given the potential for results to be highly sensitive to local employment and wage rates, which in turn may change markedly over time in response to major systemic shocks (Hurley, 2020). This limitation can be mitigated by using model based analyses to generalise study findings to contexts other than those in which trials were undertaken (Sculpher, Claxton, Drummond, & McCabe, 2006). Another challenge is that although a societal perspective on costs is required to value employment participation outcomes, healthcare decision-makers routinely prefer a narrower healthcare perspective. This challenge can be partially addressed by following best-practice guidance to use both perspectives (Sanders et al., 2016), though this is rarely done in youth mental health economic evaluations (Hamilton et al., 2017).

The health economic analysis will include a within study analysis to estimate the costs associated with unemployed young people with mental ill-health presenting to headspace and a modelled analysis to predict the circumstances under which deployment of the intervention is likely to be cost-effective. Resource use will be converted to costs using published national unit cost data for medical, allied health, and personal social services costs and logs of actual costs relating to intervention delivery**.** Univariate and multivariate analysis will explore the extent to which these costs are associated with employment outcomes. The results of the cost-analysis, along with other trial results will be used as base-case input parameter values for a hybrid spatial systems dynamics - discrete event simulation model. That model will be used to identify the threshold values of a range of parameters (including intervention impacts on employment outcomes, local employment rate, employment hours and wage rate conditions) for the intervention to have a greater than 50% probability of cost-effectiveness at a range of willingness to pay values from both healthcare and societal perspectives. Sensitivity analysis will explore how sensitive threshold estimates are to potential impacts of the intervention on service use. Economic modelling will be undertaken in R, with results analysed using the BCEA package (Baio, 2014).

2.9.3 Qualitative Data analysis

Recorded interview data will be transcribed verbatim, and analysed using thematic analysis (Braun & Clarke, 2006). Analysts will immerse themselves in the data before generating initial codes before meeting as a team to discuss and develop a codebook through consensus. A trial of the codebook will ensure codes work more broadly. Adjustments will be made as needed, before the full data set is coded. Coded excerpts will then be read and reread by the analysis team to refine and define the themes and subthemes described in the reporting of the qualitative findings. This team-based approach to coding and identification of key concepts, together with reflexive journaling, active memoing and an emphasis on data immersion (Boydell, Volpe, & Pignatiello, 2010; Forero et al., 2018), will help ensure rigour and trustworthiness (Lincoln & Guba, 1986).

2.10 Withdrawal criteria

A participant will be withdrawn from the study if they choose; participants who withdraw will not be replaced, having been accounted for within the sample size calculation.

2.11 Trial status

The trial started enrolling participants in December 2017 and finished with enrolment in April 2019. Data collection will continue until June 2020 to allow for disruption to collection of 12 month follow up data due to the 2019-2020 global pandemic. A report of the study findings is expected in late 2020.

3. Conclusions

The findings of this trial will provide the first indication of whether an online vocational intervention can increase career adaptability in young people with mental ill-health when compared with an active control condicion. Secondary analyses will analyse the impact of YOTES when delivered in addition to IPS or alone as well as the effects of YOTES on employment status, career confidence, psychological distress, state-based hope, and health economic outcomes.

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Conflict of interest statement

The authors have no conflicts of interest to declare.

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Figure legends

Figure 1. Study design including description of treatment as usual, plus intervention and control groups.

Figure 2. The schedule of enrollment, intervention, and assessment.

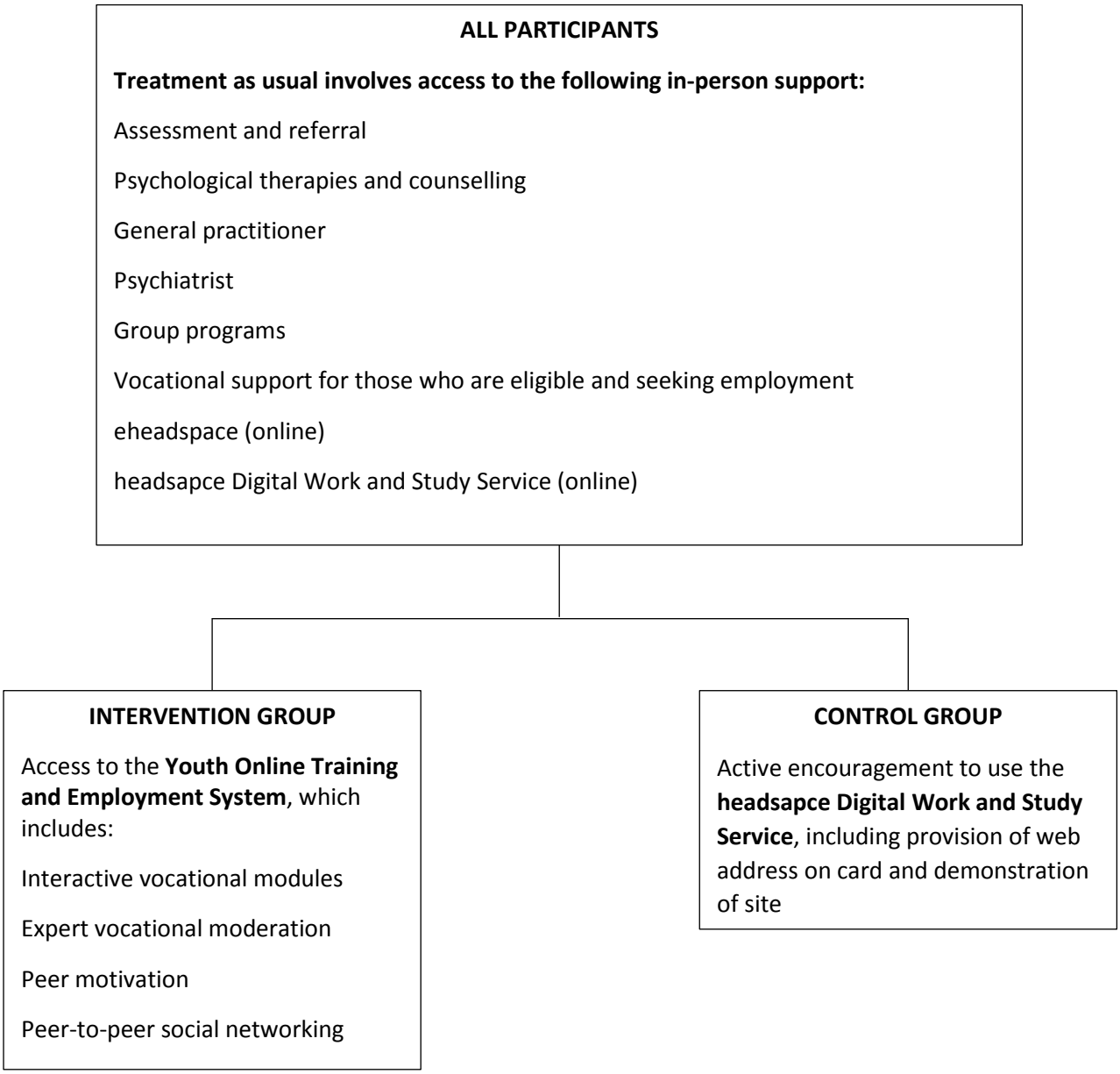

Figure 1. Study design including description of treatment as usual, plus intervention and control groups.

Assessment	Screening	Baseline	Weeks 1-25	6 months	Weeks 27-51	12 months
Informed Consent	X					
Inclusion/Exclusion Criteria	X					
Randomisation	X					
Access to intervention			**Unlimited access to YOTES and control intervention + vocational support as usual**			
Demographics, diagnostic and mental health service use history		X				
Recent employment history		X	X	X		X
Career Futures Inventory-Revise (CFI-R)		X		X		X
Congruence between preference for work hour and actual work hours		X		X		X
State-based/dispositional Hope		X		X		X
Career confidence		X		X		X
Resource Use Questionnaire		X		X		X
K10		X		X		X
Qualitative interview (subsample of approximately n=30)				X		X

Figure 2. The schedule of enrollment, intervention, and assessment.