

# Reclaiming employment: A pilot study of online entrepreneurship training for individuals with psychiatric disabilities

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## Abstract.

**BACKGROUND:** Many individuals with psychiatric disabilities face workplace challenges that motivate them to pursue self-employment, but accessible self-employment support is lacking. Using participatory action research, Reclaiming Employment™ (RE), an online interactive platform that provides self-employment education for people who experience mental health-related challenges around work, was developed to address these gaps.

**OBJECTIVE:** An observational pilot study of RE examined usage, usability, self-efficacy, and self-employment income.

**METHODS:** Participants ( $N=97$ ) used RE for six months; survey data was collected at three timepoints to measure entrepreneurial self-efficacy (ESE) and income generated from self-employment. Usability was assessed post-intervention using the System Usability Scale.

**RESULTS:** More than 70% of participants used RE; there was no association between non-usage and demographic characteristics, nor prior use of other self-employment supports. RE users rated the platform at above average usability, although those who experienced long-term unemployment rated the platform significantly lower compared to wage or self-employed users. In longitudinal regression models, we found use of RE was significantly associated with increases in some ESE subscales and mean ESE. Use of RE was not associated with gains in income.

**CONCLUSION:** This pilot study demonstrates acceptability, feasibility, and preliminary effectiveness of an online entrepreneurship training for individuals with psychiatric disabilities.

Keywords: Employment, entrepreneurship, right to employment, psychiatric diagnosis

## 1. Introduction

Despite their desire to work, people with psychiatric disabilities often face challenges to self-sufficiency and career advancement in traditional

workplaces (Drake et al., 2020), including pay disparities (Cronise et al., 2016; Ostrow et al., 2023), work environments that replicate social inequality (Adams, 2020), social exclusion leading to persistent internalized stigma (Cook, 2006; Hielscher & Waghorn, 2017), and workplace discrimination (Netto et al., 2016; Ostrow et al., 2018). All of these factors may reduce self-efficacy and goal attainment (Lysaker et al., 2005; Schmitt & Weigelt, 2023; Yanos et al.,

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2010) and compound experiences of poverty and trauma (Cook & Mueser, 2013; Cook & Mueser, 2016).

In contrast to wage employment (when an employer has the right to determine how, where, and when the employee performs the assigned work (Miller & Uttermohlen, 2008), self-employment can provide the opportunity to create a work environment that is customized to the individual (Office of Disability Employment Policy, 2023). Self-employment is structured around individual preferences, which can shift the focus from deficits to self-determination (Swarbrick & Stahl, 2009). For instance, a flexible schedule is one of the most requested accommodations for people with psychiatric disabilities (McDowell & Fossey, 2015; Sevak & Khan, 2017) and this flexibility makes self-employment a desirable option for many disabled workers (Dobransky & Hargittai, 2006; Jones & Hansen, 2022). Self-employment allows accommodations to be incorporated into the design of the business, and may have financial advantages for those receiving income supports (Jones & Hansen, 2022). Many people with psychiatric histories who choose self-employment do so in order to meet these individualized needs (Harpur & Blanck, 2020).

For anyone who decides to start a business, there are significant challenges to startup and management. Self-employed individuals may struggle with isolation and burnout as a result of lacking the social opportunities and benefits in the workplace provided to wage employed individuals (Barclay, 2015). Some research has found that people who are self-employed have better health and well-being than their peers in wage employment, possibly attributable to lifestyle behaviors and to the status of their business (Yoon & Bernell, 2013). These effects may differ by subgroup; for example, a study of Black self-employed individuals found they had better cardiovascular health but were at risk for poorer behavioral health (Narain & Skrine Jeffers, 2020). Notably for disabled entrepreneurs, including those with mental health challenges, there may be unique challenges presented by the external environment and their life circumstances, and with accessing the entrepreneurial ecosystem (Tihic et al., 2022).

Disability entrepreneurship research has identified lack of training for individuals seeking self-employment as a barrier to successful business start-up (Avellone et al., 2023). While 72% of vocational rehabilitation (VR) agencies offer specialized support for self-employment, the support offered

varies across states (Jones & Hansen, 2022). VR services are limited in their effectiveness in self-employment: from 2013 to 2019, VR closures in self-employment decreased by 37% (Sánchez et al., 2023), and only a very small percentage (1,2%) of VR participants exit into self-employment nationwide (Jones & Hansen, 2022). Regulatory policies for the development of the Individualized Plan for Employment, such as the requirement for a standardized skills assessment or the creation of a business plan, are not necessarily adequately supported by VR (Jones & Hansen, 2022). Barriers include lack of VR counselor knowledge and skills regarding self-employment counseling as well as appropriate resources (Taylor et al.), and the perception of VR providers that individuals with disabilities do not possess attributes that lead to successful self-employment (Frain et al., 2022). Mainstream business support services, such as the Small Business Development Center (SBDC) or SCORE (score.org), are often found to be inaccessible for people with disabilities (Ostrow et al., 2021), partially because these organizations focus on high-yield businesses rather than those that best suit the individual (Yamamoto et al., 2011). SBDC and SCORE counselors can advise on how to start a business but they cannot provide support that individuals with disabilities may need to actually do the task (for instance, writing a business plan) (Jones & Hansen, 2022). Collaboration across different fields, including internet-based entrepreneurial support platforms, has been recommended by researchers in the rehabilitation field to achieve these goals (Frain et al., 2022).

The Reclaiming Employment™ (RE) project aims to fill this gap in support for individuals with mental health challenges who are interested in self-employment using a social entrepreneurship model (Tihic et al., 2022). RE is an interactive online platform designed using community-based participatory action research approaches. This included involving a diverse stakeholder advisory group comprised of individuals with lived experience of mental health challenges and first-hand knowledge of self-employment, more than 60% of whom also identify as persons of color or LGBTQ+. RE aims to support people who face barriers to employment so they can achieve personal, economic, and collective empowerment through self-employment. To that end, RE incorporates values of inclusion, peer support, empowerment, and self-determination. It was intended for use by individuals at five stages (adapted from Klonek et al., 2015) of entrepreneurship

(exploring self-employment, aspiring entrepreneurs, planning a business, managing an existing business, and those in the process of scaling up), but primarily focuses on resources for those at the “planning” stage who are ready to take action.

RE offerings are designed to help users build practical skills, gain relevant knowledge, and participate in an online community. This includes asynchronous courses on topics such as writing a business plan, preventing burnout, managing tasks and time, business communication skills, and using Social Security work incentives to start a business. The resource library includes links to vetted publicly accessible media and offers brief descriptions of each item, along with tags for topic, sub-topic, and media type. The community forum is supervised by trained peer moderators, offers users the opportunity to interact in real-time, and is structured around both identities (e.g., LGBTQ+, BIPOC, citizens returning from incarceration, etc.) and topics for discussion (e.g., burnout, time management). RE is specifically designed for people who have experienced mental health-related challenges around work, with a goal of improving self-efficacy. Entrepreneurial self-efficacy (ESE) has been identified as an important antecedent to new venture intentions and subsequent entrepreneurial action (McGee et al., 2009). Higher vocational self-efficacy is associated with better employment outcomes (Fry et al., 2020) and improved self-esteem – both of which are key to mental health recovery (Ruscinova et al., 2018; Yanos et al., 2010).

### *1.1. Research design and questions*

During a pilot study in 2022, eligible users were offered flexible access to RE for six months (June to December). They were instructed to use the platform as much or as little as they desired, and to use content in any order that suited their needs. An observational study of RE built into the pilot project addressed the following exploratory research questions:

- 1) Did use and usability of RE differ by participant demographic characteristics or by their prior use of formal and informal self-employment supports?
- 2) Was active engagement in RE associated with change in self-efficacy or self-employment income over time?

## **2. Methods**

### *2.1. Study sample*

This study included individuals who self-identified as having mental health challenges around work; all participants had used mental health services, but also reported psychological trauma, burnout, having received disability benefits or workplace accommodations for a mental health issue, neurodiversity, or COVID-19 mental health disruption. Other inclusion criteria included age 18 years or older, residing in the United States, and an interest in pursuing self-employed.

### *2.2. Recruitment and data collection*

The study PI and research assistants who conducted study development, recruitment, and data collection were people with lived experience of psychiatric disability/mental health challenges around work.

Recruitment efforts took place between March and June 2022, and included email notices to study partners, social media posts, and a SAMHSA-funded consumer technical assistance center webinar on approaches to community inclusion. An email invitation was sent to interested individuals with a personalized survey link to an informed consent form, after which respondents completed an eligibility questionnaire. This resulted in a sample of 97 participants who met eligibility criteria, consented to participate, and fully completed baseline measurement.

Survey data were collected online at three time-points from May 2022 to March 2023 using Qualtrics. The survey included validated measures along with items developed by the research team, which were reviewed by the stakeholder advisory group. The survey could be completed anywhere with an internet connection, on a variety of devices, or over the phone.

### *2.3. Measures*

Participants were surveyed at baseline, six months (immediately post-intervention), and nine months after baseline (three months post-intervention). Baseline measures included participant demographic characteristics, including age, gender identity, race and ethnicity, education, housing status, household income, and SSI or SSDI benefit receipt. Employment questions inquired about current employment

and any employment within the past twelve months and participants' most recent employment status was characterized as being wage employment, self-employment, or no paid work in the past year.

At each time point, participants were asked about their self-employment goals, current business activities and hours spent on business, feelings about the future of their business, satisfaction with self-employment, business income, and the proportion of earned income from self-employment. Questions gauged participants' perspective on future employment and their experience disclosing mental health challenges at work. Measures were included to assess participants' quality of life, health, life satisfaction and confidence in performing business-related tasks. Participants reported their use of mental health services over the past twelve months as well as lifetime use.

The primary outcome, self-efficacy, was measured at each time point using the Entrepreneurial Self-Efficacy (ESE) scale (McGee et al., 2009), a 26-item scale with five subscales: searching, planning, marshaling (i.e., assembling and organizing resources), people-related implementing, and financial-related implementing.

As predictors of RE use, usability, and study outcomes of interest, we assessed participant challenges and use of self-employment supports, other than RE. Participants were asked to identify supports they had used in the past year, selecting from a checklist of formal and informal supports for self-employment, identified from prior research (Ostrow et al., 2021). Formal and informal supports were characterized as number of types of each reported.

RE usability was assessed at six months using the 10-item System Usability Scale (SUS), which is rated from 0–100 with a score of 68 considered to be average (Orfanou et al., 2015). Use of and engagement with the RE platform were determined through website metadata tracking of system logins and course access. RE usage was categorized as any login versus no login. Active engagement with RE was calculated as the number of online courses accessed by each user, which ranged from 0–10.

The analysis focuses on courses, an approach used by other research on online learning because it emphasizes the user's self-management of their learning (Lee et al., 2019). Learning management differs by individual; thus, measurements of minutes or completion of a lesson is less relevant as a measure of engagement than number of courses accessed, which reflects interest, commitment, and motivation.

## 2.4. Statistical analysis

Associations between participant characteristics at baseline and any use of RE were examined using chi-square and *t*-tests. Associations between participant characteristics at baseline and SUS scores were examined using analysis of variance and Pearson correlations. Change in ESE and self-employment status between baseline and six months was examined descriptively using paired *t*-tests and McNemar's chi-square. We calculated the reliability of the ESE scale and subscales using Cronbach's alpha.

Longitudinal change in ESE and self-employment across all three time points was examined using generalized estimating equations (GEE) with an autoregressive (AR(1)) correlation structure and linear and binary logistic distributions, respectively. To assess the relationship of active engagement in RE with outcomes, we included measures of time (months 0, 6, 9), number of courses accessed, and the interaction of time \* number of courses accessed. A positive interaction term indicates that the effect of number of courses accessed increased with month. These models controlled for participant use of non-RE formal and informal supports, and the longitudinal model of change in self-employment income included ESE as a predictor. Participant characteristics that were found to be significantly associated with RE use or usability were included in these multivariable models (income and employment status).

Given the small sample size, observational design, and the exploratory nature of the study, associations were considered statistically significant at  $p < 0.10$ .

## 3. Results

RE participant characteristics at baseline are shown in Table 1, in total and by system use status (any login versus no login). Out of 97 participants, 71 (73%) used RE and 26 (27%) did not log in at all. Among users who logged on ( $n = 71$ ), 57 (80%) completed the six-month survey and 63 (89%) completed a nine-month survey. Participants who used RE accessed, on average,  $1.6 \pm 2.7$  of the 10 courses, with a median of 1. Use or non-use of RE was not associated with participant gender identity, race group, ethnicity, education, housing status, household income, benefit status, current/recent employment status, age, or number of formal or informal supports used in the past year.

Table 1  
Participant characteristics at baseline, total and by use of reclaiming employment

Characteristics	Total (n = 97)		Any login (n = 71)		No login (n = 26)		p-value <sup>1</sup>
	%	n	%	n	%	n	
Gender identity							0.449
Female	77%	75	79%	56	73%	19	
Male	13%	13	14%	10	12%	3	
Other <sup>2</sup>	9%	9	7%	5	15%	4	
Race							0.181
White	54%	52	54%	38	54%	14	
Black	31%	30	31%	22	31%	8	
Multiple races	8%	8	10%	7	4%	1	
Native American, Indigenous	4%	4	4%	3	4%	1	
Asian	2%	2	0%	0	8%	2	
Ethnicity							0.493
Latinx	11%	11	13%	9	8%	2	
Non-Latinx	89%	86	87%	62	92%	24	
Education							0.443
<high school	1%	1	1%	1	0%	0	
High school/GED	8%	8	9%	6	8%	2	
Some college	23%	22	24%	17	19%	5	
Associate degree	8%	8	11%	8	0%	0	
Bachelor's degree	34%	33	32%	23	39%	10	
Graduate/professional school	26%	25	23%	16	35%	9	
Housing status							0.323
Own home/apartment/room	24%	23	21%	15	31%	8	
Unhoused (with friend, relative, agency)	76%	74	79%	56	69%	18	
Total household income							0.135
<\$12,000	18%	17	21%	14	12%	3	
\$12,000–\$24,999	26%	24	24%	16	31%	8	
\$25,000–\$39,999	23%	21	18%	12	35%	9	
\$40,000–\$69,999	16%	15	21%	14	4%	1	
\$70,000+	17%	16	16%	11	19%	5	
Benefit status							0.311
SSDI and/or SSI	31%	30	34%	24	23%	6	
Neither	69%	67	66%	47	77%	20	
Current or most recent employment status							0.517
Wage employment	60%	58	56%	40	69%	18	
Self-employment	21%	20	23%	16	15%	4	
No paid work in the past 12 months	20%	19	21%	15	15%	4	
	Min-max	Mean ± SD	Min-max	Mean ± SD	Min-max	Mean ± SD	
Age, years	22–74	49 ± 11	23–68	50 ± 11	22–74	49 ± 12	0.959
Formal supports used past 12 months	0–15	4.1 ± 3.4	0–15	3.9 ± 3.1	0–15	4.5 ± 3.9	0.439
Informal supports used past 12 months	0–6	3.4 ± 1.8	0–6	3.2 ± 1.6	0–6	3.8 ± 2.1	0.126

Note. All percentages exclude missing values. <sup>1</sup> P-values were calculated using chi-square or *t*-test. <sup>2</sup> Other gender identities include transgender, genderqueer, non-binary, and other identities entered in by participants who self-identified.

Of the 57 users who completed the six-month assessment, 86% ( $n = 49$ ) rated overall system usability, resulting in a mean  $\pm$  standard deviation score of  $69.4 \pm 18.8$  – an above average score on the SUS. Associations between participant characteristics and assessment of system usability are shown in Table 2. There was a potential relationship between total household income and usability, with a generally increasing assessment of usability with increasing income level ( $p = 0.074$ ). There was a significant association between employment status at baseline and assessment of system usability, with

those in wage employment rating the system highest in usability ( $74.9 \pm 18.2$ ) followed by those in self-employment ( $67.7 \pm 15.7$ ), and lowest usability rating among those who had been unemployed for the past year ( $55.3 \pm 18.6$ ) ( $p = 0.020$ ).

Among those who used RE and completed both baseline and six-month surveys ( $n = 63$ ), ESE scores at baseline and six months are shown in Table 3 with results of paired *t*-tests. Scores on the total ESE and some ESE subscales increased slightly, but only the ESE Planning subscale increased significantly ( $p < 0.05$ ). Cronbach's alphas for the ESE total and

Table 2  
Among RE users ( $n = 71$ ), Participant characteristics associated with rating of RE usability

Baseline characteristics	System usability scale	$p$ -value <sup>1</sup>
	Mean $\pm$ SD	
Gender in categories		0.183
Female	70.1 $\pm$ 18.9	
Male	75.4 $\pm$ 16.0	
Other gender identity	53.8 $\pm$ 17.9	
Race group		0.752
White	69.0 $\pm$ 20.3	
Black	70.5 $\pm$ 20.5	
Multiple races	60.6 $\pm$ 8.8	
Native American, Indigenous	75.8 $\pm$ 1.4	
Ethnicity		0.264
Latinx	76.3 $\pm$ 16.8	
Non-Latinx	68.0 $\pm$ 19.1	
Education		0.256
<high school	57.5 $\pm$ 0.0	
High school/GED	86.7 $\pm$ 15.3	
Some college	74.3 $\pm$ 21.1	
Associates degree	71.7 $\pm$ 29.6	
Bachelor's degree	60.9 $\pm$ 15.7	
Graduate/professional school	70.5 $\pm$ 13.7	
Housing status		0.360
Own home/apartment/room	70.5 $\pm$ 19.0	
Unhoused (with friend, relative, agency)	63.8 $\pm$ 18.8	
Total household income		0.074*
<\$12,000	55.0 $\pm$ 19.1	
\$12,000–\$24,999	68.0 $\pm$ 13.7	
\$25,000–\$39,999	83.1 $\pm$ 10.7	
\$40,000–\$69,999	70.8 $\pm$ 24.1	
\$70,000–\$149,000	66.9 $\pm$ 18.2	
Benefit status		0.265
SSDI and/or SSI	73.5 $\pm$ 20.8	
Neither	67.2 $\pm$ 17.7	
Current or most recent employment status		0.020**
Wage employment	74.9 $\pm$ 18.2	
Self-employment	67.7 $\pm$ 15.7	
No paid work in the past 12 months	55.3 $\pm$ 18.6	
	<u>Correlation coefficient</u>	
Age, years	0.17	0.251
N of Formal supports	0.12	0.427
N of Informal supports	0.21	0.145

<sup>1</sup>  $P$ -values were calculated using ANOVA or Pearson correlation. \*  $p < 0.10$ . \*\*  $p < 0.05$ .

subscales were all good, ranging from 0.84 to 0.96 as shown in Table 4.

Table 3 also shows that the proportion of participants reporting any earned income from self-employment increased from 26% ( $n = 15$ ) at baseline to 46% ( $n = 26$ ) at six months post baseline ( $p = 0.013$ ). Table 4 shows results of GEE models of change in ESE over time. Models include a measure of RE active engagement (the number of RE courses taken), time (month 0, 6, 9), and the interaction of active engagement and time. Models also include baseline employment status, income category, and number of non-RE formal and informal self-employment supports used.

The interaction of active engagement with RE and month was significantly associated with increases in ESE Planning and Marshaling subscales, and with total ESE. There was also a potentially significant association with increases in the ESE Searching subscale. The number of formal supports used by respondents was significantly associated with higher scores for ESE Searching, Planning, Marshaling, Implementing – People, and with total ESE. The highest household income level (\$70,000–\$149,000) was also significantly or potentially associated with higher ESE Planning, ESE Marshaling, ESE Implementing – People, and total ESE.

Table 3  
Change in ESE and Self-employment income between baseline and 6-month follow-up among those with platform usage ( $n = 57$ )

Variable	Baseline	6-month follow-up	$p$ -value <sup>1</sup>
	Mean $\pm$ SD	Mean $\pm$ SD	
ESE Searching	3.6 $\pm$ 0.9	3.6 $\pm$ 1.0	0.962
ESE Planning	2.7 $\pm$ 0.9	3.0 $\pm$ 1.0	0.022**
ESE Marshaling	3.1 $\pm$ 0.8	3.1 $\pm$ 0.9	0.602
ESE Implementing - people related	3.5 $\pm$ 0.9	3.6 $\pm$ 1.0	0.621
ESE Implementing - financial related	2.8 $\pm$ 1.0	2.9 $\pm$ 1.0	0.390
ESE Mean all subscales	3.1 $\pm$ 0.7	3.2 $\pm$ 0.9	0.219
	% ( $n$ )	% ( $n$ )	
Any self-employment income	26% (15)	46% (26)	0.013**

Note. ESE: Entrepreneurial Self-Efficacy. <sup>1</sup>  $P$ -values were calculated using paired  $t$ -tests and McNemar's chi-square. \*\*  $p < 0.05$ .

The interaction of active engagement with RE and month was potentially negatively associated with report of any income from self-employment; however, the mean of all ESE subscales was potentially associated with greater likelihood of report of any income from self-employment. The main effect of time was positive and significant, suggesting that the proportion of respondents with income from self-employment increased, even without RE active engagement. As would be expected, employment status of people who were self-employed at baseline was significantly associated with report of any income from self-employment. Higher income level was also associated with greater likelihood of reporting any income from self-employment. Number of informal supports was potentially related to any income from self-employment, which may reflect support from employees or consultants, or income support from family and friends.

#### 4. Discussion

The RE platform was used by greater than 70% of participants and there was no association between non-usage and demographics, suggesting that differences in access were unrelated to demographics such as race, gender, or education. Usage was also unrelated to prior use of other formal or informal self-employment supports.

RE users rated the platform at above average in usability, and ratings of system usability did not differ by most participant demographics or prior use of supports. However, our findings suggest that RE may be less usable by individuals with long-term unemployment and lower household income.

Through the survey, participants shared their comments on engagement and usability challenges, such as: "I am developing greater literacy with technology,

so overcoming barriers from my limitations brings stress and frustration cause it's new," and, "I found I didn't have enough time while trying to balance work, health, mental health, and working towards new business ideas, along with taking care of family."

It is notable that 27% of participants did not login to the platform at all and, among those who did use the platform, the number of courses accessed was low. Research on attrition from vocational training programs finds dropout rates ranging from 18% to more than 50% (Böhn & Deutscher, 2022). Here, comments from participants also provide some context on how to design and implement targeted strategies and supports to meet specific needs. For instance: "I just had to much happening and feel I missed out on a good opportunity," and another: "I don't know why but I didn't or wasn't able to find the reclaiming employment to grab and hold my attention. There has been major changes this past year and great upheaval, and still it goes on and seems to overtake my life."

Some participants increased their self-employment income without actively engaging in RE and may have done so without the program; on the other hand, they may have benefited from RE in ways that were not measured. For instance, as one participant shared: "All of my issues with signing in to or utilizing RE were internal to me and not in any way reflective of this wonderful and desperately needed service . . . Many times, just knowing it was there gave me that sunny spot of hope, enough to go on with."

Over the six months that the RE platform was available to users, there was a significant increase in respondent assessment of self-efficacy for planning a business but not in other areas of entrepreneurial self-efficacy. However, active engagement in the RE platform was associated with increases in entrepreneurial self-efficacy in the subscales Searching, Planning, Marshaling, and across the mean of all

Table 4  
 Longitudinal association of active engagement in RE with ESE and self-employment income among those with platform usage ( $N = 71$ )

Variable	Entrepreneurial self-efficacy subscales					Mean ESE B (SE)	Any income from SE (versus none) Odds Ratio (95% CI)
	Searching B (SE)	Planning B (SE)	Marshaling B (SE)	Implementing – People B (SE)	Implementing – Finance B (SE)		
Time	-0.01 (0.02)	0.02 (0.02)	-0.01 (0.02)	-0.01 (0.02)	0.01 (0.02)	0.00 (0.01)	1.19 (1.07–1.32)**
N of courses taken	0.02 (0.03)	-0.01 (0.04)	-0.04(0.03)	-0.01 (0.03)	0.05 (0.04)	-0.00 (0.03)	0.91 (0.75–1.11)
N of courses*Time	0.01 (0.00)*	0.01 (0.01)**	0.01 (0.00)**	0.01 (0.00)	0.00 (0.00)	0.01 (0.00)**	0.98 (0.96–1.00)*
Baseline employment status							
Wage employment (Ref)	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Self-employment	-0.32 (0.25)	-0.30(0.28)	-0.30 (0.24)	-0.16 (0.26)	-0.49 (0.30)*	-0.32 (0.22)	16.78 (4.09–64.46)**
No paid work in the past year	-0.16 (0.27)	-0.05 (0.28)	-0.36(0.24)	-0.12 (0.26)	-0.23 (0.31)	-0.19 (0.24)	1.61 (0.45–5.78)
Total household income							
<\$12,000 (Ref)	Ref	Ref	Ref	Ref	Ref	Ref	Ref
\$12,000–\$24,999	-0.01 (0.29)	0.14 (0.30)	0.23 (0.22)	0.27 (0.28)	-0.06 (0.31)	0.11 (0.23)	5.42 (0.91–32.23)*
\$25,000–\$39,999	-0.12 (0.28)	0.28 (0.24)	0.02 (0.24)	0.06 (0.31)	0.07 (0.31)	0.08 (0.22)	19.73 (2.66–146.09)**
\$40,000–\$69,999	0.21 (0.28)	0.43 (0.29)	0.25 (0.25)	0.57 (0.31)*	-0.16 (0.37)	0.26 (0.24)	21.75 (2.81–168.03)**
\$70,000–\$149,000	0.45 (0.34)	0.78 (0.33)**	0.60 (0.32)*	0.66 (0.35)*	0.36 (0.42)	0.57 (0.32)*	8.27 (1.14–60.29)**
N of Formal supports	0.11 (0.04)**	0.10 (0.03)**	0.11 (.03)**	0.08 (0.03)**	0.06 (0.04)*	0.09 (0.03)**	1.09 (0.93–1.28)
N of Informal supports	0.02 (0.07)	0.04 (0.07)	0.02 (0.06)	-0.01 (0.03)	0.11 (0.07)	0.04 (0.05)	1.34 (0.97–1.85)*
Mean ESE	—	—	—	—	—	—	1.68 (0.96–2.95)*
Cronbach's alpha (baseline)	0.87	0.88	0.84	0.91	0.88	0.96	n/a

Note. ESE: Entrepreneurial Self-Efficacy. Models using Generalized Estimating Equations. \*  $p < 0.10$ . \*\*  $p < 0.05$ .



ESE subscales measured post-baseline. These results are consistent with the structure of RE offerings, which are largely around planning tasks such as developing a mission statement, corporate formation, and writing a business plan, in addition to social and self-management skills that may be of most value to those in the process of actively starting their business. As one participant shared: *“It has done a lot for my self esteem and given me hope. For three years I’ve wanted to create a business and was on a loop of I can do it, wait no I’m not good enough. The people with lived experience you chose for courses were amazing. They were people I’ve looked up to, but could now see must have had similar fears around starting.”*

Use of other formal supports by participants was significantly associated with higher self-efficacy scores overall, and in most subscales. This suggests a need for increasing access to business courses and institutions that provide entrepreneurial support, which are not widely available or used by this population (Ostrow et al., 2021; Tihic et al., 2022). Additionally, individuals in the lower income tiers (below \$70,000 per year) saw fewer gains in entrepreneurial self-efficacy, highlighting systemic inequality found in other entrepreneurship research (Avellone et al., 2023).

Encouragingly, there was a significant increase in participant report of any income from self-employment over six and nine months, although this outcome was not associated with use of RE. There was a negative relationship between the number of courses accessed, time, and likelihood of reporting any income from self-employment, which may reflect that the commitment required for operating a business limits opportunities to access coursework. Or, it may reflect a lessening need for support like that offered by RE once business ownership is underway. However, there was a significant positive relationship between ESE and this increase in self-employment income – a relationship worth exploring in future research.

A recent scoping review similarly found that work history and financial standing negatively impact self-employment outcomes for individuals with disabilities (Avellone et al., 2023). Other disability entrepreneurship researchers have postulated that approaches to developing the entrepreneurial ecosystem at the individual, operational infrastructure, and systems and societal (“micro-meso-macro”) levels is needed to support disabled entrepreneurs in developing their ideas and bringing them to market with a return on investment (Tihic et al., 2022). The RE platform has the potential to compensate for lack of VR

counselor expertise, and mainstream SBDC services, in self-employment for this population.

It is difficult to determine from the data collected in this study whether longer-term, self-directed access – or conversely, a more formal approach – would increase engagement and improve outcomes. Many participants shared, spontaneously, that formal individual or group support would assist in their use of the program; for example: *“I would use the platform again if there were 1:1 support or support groups involved to help me plan next steps.”* The building of social networks has been emphasized in other research as critical for success (Tihic et al., 2022), and future iterations of RE will seek to better target the needs of those with low and moderate incomes, and other challenges to engagement, by providing a more structured format with more community and individual support.

#### 4.1. Limitations

The observational and non-experimental nature of the pilot study supports exploratory descriptive findings but does not support conclusions about causation or external generalizability of results. Another limitation is that we were not able to analyze other characteristics of platform usage/engagement (e.g., feelings of connection), which may have been important to participants or related to changes in outcomes.

## 5. Conclusions

This initial pilot study of Reclaiming Employment<sup>TM</sup> demonstrates that virtual support for business owners with a psychiatric disability is feasible, although these approaches need further development with attention to the support needs of users. An online program such as this has potential value in reaching individuals pursuing self-employment and could be a pathway to address gaps in the mainstream business support system and in the vocational rehabilitation system. In this early-stage pilot study, we found modest, but promising, results for the use of the platform, number of courses taken, and the outcome of entrepreneurial self-efficacy.

This analysis did not identify consistent factors that describe the group who did not log in or explain their lack of engagement. However, in open-ended text comments, survey respondents noted barriers to participation that were both personal (e.g., illness, family, or job obligations) as well as having to do with

the platform. Online learning courses often suffer from high dropout rates and lack of engagement due to the challenges of fostering bonding and connection between learners (Lee et al., 2019), which will be addressed in our continuing development efforts. More research is needed to explore potential barriers to, and supports for, increasing engagement and maintaining participation.

Together, these findings point to the obstacles that people with mental health challenges around work may face when accessing workforce training programs, even those that are flexible, online, and self-directed. Future research and development aims to improve the platforms' functionality, provide more guidance for participants, and enhance user interactions.

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### Conflict of interest

The authors declare that they have no conflict of interest.

### Ethical approval

This study was approved by the Institutional Review Board of the Human Services Research Institute (protocol identification HSRI-IRB-033/2022).

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### Informed consent

The research involved human subjects and informed consent was obtained from all participants. Participants received an email containing a personalized link to an online consent form.

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