ORIGINAL ARTICLE

'More together than apart': The evaluation of a virtual course to improve mental health and well-being of adults with intellectual disabilities during the COVID-19 pandemic

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Abstract

Background: To address the growing concerns over poor mental health experienced by adults with intellectual disabilities due to the COVID-19 pandemic, a national virtual mental health course was delivered and evaluated.

Methods: This mixed methods study utilized both qualitative and quantitative assessments. Participants were 27 adults with intellectual disabilities who participated in the 6-week course. Participants completed measures of self-efficacy and well-being at three time points and qualitative satisfaction measures at post and follow-up.

Results: Attendance was high and the course was feasible and acceptable to participants. Positive changes related to mental health self-efficacy were detected ($p = .01$), though mental well-being did not improve.

Conclusion: The study provided evidence for the feasibility and value of the course for this population. Future research should examine how virtual courses could support the population in terms of pandemic recovery and how courses may work for individuals who are less independent.

KEYWORDS
COVID-19, intellectual disability, mental health, mixed methods, virtual course

1 | INTRODUCTION

The COVID-19 pandemic has impacted the mental health and well-being of many individuals. In addition to the fear and concern around infection and mortality, many have struggled to keep up with ever-changing public health restrictions and adjusting to new routines. For individuals with intellectual disabilities, these difficulties have been heightened. Many of them have found navigating these challenges extremely difficult and a source of distress (Embregts et al., 2020; Lunsky et al., 2022). Adults with intellectual disabilities have reported feelings of isolation, fear and increased anxiety because of the pandemic (Amor et al., 2021; Lake et al., 2021). Additionally, they have expressed that their quality of life has deteriorated during the course of the pandemic (Rosencrans

et al., 2021). Although several studies have explored the impact of the pandemic on adults with intellectual disabilities (Lake et al., 2021; Rosencrans et al., 2021), there has been little attention paid to which interventions would be most helpful to mitigate this impact.

Amidst the COVID-19 pandemic and associated public health restrictions, the delivery of mental health care was transformed, pivoting from traditional in-person care to virtual care (Husain et al., 2021). Although there has been extensive discussion about the rapid uptake of telehealth and web-based video mental health services in the general population, the experience of those with intellectual disabilities is less clear. Virtual platforms have been used to deliver virtual group-based interventions as a way to help adults with intellectual disabilities feel more informed and less isolated while also providing an opportunity

to engage with others who have intellectual disabilities. A scoping review by Oudshoorn et al. (2021) concluded that psychological virtual interventions (or eHealth) for people with intellectual disabilities provide a unique opportunity to overcome obstacles that are often found in face-to-face interventions such as lack of transportation or support (Oudshoorn et al., 2021). Furthermore, the authors found that virtual interventions allow for the delivery of multiple psychological therapy modalities, which may not only be of benefit to the individual with an intellectual disability but to their caregiver as well (Oudshoorn et al., 2021). A systematic review of virtual health care for adults with intellectual and developmental disabilities found that participants generally reported high acceptability of virtual care (Selick et al., 2021). The authors concluded that it is feasible to deliver high quality, accessible care to participants who have intellectual and developmental disabilities. They did not however explore group-based virtual care specifically. Whereas many people spoke early in the pandemic about a preference for in-person therapy as opposed to virtual therapy (Rawlings et al., 2021), more recent studies have highlighted that there are many benefits to being able to engage virtual with others including others who have intellectual disabilities (Chadwick et al., 2022; Spassiani, 2022).

One example of a virtual intervention, originally designed for healthcare providers, is the Project Extension for Community Healthcare Outcomes, or Project ECHO (Arora et al., 2010). ECHO, a framework established to educate health care providers, utilises a 'hub and spoke' model wherein experts and programme leaders (hub) disperse relevant information to programme participants who are geographically dispersed (spokes). The model allows hub members to teach and inform participants on their area of expertise in order to aid the participants or spokes in developing competencies and confidence in the newly presented subject matter, while forging connections with one another and building a 'community of practice'.

The ECHO framework was previously used by Thakur et al. (2021) in the development and implementation of a six-week COVID-19-specific virtual mental health training programme for care providers of people with intellectual disabilities. This programme served as an opportunity for care providers to gain information around how to best care for individuals with intellectual disabilities during the pandemic, while also providing an opportunity to consider their own psychological and mental health needs. The six-week programme included mindfulness practice, wellness checks, discussion around COVID-19 research and policy as well as case-based practical learning. Participants in this programme reported high levels of satisfaction, improved self-efficacy and improvements in coping (Thakur et al., 2021).

It was theorised that a virtual course following a similar model might also be beneficial for adults with intellectual disabilities. Such a course could provide the learners with clinical tools to navigate the pandemic, while also addressing their sense of anxiety and isolation. Therefore, the purpose of this study was to evaluate a COVID-19 focused virtual course designed for adults with intellectual disabilities. Specifically, this study assessed the feasibility and acceptability of adapting the COVID-19-specific virtual mental health course to people with intellectual disabilities and explored what improvements participants experienced immediately post-course and at 8 weeks follow-up.

2 | METHODS

2.1 | Study design

This study utilised a single arm, repeated measures within subject study design. The study was mixed methods, incorporating both quantitative and qualitative assessments conducted across multiple phases: (1) recruitment, (2) pre-course assessment, (3) virtual course, (4) post-course assessment and (5) eight-week follow up assessment.

The pre, post and follow up assessments were completed during a one-on-one interview with a member of the research team. The qualitative component, consisting of open-ended questions, was included to gain a richer, more nuanced understanding of participant experiences.

2.2 | Participants

Adult (ages 18+) participants from across Canada were recruited over a three-week period prior to the start of the course through various national and provincial self-advocacy organisations. Participants were approached if: (1) they self-identified as having an intellectual disability, (2) were over the age of 18, (3) were able to provide informed consent, and (4) had access to the internet and/or had support to access the internet.

2.3 | Intervention description

The virtual course was delivered in two 6-week cycles; one from October to November 2020 and the second from February to March 2021. Feedback from participants in cycle 1 helped inform minor modifications to cycle 2 (e.g., refinement of curriculum topics and materials), although the structure of the course remained the same.

The course content was created based on a series of 'drop in' sessions held at the start of the pandemic for adults with intellectual disabilities, intended to inform and provide mental health support and educate attendees about COVID-19. The sessions identified issues that adults with intellectual disabilities were struggling with during the pandemic, including social isolation, increased anxiety, disrupted sleep, and loss of meaningful activities and routines. The course material was also informed by lessons learned from the ECHO six-week COVID-19 course offered to health and social service providers (Thakur et al., 2021). An important feature of the programme was the inclusion of people with intellectual disabilities as members of the teaching team who helped design and co-lead the sessions.

The weekly virtual sessions were 90 minutes in length and were made up of the following components: (1) introductions/ice breakers, (2) mindfulness (led by a hub team member with an intellectual

TABLE 1 Weekly topics

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Cycle 1	Health Care Communication	HELP Model	Feeling Anxious about COVID-19	Sleep and Physical Activity (HELP)	Grief, Loss and Feeling Down	Problem Solving
Cycle 2	Health Care Communication	HELP Model	Sleep and Physical Activity (HELP)	Feeling Anxious about COVID-19	Grief, Loss and Feeling Down	Problem Solving

disability), (3) COVID-19 news, (4) didactic teaching, (5) small and large group discussion, and (6) wrap-up. A variety of topics were covered across the 6 weeks (see Table 1), guided by teaching team (e.g., clinicians and individuals with intellectual disabilities) input. Didactic teaching was divided between clinicians and individuals with an intellectual disability. Additionally, one team member was responsible for providing one-on-one support to participants experiencing technical problems during the sessions, either by phone or in a breakout virtual room.

Upon enrollment, course materials were mailed to participants including a hard copy of the COVID-19 Guided Self-Help Booklet Series, originally developed in the United Kingdom for the self-management of depression and anxiety (Jahoda et al., 2017) but adapted for use during the pandemic (Maguire et al., 2022). These booklets were further adapted for a Canadian context and served as resources and supplementary material for participants to work through while attending the course. Additional resources included printed copies of health care communication tools about health and health care visits, which were reviewed with course participants.

2.4 | Outcome measures

2.4.1 | Participation and satisfaction

Participation was measured by recording the number of sessions attended by each participant. Retention rate was calculated by determining the percentage of participants who attended at least 75% of the sessions. Satisfaction was assessed only at one time point, immediately post-course using a nine item scale (Table 4). Participants were asked to rate their feelings about aspects of the course on a three point Likert scale consisting of Yes, Maybe/Not Sure and No.

2.4.2 | Self-efficacy

Self-efficacy was measured through three questions that pertained to mental health, self-care and health care. Each question was measured along a 100-point visual analogue scale from 0 (not confident at all) to 100 (very confident), similar to the visual analogue scale used by Thakur et al. (2021). The questions stated 'How confident are you that you can do this?' To orient respondents to the use of the 100-point scale, they first completed a practice item.

Following the practice question, the participant rated how confident they were by responding to the following three items:

I am confident in how well I can:

1. prepare for health care and talk to my doctor during COVID-19;
2. take care of my mental health during COVID-19;
3. make sure I do things to take good care of myself during COVID-19.

Scale reliability statistics showed that the scale had adequate internal consistency with a Cronbach's $\alpha = 0.710$ and a McDonald's $\omega = 0.745$.

2.4.3 | Mental well-being

The Warwick Edinburgh Mental Well-Being Scale (WEMWBS) was used to measure mental well-being in the study participants. The WEMWBS is a 14-item scale which focuses on positive aspects of mental well-being including positive affect, satisfying interpersonal relationships, and positive functioning (Tennant et al., 2007). While the WEMWBS uses a five-point Likert scale, the scale was modified to aid comprehension (Scior et al., 2020). Therefore, participants responded to questions along a four-point (1–4) visual analogue scale, with a score of 1 representing never and a score of 4 representing always. Additionally, participants also completed two practice questions that followed the same format as those listed in the WEBWMS. Participants could get a total score ranging from 14 to 56.

The WEMWBS has been validated for use in the general population. While no psychometric data are available for the WEMWBS use for individuals with intellectual disability, the internal consistency of the scale for this group of participants was high with Cronbach's $\alpha = 0.884$ and a McDonald's $\omega = 0.883$.

2.4.4 | Open-ended questions

The survey measures included a number of open-ended questions to provide more in-depth understanding of participants' experiences in the course. Questions from post and follow-up are highlighted in Table 2.

The interviewer, a trained qualitative researcher (TV), used the questions as prompts for discussion, similar to a semi-structured interview guide in a traditional one-on-one interview. Moreover, the open text fields were used as an opportunity to explore any contextual information provided by participants while

TABLE 2 Open ended survey questions

Post	Follow-up
1. Please tell us what you learned from this course?	1. Please tell us about any issues or things that are difficult for you right now?
2. Have you shared anything you learned with other self-advocates? If so, what?	2. Please tell us how COVID-19 restrictions where you live have affected you since you began the course?
3. What would you like to share with them?	3. We want to understand why people might choose to do a research study, or not. What are some reasons you decided to do this research study?
4. Has taking this course changed your day to day life? If yes, can you provide 1–2 examples of what you are doing differently in your day to day life now?	
5. Did the course meet your expectations?	

answering the quantitative survey questions. The interviewer typed participants' responses to the questions verbatim into unlimited text fields, to capture the richness of participants' experiences.

2.5 | Procedure

Once ethics approval was obtained, the study team recruited participants through project partners including provincial and national self-advocacy organisations (e.g., People First Canada). In many cases, community partners would connect potential participants directly to members of the study team by phone or email. All individuals interested in participating in the six-week course met with one of the study authors (IJ) to review how the course would work and to get familiar with the online videoconferencing platform being used to deliver the course (WebEx). As necessary, the WebEx training included a family member or worker more familiar with the virtual platform. Once they agreed to take part in the course, they were asked whether they were interested in being part of a research project evaluating the course. Participants who expressed interest in the study were contacted by another member of the research team (TV) who provided additional information about the research evaluation and completed an informed consent process with the participants. Once consented, participants completed the baseline outcome measures, virtually through a video call on WebEx, with the support of a research team member. The research team member and the participant went through the survey together, with the research team member displaying the survey on a shared computer screen and reading the questions aloud. The participant would provide their response and see it represented on-screen as the team member entered the response. On average, it took 45 min for the participant to complete their survey.

Baseline measures included basic demographic data, self-efficacy and mental well-being, and open-ended questions related to course expectations. Following completion of the course, study participants

were again asked to complete all outcome measures, including the satisfaction survey. Questions related to satisfaction were open-ended and allowed participants to reflect on specific aspects of the course including content, session length, programme leaders etc. Eight weeks after the course was completed, study participants completed follow-up measures for self-efficacy and mental well-being.

Of the 27 participants who consented and completed pre-measures, 24 or 88% completed measures at all three time points. Participants received a $20 e-gift card for completing measures at each time point ($60 in total). All data were collected via REDCap (Harris et al., 2009).

2.6 | Data analysis

2.6.1 | Quantitative

Descriptive and inferential statistics were conducted using R Studio software and Jamovi. Frequencies, percentages and cumulative percentages were calculated for categorical variables while median, mean, standard deviation (*SD*) and range were calculated for continuous variables.

A repeated measures ANOVA was used to detect change in self-efficacy and mental well-being across the three time points (pre, post and follow-up). Additionally, the number of sessions attended served as a covariate to estimate any potential interaction effect between the variables of interest and attendance.

2.6.2 | Qualitative

Open text survey responses were analysed as stand-alone qualitative data, using descriptive content analysis procedures (Hsieh & Shannon, 2005). Researchers coded the data in a manner suitable for the research objectives, allowing for the identification of themes and appropriate conclusions. Initial coding was conducted by three team members (TV, YS, FF). A second reader (YL) reviewed all transcripts to ensure all findings were captured and accounted for. Coding results were reviewed by all study authors to collaboratively identify higher-level themes.

The qualitative data gleaned from 88 pages of open-ended responses were robust and the analytic process provided meaningful insights into the research questions being explored. Following independent analyses, qualitative and quantitative findings were triangulated to provide a more fulsome picture on participant experiences with virtual learning, knowledge and self-efficacy. Participant quotes are labelled using their unique identifier (i.e., P102).

3 | RESULTS

Sixteen people registered in the first cycle (14 participating in the research evaluation) and 20 people in the second cycle (13 in research

TABLE 3 Participant demographics

Variable	Count (n = 27)	Percent of total
Gender		
Woman	15	55.6
Man	11	40.7
Gender fluid	1	3.7
Province/territory of residence		
British Columbia	2	7.4
Alberta	4	14.8
Saskatchewan	1	3.7
Manitoba	2	7.4
Ontario	13	48.1
Nova Scotia	2	7.4
Newfoundland and labrador	2	7.4
Prince Edward Island	1	3.7
Living situation		
Lives alone	7	25.9
Live with family	7	25.9
Lives with a partner/friend	9	33.3
Other	4	14.8

evaluation). Descriptive statistics for participants who engaged in both the course and the research (n = 27) are outlined in Table 3. The majority of the participants were women (n = 15, 55.6%), while 11 participants were men (40.7%) and one participant identified as gender fluid (3.7%). The average age of participants was 41.4 years (SD = 13.2). The median age was 37 and the IQR was 17.5. Participants represented eight provinces and territories, with most from Ontario (n = 13), the most populous province in Canada.

3.1 | Participation

Of the 27 who consented to participate in the research, 25 attended at least one session, (two participants completed pre measures but did not participate in the course). Across both cohorts, the median number of sessions attended was five out of six and the average number of participants attending each session was 14. Twenty-four research participants attended at least three out of six sessions, 20 participants attended at least five out of six sessions and 13 participants attended all six sessions.

Participants reported some difficulties attending all sessions because of commitments or appointments. For example, one individual explained:

> I missed 2 sessions. One day I was really tired from being up all night. Another one I missed because I was busy with other things. (P108)

Another participant travelled to her support worker's office to access a computer in order to participate and missed one session because the staff member was not available to support her. Some participants had challenges participating due to their mental health and physical well-being:

> Not able to attend every session because of my mental health and everything else I am doing. I needed balance. (P107)

Others experienced technical issues that made it difficult to participate, such as a weak internet connection or initial difficulty using the video platform. One person noted feeling overwhelmed by the number of people in the session, and stopped attending the course after the first session:

> I attended one session, the first one. I stopped attending because there were too many people. And I don't like too big of a group, too many people. (P119)

Participants expressed regret at having to miss a session, and appreciated the summary sent to all participants after each session. One person stated, *I missed Grief and Loss, but I have the booklet. I am sad that I missed this session (P128).* Another participant recommended recording the sessions for those who are not able to attend live.

3.2 | Satisfaction and experience

Twenty-five participants responded to a post course survey regarding course satisfaction. Results from this survey are outlined in Table 4. Twenty-two (88%) reported that the course met their expectations and 88% enjoyed the mindfulness activity included in the course. Furthermore, 92% of participants enjoyed sharing strategies with other self-advocates.

Overall, participants were very satisfied with the course, describing it as 'pretty good', 'perfect', and 'fun'. They appreciated that the course was accessible and easy to understand, with many opportunities for participation and inclusion. Ninety-two percent of participants mentioned the inclusion of self-advocates as co-instructors as an important feature of the course:

> I thought it was a good course. The instructors and self-advocates were good and knew the topics. It was important to include self-advocates - nothing about us without us. I asked to be a leader/presenter at the next course. (P109)

Participants also spoke highly of the course curriculum, highlighting the COVID-19 news update, vaccine information, and mental health communication tools as being particularly applicable and useful to them. The mindfulness exercise, led by a self-advocate at the

TABLE 4 Course satisfaction (n = 25)

Item	Yes (n)	Yes (%)
Has taking this course changed your day-to-day life?	21	84
Did this course meet your expectations?	22	88
I felt ok with the number of other people in the course	18	72
I felt ok participating (i.e., asking questions) during the sessions	22	88
I liked having self-advocates also leading the course	23	92
I liked the mindfulness activity	22	88
I liked the time in the session to share information about COVID-19	21	84
I liked sharing with other self-advocates	23	92
This course helped me feel supported and connected	23	92

TABLE 5 Self efficacy results

Variables	N	Mean	SD	Range
Self-efficacy average				
Pre	27	65.3	19.4	25–98
Post	25	70.6	15.5	45–100
Follow-up	24	72.9	18.6	33–100
Self-efficacy health care				
Pre	27	68.9	27.2	15–100
Post	25	72.9	20.4	30–100
Follow-up	24	70	30.2	0–100
Self-efficacy mental health				
Pre	27	61.6	21.7	10–100
Post	25	62.8	21.4	20–100
Follow-up	24	73.3	22.4	30–100
Self-efficacy self-care				
Pre	27	65.3	19.4	25–98
Post	25	70.6	15.5	45–100
Follow-up	24	72.9	18.6	33–100

beginning of each session, was identified as a participant favourite (88% of participants appreciated this), as expressed in this comment: 'I loved the breathing exercises with [the self-advocate] and learning how to be calm', (P107). Course materials, mailed to participants before the start of the course, were also valued by participants, and many of the participants shared that they used them to help with issues such as sleep, anxiety, and problem solving. One participant, in her follow-up interview, described how she used the COVID-19 Guided Self-help Booklet Series:

> When I am having a bad day, I have my booklet right there. Yesterday before going for my vaccination, I had huge anxiety. I had my book and it showed me things I can do to calm myself down, like counting backwards or calling a friend, taking deep breaths. I looked at the book. When you are anxious, you can't think of what you have to do, so you need the book to remind you, to tell you that you are okay. I am so glad they gave us the books. And it is in such plain English!…I don't feel so alone anymore….(P128)

Breakout groups, where participants could connect and discuss with each other in smaller groups during a session, were also mentioned as an important feature of the course. Several participants recommended increasing the number and length of the breakouts and shared how the groups provided a safe space for participants who felt less comfortable speaking in the larger group:

> There were breakout groups, so you could talk to other self-advocates, and sometimes it can be very personal. You have to be nice to others and hear what they have to say. If you want to say something, you can. I just loved the sessions. They were very good. (P122)

Providing time and space to socialise during the course was a critical component of participant satisfaction. The connections made during the course extended after the course ended, with participants attempting to continue meeting as a group: 'We enjoyed it so much, a lot of us want to get reconnected after the course. We know that the course is over, so we exchanged contact information…. I created a Facebook group, and Zoom links will be sent there'. (P118).

Virtual delivery of the course made it accessible to people from across the country and made it possible to deliver mental health programming at a time when most activities were cancelled due to public health restrictions. However, the online format of the course was frustrating for some participants. One participant expressed a preference for face-to-face interactions, while others experienced audio or video problems: 'Sometimes the WebEx app freezes; and I was having trouble during the course'. (P116) and 'The audio was not good, and I could not hear the self-advocate speaking'. (P119). Another participant suggested that online delivery of the course was distracting at times: 'I have sensory overload where there are too many people talking or too much going on the screen… I have to give all my attention if I want to learn something, so distractions don't help my ADD. I probably could have muted people or pinned [the instructor], but I didn't do that'. (P120)

Other suggestions for improving the course included adapting the course format (e.g., having a short scheduled bathroom/snack break; longer or additional sessions); changing the curriculum (e.g., more social/fun activities, less 'bad' news; offering alternative sources of information such as YouTube videos and newsletters, and more plain language materials); improving technology-related functions (e.g., using Zoom, offering more

tech support, muting people who monopolise speaking time; offering American Sign Language for those hard of hearing); and, offering the course in person, or having fewer people in the course if online.

Overall, participants enjoyed the course, and many expressed interest in taking it again. Participants indicated that offering an honorarium for the research component encouraged participation and recommended advertising the course more broadly in the disability community. They also suggested offering courses on mental health in general, without a COVID-19 focus.

3.3 | Self-efficacy

Descriptive statistics for self-efficacy questions are outlined in Table 5. Average self-efficacy scores ranged from 65.3 at the pre time point to 70.6 at post to 72.9 at follow-up. Overall self-efficacy scores did not significantly improve across time $F_{(2,46)} = 2.85$ $p = .068$, however, improvements were noted in specific domains.

3.3.1 | Mental health

Self-efficacy related to mental health was examined with a survey question that asked, 'I am confident in how well I can take care of my mental health during COVID-19'. It was found that there was a significant increase across time, $F_{(2,46)} = 3.96$, $p = .026$. Furthermore, post-hoc analysis showed that mean values significantly increased from pre (61.6) to follow-up (73.3), $p = .01$.

One participant spoke about how the course provided self-advocates a space to share difficult moments, 'I shared something that happened a couple of months ago, and it made me come to terms with it. So, the course helped a bit with that (P121)'. Additionally, the course helped participants feel less alone in their experience and equipped them with tools to manage mental health challenges when they did arise.

> We have a booklet that came with the course, and it is excellent to go back to. It is a reference I can go to. I learned that mental health is something we all deal with, COVID has really helped us realize that we are so much more alike, more together than apart. I really enjoyed [Researcher] – absolutely an amazing guy, super kind. All the people were super kind...I have been in mental health counselling since I was 16. I liked the group, let me tell you. It was great to be around other people who understood what I was going through. The [self-advocate] facilitators truly understood, they have the lived experience, and they knew how to help us understand the complexities of thought, the invisibilities, how to explain things to people. I now have the tools I need to deal with mental health. (P128)

3.3.2 | Health care

To measure changes in self-efficacy related to health care, participants responded to the question, 'I am confident in how well I can prepare for health care and talk to my doctor during COVID-19'. These scores did not change significantly across time, $F_{(2,46)} = 0.265$, $p = .769$. However, some individuals provided open-ended comments demonstrating how they learned skills to navigate health care better: 'The other thing I learned was to fill out the health care forms, especially if you can't speak up for yourself, and if you are seeing a new doctor when they don't know you' (P101). Another participant echoed feeling a sense of confidence, stating: 'I pretty much learned about what to tell your doctor, when you have a new doctor, what to tell them about yourself' (P121).

3.3.3 | Self-care

Finally, participants were asked to reflect on their self-efficacy concerning self-care. The survey question asked, 'I am confident in how well I can make sure I do things to take good care of myself during COVID-19'. While initial analysis did reveal a significant difference between the three time points, $F_{(2,46)} = 3.95$, $p = .026$, post hoc analysis showed no significant difference from pre to post or from pre to follow-up. However, the effect size (partial eta) was large ($\eta^2_p = 0.146$).

Importantly, open-ended responses revealed improvements in participants' self-care. For example, participants spoke about how the course helped them develop a sense of autonomy towards their own health and learned skills to support their mental health. Participants also shared that the course provided them a space to reflect on and consider how they might improve habits that may lead to poor health in the long-term: 'The course changed things, maybe a bit. Maybe I am not smoking as much as I used to. It is an addiction; the course helped me understand that smoking is not good for you' (P129). Another participant also shared how the course allowed them to develop positive habits, 'Before the course, sleeping was a big one for me; sometimes I would sleep late. Now I am trying to change this', (P116) and another participant stated, 'I am going to bed at a reasonable hour, without having screen time' (P117).

Participants also developed important coping strategies to deal with their stress, 'Writing down problems and working through them', (P127) and 'I am sorting out my problems by using the checkboxes in the booklet' (P117).

3.4 | Well-being

Overall well-being scores were estimated by summing all the items from the WEMWBS. At baseline, participants average score was 26.2 ($SD = 8.15$), with scores ranging from 10 to 40. Post intervention, participants had an average score of 27.1 ($SD = 6.44$), with scores ranging from 10 to 40. Finally, at follow-up, the participants' average score

was 27.0 (SD = 8.86) with scores ranging from 8 to 43. No significant changes were detected over time, $F(2,46) = 0.449$, $p = .641$.

Although standardised well-being scores did not improve, participants did provide qualitative examples of how the course helped with their well-being. For example, several people spoke about feeling less isolated and shared that they enjoyed being able to connect with other self-advocates experiencing similar issues:

> Being with other people, knowing you are not alone, listening and hearing them talk about COVID. This is new; it didn't exist last year. When it is new, it is a stressful time and you don't know how to cope with it. So you want moral support, and know how to cope with it, especially if you have anxiety or depression. This was a safe zone to talk about it, just to share, it can be very personal but you have that person to talk to. (P122)

This feeling was echoed by a participant who said, 'It has helped me know that I am not alone. If I want to talk to someone, I can reach out to people. It gave me a purpose and something to look forward to' (P108). Another participant also felt the course helped them when they were struggling, 'When I am not feeling the best, I think back to what I learned in the course, and that does help' (P111).

4 | DISCUSSION

The current study examined the feasibility and acceptability of a virtual mental health course designed to help adults with intellectual disabilities navigate COVID-19. Additionally, the study also examined self-reported changes in self-efficacy and well-being. Overall, findings indicated that participants enjoyed the course as indicated by high participation rates and qualitative feedback. Furthermore, participants suggested that the course had a positive impact on their day-to-day lives. Importantly, it appeared that participants maintained their well-being while COVID rates increased and greater restrictions were implemented at post and follow-up time periods. This suggests that the course may have contributed to the maintenance of participants' sense of welfare, happiness and comfort despite the tumultuous circumstances occurring outside of the course. Study findings highlight the value of structured, virtual learning programmes as a means of supporting people with intellectual disabilities during the pandemic. More research is needed to better understand the impact of virtual group-based interventions on the mental health and well-being of adults with intellectual disabilities, and whether such interventions provide positive long-lasting changes to their mental health. Future studies are needed with a larger cohort and more refined measures.

Overall, participation and retention rates for this course were high and in general, participants felt satisfied with the course as reflected through both the quantitative and qualitative measures. Prior to the pandemic, virtual programmes were not readily available to individuals with intellectual disabilities, with the assumption that they may be too complicated to participate in, especially given the degree of digital literacy that individuals with intellectual disabilities may possess (Chadwick et al., 2022). Evidently, this was not the case with this course. This course filled a major gap that individuals with intellectual disabilities identified, which was the need for more virtual mental health care programmes and services (Lake et al., 2021).

Although no significant improvements in well-being were detected over the duration of the study, it is important to note that well-being did not decrease during the study period for individuals in either cycle. Qualitative comments would suggest that participants found the online programme helped them feel more connected to other individuals with intellectual disabilities who were also trying to navigate COVID-19. This echoes what has been reported by others, that virtual programming provides individuals with intellectual disabilities a place to engage and socialise safely, without fear of getting sick or of breaking rules related to social distancing (Barlott et al., 2020; Lake et al., 2021).

Quantitative analysis of well-being may have been limited by the measure used and the timing at which the measures were administered. First, the WEMWBS although internally reliable, may not be sensitive to change in this population. Second, during both cycles of the programme, the pandemic was worsening (increases in case numbers, greater restrictions) as opposed to improving. Therefore, it is possible that the course had a buffering effect so that well-being remained unchanged. Unfortunately, comparative research with people with intellectual disabilities has yet to follow people's well-being over time without intervention. Future research could also include specific loneliness measures validated for this population (McVilly et al., 2006) and possibly pre and post measures of anxiety and depression.

Self-efficacy did appear to improve as some significant changes were identified, specifically around mental health. Participants identified how the course improved feelings related to confidence and connectedness, all which are related to one's mental health. Furthermore, it is important to recognise that these improvements were attainable in an online setting. This closely aligns with what has been seen in previous research, in that information and communication technologies can foster feelings of social connectedness and improve mental health in individuals with intellectual disabilities (Barlott et al., 2020). Open ended responses suggested that participants felt more confident speaking with their health care provider, and they also discussed feeling more autonomy towards their own physical health. This highlights that both the course content and delivery method were able to successfully provide information to participants to make them feel empowered and apply their learning to their everyday life.

Both health related self-efficacy and self-care self-efficacy did not show any significant changes, though self-care did have a large effect size. Like the WEMWBS, the self-efficacy items used in this study have not yet been validated for people with intellectual disabilities. While the internal reliability of these questions was within acceptable limits, future research may want to examine other aspects of reliability, such as test–retest reliability and intra-rater reliability to examine if this measure is consistent across time or how individual

differences may impact scores. Alternatively, future work in this area may choose to utilise more expansive measures.

One of the important and unique features of the course was that self-advocates served as members of the teaching team, where they helped to design and co-lead parts of the course. This feature of the course was repeatedly identified by course participants as something they valued. Firstly, participants felt they could relate to the self-advocate leaders and share more openly. This undoubtedly led to feelings of connectedness, as participants felt they could relate to not only other participants, but course facilitators as well (Wilson et al., 2017). There has been a push to include adults with intellectual disabilities as co-designers of programmes targeted towards them (Frankena et al., 2015; García Iriarte et al., 2014). This can both ensure that the content is relevant and reflects to participants in these courses that they have an important perspective to offer. Co-design and co-delivery helps build the capacity of people with ID as teachers but is equally an important learning opportunity for the facilitators who do not have disabilities.

As with all research, limitations do exist. First, the measures used in this course have not been previously validated for this population. As such, it becomes hard to know if we can extend our findings to the larger population of those with intellectual disabilities. It is also difficult to know if the tools used were accurately measuring change of the specified construct. Furthermore, given that Likert scales were used in the measures, it is possible they had a floor effect as scores tended to cluster at the lower end and thus intra-individual variability was not accurately detected. Second, this study was limited by the sample size and lack of a control group; however, this type of study design is commonly seen in feasibility and acceptability studies (Hertzog, 2008; Moore et al., 2011). Future studies with more stringent methodology are needed to determine the true efficacy of delivering course content in this way for those with intellectual disabilities. Finally, the course, both in terms of its length (90 min sessions) and the content, may not be appropriate for individuals who require more intensive support. It will be important to explore how the course content could be adapted (i.e., shortened, simplified), for individuals with more severe disabilities.

5 | CONCLUSION

This is one of the first projects to study and deliver a virtual mental health course to individuals with intellectual disabilities. Importantly, the participants in this course stated that it provided them with a multitude of positive experiences and a safe space to discuss and learn to cope with COVID-19. Our study suggests that learning virtually can create meaningful change in the lives of those with intellectual disabilities especially in a time where regular programming cannot be held. As we continue to live in a world heavily dictated by COVID-19, more programmes will need to shift to an online but interactive format. Courses such as this can combine learning with social elements to promote wellbeing, feelings of belonging and connectedness (Wilson et al., 2017). Beyond

COVID-19, the findings from this study support the use of a digital format to foster connection and provide information about challenging, unique, and difficult topics with and for individuals with intellectual disabilities.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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