


# Increasing physical activity through an adapted web-based exercise program for people with intellectual disabilities: Support staff are crucial for feasibility

Sanna Fjellström<sup>1</sup> | Jessica Hölttä<sup>1</sup> | Anna Nordström<sup>1,2,3</sup> |  
Eva Flygare Wallén<sup>4,5</sup> | Marie Lund Ohlsson<sup>1,6</sup>  | Elisabeth Hansen<sup>1,7</sup>

<sup>1</sup>Department of Health Sciences, Swedish Winter Sport Research Centre, Mid Sweden University, Sundsvall, Sweden

<sup>2</sup>School of Sports Science, UiT The Arctic University of Norway, Tromsø, Norway

<sup>3</sup>Department of Medical Sciences, Uppsala University, Uppsala, Sweden

<sup>4</sup>Karolinska Institutet (KI), Department of Neurobiology, Care Sciences and Society (NVS) Division of Occupational Therapy, Research group Health in Everyday Life among people with neurological Disorders (HELD), Stockholm, Sweden

<sup>5</sup>Health and Social Care Administration, Municipality of Östersund, Östersund, Sweden

<sup>6</sup>The Swedish School of Health and Sport Sciences (GIH), Department of Physiology, Nutrition and Biomechanics, Stockholm, Sweden

<sup>7</sup>The Faculty of Education and Arts, Nord University, Bodø, Norway

## Correspondence

Sanna Fjellström, Swedish Winter Sports Research Centre, Department of Health Science, Mid Sweden University, House D, SE-83125 Östersund, Sweden.  
Email: [sanna.fjellstrom@miun.se](mailto:sanna.fjellstrom@miun.se)

## Funding information

Östersunds kommun; Mittuniversitetet

## Abstract

**Background:** People with intellectual disabilities are less physically active and suffer from ill-health more than the general population. Support staff play an important role in the person's life. This study aimed to explore the support staff's experiences regarding the feasibility of adapted web-based exercise for people with intellectual disabilities.

**Method:** Participants with intellectual disabilities living in community-based settings were recruited for a web-based exercise study. Eight semi-structured interviews were carried out with their support staff before and after the intervention period.

**Results:** The main theme, 'Support staff are crucial for feasibility' encompasses the importance of communication, structure, and motivation in improving physical activity for people with intellectual disabilities.

**Conclusion:** The experiences of support staff, indicate that a web-based exercise program is feasible for the target group, and one way to overcome challenges for PA, where the role of the staff is crucial.

## KEYWORDS

e-training, health promotion, intellectual disability, motivation, physical activity, support staff

## 1 | INTRODUCTION

Physical inactivity is one of the leading causes of increased risk for premature death and overall poor health (Dumith et al., 2011). The evidence strongly indicates that diseases can be prevented by increasing the level of physical activity (PA), such as cardiovascular disease or

type 2 diabetes (Bondar et al., 2020; Bull et al., 2020). In 2020, World Health Organisation (WHO) issued updated guidelines for PA, in which some target groups were given particular priority. One of these groups is people with intellectual disabilities (Bull et al., 2020). Research indicates that people with intellectual disabilities are less physically active and suffer from ill health more than the general

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2024 The Authors. *Journal of Applied Research in Intellectual Disabilities* published by John Wiley & Sons Ltd.

population (Doody & Doody, 2012; Emerson et al., 2016; World Health Organization, 2000). Different methods for enhancing PA in people with intellectual disabilities have been tested. A systematic review showed that aerobic, strengthening and combined exercise programs seem to have a positive effect on cardiovascular and muscular fitness and some of the studies included in the review present improvements in body composition parameters (Bouzas et al., 2019).

Despite favourable results, many barriers stand in the way of people with intellectual disabilities reaching higher levels of PA. Most of the reasons relate to the reality that many people with intellectual disabilities are reliant on their personal support to do daily tasks, and people with intellectual disabilities appear also to be excluded from doing PA. Transportation issues, including costs, planning, and assistance from support staff (Bodde & Seo, 2009; Bossink et al., 2017; Laxton et al., 2023) are some of the factors that are common barriers. A challenge is that even though the staff recognise the need for PA for the target group, they lack necessary practical knowledge of appropriate activities for people with intellectual disabilities and how to implement PA in their daily routine (Sheerin et al., 2022). The importance of personal support for people with intellectual disabilities and addressing their needs has previously been highlighted as a crucial component in regular PA (Antonsson et al., 2008; Laxton et al., 2023; Truong et al., 2021). In addition, knowledge about health behaviour seems to be important for motivating people with intellectual disabilities to improve their PA, as does support, engagement, and social contexts (Bossink et al., 2020; Michalsen et al., 2020).

The world is becoming increasingly digitised and digital exercise tools are becoming more useful, however, not been extensively tested for people with intellectual disabilities. Digital tools have been used to motivate people with intellectual disabilities to improve PA, for instance, smartphone reminders have been successful in improving PA for the target group (Kurti et al., 2015; Perez-Cruzado & Cuesta-Vargas, 2017). A previous study explored the feasibility and effectiveness of an adapted web-based exercise program for people with intellectual disabilities (Fjellstrom et al., 2022). For many people with intellectual disabilities, visiting new places is demanding and transportation to the training facility can be challenging (Bodde & Seo, 2009; Bossink et al., 2017; van der Ploeg et al., 2004). Using a web-based exercise program eliminates some of the barriers to PA, such as transport issues, economic challenges and discomfort in unfamiliar environments. However, because web-based exercise only has been evaluated for its effectiveness through quantitative measurements previously, it is crucial to also understand the perspectives of the support staff. They play a significant role in determining whether activities will be carried out in the individuals' lives or not. Therefore, the aim of the present study focused on the staff's perspective of the experiences from a web-based exercise program for people with intellectual disabilities to improve PA.

Both environmental and personal factors constitute a significant role in why some people are active and some are not, and can be explained by the relationship between PA behaviour, its determinants, and the individual functioning of people with a disability (van der Ploeg et al., 2004). Environmental and personal facilitators and

barriers, self-efficacy and the person's health condition are factors to be aware of when implementing new strategies to enhance PA for the target group. Web-based exercise can provide additional facilitators and reduce certain personal and environmental barriers to PA. The theoretical framework for this matter can be explained by the PA for People with a Disability (PAD) model (van der Ploeg et al., 2004). The role of support staff is important in helping people with intellectual disabilities to achieve sustainable routines and overcome barriers to PA. Social support and perceived self-efficacy are factors that can motivate people with intellectual disabilities to participate in PA (Bossink et al., 2017). Having confidence in being able to successfully engage in a certain PA can develop self-efficacy and thus enhance motivation for PA.

The present study was part of an overarching intervention study, mentioned above, and focused on pre- and post-interviews of the support staff. A parallel paper has explored the views of and experiences of the participants with intellectual disability (Hansen et al., 2023). The objective of the current study was to explore the experiences from the perspective of the support staff to analyse the feasibility of a web-based exercise program for people with intellectual disabilities.

## 2 | METHOD

### 2.1 | Study design

This qualitative study was part of an overarching intervention study conducted to evaluate the effects of adapted web-based exercise for people with intellectual disabilities performed during autumn 2020. In a previously published study, the intervention is described in detail (Fjellstrom et al., 2022). Adults with intellectual disabilities living in community-based settings were recruited for a web-based exercise intervention study that included 50 min of exercise at moderate intensity, three times a week for 12 weeks, where baseline and follow-up assessments were used to capture the effects of the web-based exercise program. The present study focused on the perspective of the support staff on the feasibility of this exercise program for the target group. The support staff all worked in the community-based settings where the participants lived and the exercise was performed, and they assisted the participants through the 12 weeks of exercising. The support staff is the staff working closest to the individuals with intellectual disability, supporting them with for example their daily needs such as routines, shopping, cooking, cleaning and social support. In Sweden, some municipalities require the education of assistant nurses while many do not have any specific requirement of support staff education. The support staff assisted the exercising in different ways, depending on the individual need for assistance, for example by initiating the exercise video, adapting the intensity level, participating in the exercises themselves to motivate the participants, and reminding them of their scheduled workout sessions. If the support staff needed assistance, they could contact a physiotherapist, affiliated with the community-based settings, for further assistance.

The assistance from a physiotherapist could involve replacing an exercise if it didn't work for a particular participant or help with adapting the intensity level if the support staff found it challenging to determine how and when to adapt the intensity level. The study was approved by the Swedish Ethical Review Authority (Dnr 2019-06495 and Dnr 2020-02607).

## 2.2 | Participants

All participants in the study worked in community-based settings in central Sweden as support staff for people with intellectual disabilities. All of the staff, that was planned to be involved and support their residents during the intervention, were asked if they wanted to partake in individual interviews ( $n = 16$ ). The inclusion criteria were: Work as a support staff in the community-based homes, have been engaged in providing information about the exercise and was going to be involved in the planned exercise intervention. A total of eight people accepted to participate in semi-structured interviews, both pre- ( $n = 8$ ), one week before the start of intervention, and post-intervention ( $n = 8$ ), one week after the end of intervention (Figure 1). Reasons for non-participation were not explored. The participants were spread out from all of the four different municipalities participating in the study. The ages of the interviewees ranged from 24 to 66, with a mean age of 42.5. Five participants were women and three were men, which is similar to the distribution of men and women working as personal carers and support staff, where women are predominant (ILO, 2020). All of the eight participants had studied up to upper secondary school level, and two of them also had a university education. The participants' number of years of experience working

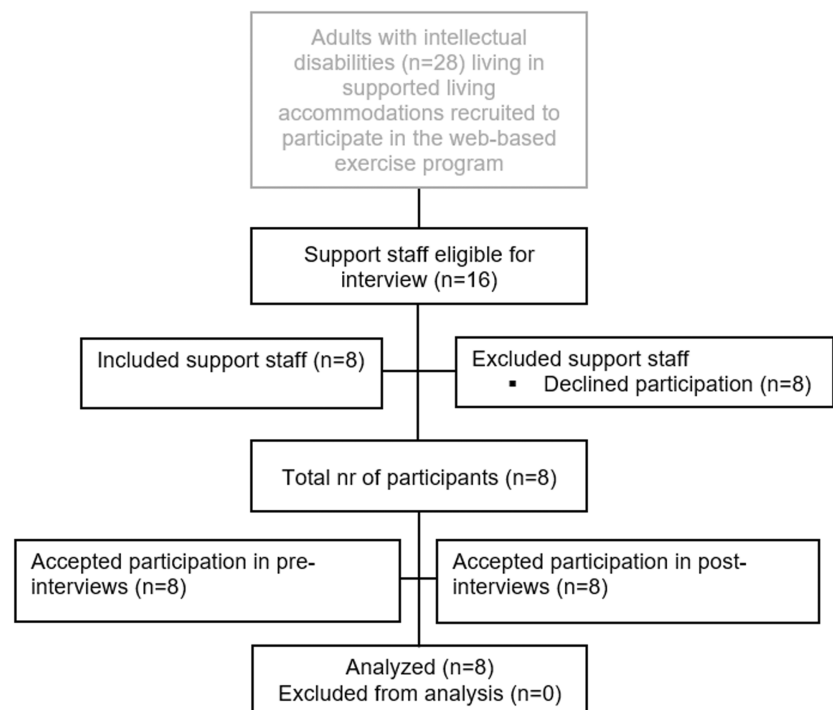
with this target group varied between 2 and 26 years with a median of 11 years.

## 2.3 | Data collection

Semi-structured, one-to-one interviews were conducted before and after the web-based exercise intervention to explore the support staff's views on exercise and health for people with intellectual disabilities. Due to the COVID-19 restrictions at the time, the interviews were conducted digitally. Eight pre-intervention interviews were conducted in September 2020, and the post-intervention interviews were carried out in December 2020, involving the same individuals who participated during the pre-interview phase. Interviews were conducted by the first author (SF), one of the co-authors (JH), and the last author (EH). The first author was present in all interviews, and it was always two of the three authors performing the interviews. The interviews lasted 20–51 min. The mean time was 29 min. The first author (SF) recorded and transcribed the interviews verbatim. A consent form was signed by all participants with information that participation in interviews was voluntary, that all contributions would remain anonymous and that interviews were audio recorded.

The interview guide contained open questions divided into four themes: (1) background information, (2) health and PA, (3) digital awareness, and (4) motivation for PA. The same themes were applied both pre- and post-intervention, but the questions were different. The pre-intervention interviews the focused on exploring the perspectives on health, exercise, and expectations regarding web-based exercise. Whereas after the intervention, the focus shifted to exploring the experience of the intervention and if their view on health and PA had changed.

The overreaching intervention study



**FIGURE 1** Participant flow diagram.

## 2.4 | Data analysis

A qualitative content analysis was used to analyse the interviews, focusing on both manifest and latent content (Graneheim et al., 2017; Graneheim & Lundman, 2004). When transcription was completed, the first author re-read the transcripts several times. Notes were taken during reading to mark ideas for coding. The last author (EH) and one of the co-authors (MLO) also read through the text several times, and the text was thereafter divided into meaning units independently by the three authors. Following that, the authors discussed the meaning units until a consensus was reached. The meaning units were then condensed to codes by the first author (SF). The codes were compared based on differences and similarities and were subsequently sorted into sub-categories of similar content and the sub-categories were then sorted into categories, which constituted the manifest content. The categories were discussed among the researchers, knowing that the researchers' interpretative repertoires can vary and co-researchers can come up with alternative interpretations which is positive for the outcome of the analysis. Finally, the categories were interpreted and abstracted into a theme, explaining the underlying meaning, the latent content, of the categories (Erlingsson & Brysiewicz, 2017).

## 3 | RESULTS

The qualitative content analysis resulted in an overall theme, 'Support staff are crucial for feasibility'. The theme was based on one category and three sub-categories (Table 1) from the pre-interviews and three categories containing nine sub-categories (Table 2) from the post-interviews. The theme reflects anticipated challenges from the pre-interviews, with the interviewed staff emphasising the importance of involving all personnel. The post-interviews indicated that the expected barriers were confirmed, underscoring the importance

**TABLE 1** Categories and sub-categories, pre-intervention.

Health and PA are important, but difficult to achieve
Health and well-being are important to enjoy life
Web-based exercise will be a challenge
The most common PA in group homes

**TABLE 2** Categories and sub-categories post-intervention.

A healthy change is motivating	A desire to make it work	Important components that require support
Psychological and physical health	Importance of both routines and flexibility	Technical issues
Staff benefited from exercising	Staff engagement	Did not commit to the task
A sense of being more physically active	Easier than expected	The exercises

of personnel for success and how they were motivated and engaged to overcome these barriers. Quotes illustrating the categories are included in the text describing the categories and are marked with a number and the sex of the participants in order to show that they represent a variety of respondents.

### 3.1 | Perspectives on PA (pre-interviews)

The interviews pre-intervention captured the staff's view on health and PA for the target group and the importance of well-being. Anticipated challenges in the planned total amount of exercise were also highlighted and the importance of involving the staff group. The staff also mentioned what type of PA they were engaged in today, in the community-based living, and the challenges related to that.

#### 3.1.1 | Health and PA are important but difficult to achieve

This category was formed from three sub-categories (*Health and well-being are important to enjoy life*, *Web-based exercise will be a challenge*, and *The most common PA*; Table 1). All the interviewed staff explained that health and well-being are important for people with intellectual disabilities. They all agreed that good health was highly relevant to well-being and that they prioritised good health in their own life.

It is important to be physically active and have a meaningful life and so on, it really is.

(Participant 1, female)

Concerning web-based exercise for the target group, the staff were doubtful. They expressed that it would be a challenge for the target group to be active three times a week. The anticipated challenges to the program were to get the staff group on board and to integrate exercise into the daily routines.

My first thought was that...hmm it could be tough \*laughs\*. Three days is a lot. But we have to try to make it happen and adapt so that it works.

(Participant 2, male)

Nevertheless, a few of the support staff felt hopeful and believed that it would be up to them (the staff) to make the exercise happen by implementing a schedule and routines for the target group.

It will be different from day to day. But I think it will work if you support them and are positive yourself.

(Participant 7, female)

When asked about the routines of PA currently in place in the community-based setting, one general answer was that going for walks was a common activity for PA.

We also take walks together...it's walking and cycling. And a walk isn't so bad after all. But sometimes it is hard to motivate them.

(Participant 6, female)

### 3.2 | Experiences on the feasibility of the web-based exercise program (post-interviews)

The interviews post-intervention showed experiences of the web-based exercise program. The staff raised challenges and successes, and discussed what is needed to make this type of exercise work.

#### 3.2.1 | A healthy change is motivating

This category was formed from three sub-categories (*Psychological and physical health, staff benefited from exercising, and A sense of being more physically active*; Table 2). The staff explained that they observed that the participants were happier and livelier after the exercise period. They experienced less pain and improved balance which delighted the staff and motivated them to continue.

For example, one of them has had back pain. And it has gotten better, they haven't really complained about it at all. Or as a group, they haven't had physical pain at all, and that's really positive.

(Participant 5, female)

I actually think they have become a little happier and more energetic.

(Participant 1, female)

Some of the staff explained that they also had participated in the training themselves and discovered the effects of the exercising.

I wanted to measure myself (staff), was so curious to see if there had been a change.

(Participant 5, female)

Web-based exercise seemed to have a positive ripple effect in terms of motivating the participants to be more physically active. The staff explained that the participants wanted to perform exercise and became curious about trying more types of exercise.

Well, the thing is that they are more excited to exercise. Now they're starting to talk about us going down to the gym, that they've even been there a few times. So, it's just a matter of hanging on to this, so that it continues and to keep going so that we don't go back to nothing.

(Participant 2, male)

#### 3.2.2 | A desire to make it work

This category was formed from three sub-categories (*Routines and flexibility, Staff engagement and Easier than expected*; Table 2). An important success factor was planning together, when to perform the exercise, in the daily schedule. The staff expressed that it would be difficult to leave it unplanned and that routines are important, otherwise, it does not work. Regardless of whether an activity involves doing the laundry or exercising, it needs to be prepared and planned. However, the staff also mentioned that the flexibility of being able to do the exercise wherever and whenever was crucial. For instance, on one occasion, it was a football game at the same time as the exercise was scheduled, and they postponed the exercise for 1 h, which would not be possible if, for example, participating in a fitness class at a training centre.

The success factors are probably that we have done the exercise at the same time on the same days, with a fixed schedule, it has been great. There was no talk of which day, at which time, or which member of staff, it has been decided, and they take it as planned, both the staff and the residents as well. If we would have done it a little now and then, then it would probably have fallen quite flat, I think.

(Participant 8, male)

And if there's maybe football or ice hockey on TV, we might have to switch days for something like that, but we've solved it.

(Participant 5, female)

Another vital factor that the staff expressed was the importance of engagement from the staff, in the way that the level of engagement of the participants with intellectual disabilities is often influenced by the attitude of the staff. How the instructors expressed themselves was also important. The participants needed to feel that the instructor was having fun and that instructions were clear and easy to understand.

At least one member of staff has always been there too, participated in the exercises and not just sat and watched.

(Participant 2, male)

Overall, I would say that it is a lot about the staff believing that exercise is important, to get the exercising done. It is a lot about how we think about it which greatly affects how it is received.

(Participant 7, female)

The music and the enjoyment of the instructors on the recording.

(Participant 7, female)

Despite the feeling pre-intervention, that this exercise program would be challenging, many have expressed that it was easier than expected. Some have mentioned that it likely would have been harder to attend an exercise session at a training centre and that having the exercise digitally made it more convenient. Some also mentioned that they previously had to offer some reward to make the exercise program happen, but it hasn't been necessary this time.

This digital approach has worked really well. Going to a fitness facility and doing a workout which would have been different every time would have been much more challenging. It has worked better than I thought to do these exercise sessions.

(Participant 4, male)

### 3.2.3 | Important components that require support

This category was formed from two sub-categories (*Technical issues*, *Did not commit to the task* and *The exercises*; Table 2). The staff mentioned difficulties with the technical support. In some community-based settings, they didn't have internet access. In cases where they didn't have internet access they were provided with a wireless router; however, the internet connection was weak in some places (rural areas) and difficulties in watching the videos emerged. The staff sometimes solved the problem themselves, but not everyone was competent enough to solve technology-related problems.

It's worked okay, they've had a few things like the connection and stuff, the connection has been interrupted sometimes, but that has nothing to do with the project itself, but more that you live in the countryside.

(Participant 8, male)

Communication was a barrier that the staff mentioned during the interviews. It is common to hire substitutes when the regular staff are not able to work. However, this causes problems concerning daily routines and can therefore be a barrier to this kind of exercise. They also mentioned that support from their managers is important to inspire the staff that deal with the target group every day. It was important that the managers also had a positive attitude to exercise to get all staff on board and establish clear routines when substitutes were working.

It hasn't worked for the substitutes, it's like when you raise a dog or a puppy or something, you have to be there all the time, there has to be something like "Wednesday at 11 then XX will come and so on."

(Participant 4, male)

The biggest thing, I feel, is for managers to get the personnel group on board. If you get them to believe that exercise is important and have a positive attitude towards it, then you reach the residents too.

(Participant 7, female)

The exercises were sometimes performed very rapidly which was difficult for some of the participants.

Yes, sometimes it may have gone a bit fast, so they couldn't keep up. So, if the instructor does something, she might do it two or three times before the residents can do it once, if you see what I mean. But they have done their best to keep up anyway.

(Participant 1, female)

The staff also mentioned that some of the participants were visually impaired which affected their ability to see how the exercises were performed. A suggestion made by the staff was to improve the exercise program by allowing the user to zoom in on the exercises, and thereby meet the persons' needs better. The background was also disturbing for some of the visually impaired participants, and the staff mentioned that it would be easier with a cleaner background, for less visual disturbances, and also if the exercises had been shown from different angles.

Some things have been a bit difficult for them, some have not, or yes, one of them has quite poor eyesight, so it would be easier, for example, if it were possible to zoom in on certain exercises.

(Participant 1, female)

A lot of people have problems with their eyesight and it's a bit difficult to see because there's a bit too much in the background behind the instructor, and the fact that you only get to see her from one angle.

(Participant 5, female)

## 4 | DISCUSSION

This study explored the experiences of the feasibility of an adapted web-based exercise program for people with intellectual disabilities, from the perspective of support staff. The results revealed the overall theme, 'Support staff are crucial for feasibility', which highlights the importance of the staffs' motivation and engagement to promote PA in general and interpersonal factors; the teamwork between the staff and people with intellectual disabilities, between the people in the staff group and between the staff and the managers. The importance of teamwork involves open communication, cooperation, and the ability to complement each other to achieve the goal, as demonstrated by this study, as well as previous research findings (Truong et al., 2021). The results from the current qualitative study present a deeper understanding of the results of the previous study which aimed to study outcomes on the level of PA, body mass, and waist circumference, and where significant positive changes were observed (Fjellstrom et al., 2022). The deeper understanding involves experiences from support staff, indicating that a web-based exercise program is feasible for the target group, and one way to overcome challenges for PA, where the role of the staff is crucial. To the best of the authors'

knowledge, no previous study has explored the support staff experiences of web-based exercise for people with intellectual disabilities.

To make a web-based exercise program successful, cooperation and communication were crucial between support staff and the people living in the community-based settings. Although many of the staff expressed pre-intervention that this kind of exercise would be a challenge, they all agreed on the importance of PA for the target group. This indicated that they had a positive attitude towards PA and were motivated to promote the web-based exercise intervention. The post-interviews showed that the staff had engaged to make the exercise work, how they made efforts and had *a desire to make it work*, and also felt motivated when seeing that their efforts of support made *a healthy change*. The staff's confidence in effectively promoting PA through a web-based exercise program may have increased from pre- to post-intervention. The staff developed self-efficacy and thus easily enhanced motivation for PA (van der Ploeg et al., 2004). By increasing their self-efficacy, it may become easier in the future to make exercise effective, despite the potential barriers. Not only may their ability to perform health-promoting tasks have improved, but their intrinsic motivation may also have increased as they were able to experience competence and autonomy in their actions and decisions when developing healthy routines (Ryan & Deci, 2000; Thøgersen-Ntoumani & Ntoumanis, 2006). This yields for both the staff themselves and in their work when supporting people with intellectual disability. When they realised that the support of the exercise was *easier than expected* and that the participants experienced a healthy change as well as when the support staff were engaged in the exercise alongside the participants and also felt healthy. The support staff were more energised when they saw the results of their engagement and interactions with the participants, which boosted their efforts. When someone's health improves, for instance, as a result of a positive change, the likelihood of passing along that experience and wanting someone else to feel it too increases (Ryan & Deci, 2000; Thøgersen-Ntoumani & Ntoumanis, 2006).

The post interviews also revealed how web-based exercise program overcame some of the barriers to PA previously expressed in research, such as transport issues, planning, and help from support staff (Bodde & Seo, 2009; Bossink et al., 2017). The support staff expressed that some barriers were eliminated by the ease of performing the exercises program in the home environments there was no need for transportation, adjusting staffing levels, planning, and the difficulties with some individuals in visiting new places. Furthermore, the fact that the participant could do the exercise whenever and wherever was a benefit when someone wanted to, for example, watch a football game at the same time as the exercise program was planned. The experiences of the eliminated barriers are well described by the PAD model where both environmental and personal barriers were overcome in order to increase the participation in PA for the target group (van der Ploeg et al., 2004). Although flexibility is a success factor, routines might be even more important in order to make the exercising work. This is in line with previous research on the importance of routines and communication (Bossink et al., 2017). The

relevance of beginning to eliminate environmental impediments before proceeding with personal impediments such as health concerns and motivation (Bossink et al., 2017), which are consistent with the PAD model's concept (van der Ploeg et al., 2004), is highlighted in a systematic analysis investigating barriers to and enablers of PA in people with intellectual disabilities (Bossink et al., 2017). The current study identifies that the involvement of support staff is a key component for success, which is worthwhile for further research. Engagement in exercising, especially if they participate in the program with the intended group, was a significant factor. Not only the role and engagement of individual staff was important for success, also the communication and cooperation within the organisation, both managers and other staff, showed to be important for promoting web-based PA. The category *did not commit to the task* revealed the difficulties for managers to engage their staff to promote PA and the difficulties of communication when hiring substitutes. This highlights the importance of the entire organisation having a plan for promoting, in this case, PA.

There are limitations to consider with regard to the present study. The majority of the participating staff expressed pre-intervention attitude towards the intervention which indicates a recruitment bias which may have influenced the outcome. Nevertheless, the study's findings encompassed both challenging and beneficial aspects of the intervention. Also, the participants' variation in the number of years of experience working with the target group might influence their perspectives. Those with more experience might have an advantage in easily interacting with individuals and finding motivational strategies, while someone else, no matter of the length of the working experience, may have more enthusiasm for PA and thus, may influence the target group in a positive manner.

The web-based exercise program's design was perfectly suited to the COVID-19 pandemic situation. Many training centres where people with intellectual disabilities could train were closed, and they were advised not to visit indoor training areas. Since there was a reduction of activity options, this may have had a positive influence on the study results. The interviewees, on the other hand, made no such statements. The downside of this type of exercise program is the social isolation and not getting out into the local community, which is a challenge for people with intellectual disabilities. Although, this type of exercise program should not replace other forms of exercise but should exist as an additional option, just as it does for individuals without disabilities.

The strengths of the present study were to reach a deeper understanding of the experiences from the support staff of a new type of exercise program for people with intellectual disabilities. Exploring the staff experiences of such exercise programs may increase their health literacy and might influence them to make more healthy choices in the planning of the daily schedule of people with intellectual disabilities. By inviting the staff to participate in the intervention, favourable health outcomes can potentially be achieved by both the support staff and the people with intellectual disabilities. This situation presents a mutually beneficial outcome for both parties involved and thus easier to maintain a healthy lifestyle in the long run.

## 5 | CONCLUSION

The main theme of the present study, 'Support staff are crucial for feasibility' highlights the importance of communication, structure, and motivation for staff to promote PA for people with intellectual disabilities. Furthermore, the collaboration between the support staff team and the organisation is vital for enhancing PA among individuals with intellectual disabilities. In line with previous studies, engagement and assistance from the support staff are seen to be essential when implementing new routines and opportunities for PA.

### AUTHOR CONTRIBUTIONS

Marie Lund Ohlsson, Elisabeth Hansen and Sanna Fjellström conceptualised the study and Elisabeth Hansen and Marie Lund Ohlsson sourced funding for the study. Sanna Fjellström, Jessica Hölttä and Elisabeth Hansen conducted the study and Eva Flygare Wallén, Elisabeth Hansen, Marie Lund Ohlsson and Sanna Fjellström conducted the analysis. Sanna Fjellström wrote the first draft followed by a revision from Marie Lund Ohlsson and Anna Nordström. All authors reviewed the results and contributed to the interpretation. All authors reviewed and approved the final draft of the manuscript.

### ACKNOWLEDGEMENTS

The authors would like to express their appreciation to the study participants, the staff, and to the participants with intellectual disability who participated in the exercise intervention. The study was funded by Mid Sweden University's agreement with the Municipality of Östersund.

### CONFLICT OF INTEREST STATEMENT

The authors declare that they do not have any conflicts of interest.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### ORCID

Marie Lund Ohlsson  <https://orcid.org/0000-0001-5317-2779>

### REFERENCES

- Antonsson, H., Graneheim, U. H., Lundstrom, M., & Astrom, S. (2008). Caregivers' reflections on their interactions with adult people with learning disabilities. *Journal of Psychiatric and Mental Health Nursing*, 15(6), 484–491. <https://doi.org/10.1111/j.1365-2850.2008.01259.x>
- Bodde, A. E., & Seo, D. C. (2009). A review of social and environmental barriers to physical activity for adults with intellectual disabilities. *Disability and Health Journal*, 2(2), 57–66. <https://doi.org/10.1016/j.dhjo.2008.11.004>
- Bondar, R. Z., di Fronso, S., Bortoli, L., Robazza, C., Metsios, G. S., & Bertollo, M. (2020). The effects of physical activity or sport-based interventions on psychological factors in adults with intellectual disabilities: A systematic review. *Journal of Intellectual Disability Research*, 64(2), 69–92. <https://doi.org/10.1111/jir.12699>
- Bossink, L. W. M., van der Putten, A. A., & Vlaskamp, C. (2017). Understanding low levels of physical activity in people with intellectual disabilities: A systematic review to identify barriers and facilitators. *Research in Developmental Disabilities*, 68, 95–110. <https://doi.org/10.1016/j.ridd.2017.06.008>
- Bossink, L. W. M., Van der Putten, A. A. J., & Vlaskamp, C. (2020). Physical-activity support for people with intellectual disabilities: A theory-informed qualitative study exploring the direct support professionals' perspective. *Disability and Rehabilitation*, 42(25), 3614–3620. <https://doi.org/10.1080/09638288.2019.1602851>
- Bouzas, S., Martinez-Lemos, R. I., & Ayan, C. (2019). Effects of exercise on the physical fitness level of adults with intellectual disability: A systematic review. *Disability and Rehabilitation*, 41(26), 3118–3140. <https://doi.org/10.1080/09638288.2018.1491646>
- Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J. P., Chastin, S., Chou, R., Dempsey, P. C., Dipietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., ... Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, 54(24), 1451–1462. <https://doi.org/10.1136/bjsports-2020-102955>
- Doody, C. M., & Doody, O. (2012). Health promotion for people with intellectual disability and obesity. *The British Journal of Nursing*, 21, 460–465. <https://doi.org/10.12968/bjon.2012.21.8.460>
- Dumith, S. C., Hallal, P. C., Reis, R. S., & Kohl, H. W., 3rd. (2011). World-wide prevalence of physical inactivity and its association with human development index in 76 countries. In *Prev Med* (Vol. 53, pp. 24–28). Elsevier Inc.
- Emerson, E., Hattton, C., Baines, S., & Robertson, J. (2016). The physical health of British adults with intellectual disability: Cross sectional study. *International Journal for Equity in Health*, 15, 11. <https://doi.org/10.1186/s12939-016-0296-x>
- Erlingsson, C., & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *African Journal of Emergency Medicine*, 7(3), 93–99. <https://doi.org/10.1016/j.afjem.2017.08.001>
- Fjellstrom, S., Hansen, E., Hollta, J., Zingmark, M., Nordstrom, A., & Lund Ohlsson, M. (2022). Web-based training intervention to increase physical activity level and improve health for adults with intellectual disability. *Journal of Intellectual Disability Research*, 66, 967–977. <https://doi.org/10.1111/jir.12984>
- Graneheim, U. H., Lindgren, B. M., & Lundman, B. (2017). Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Education Today*, 56, 29–34. <https://doi.org/10.1016/j.nedt.2017.06.002>
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105–112. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Hansen, E., Hölttä, J., Fjellström, S., Flygare Wallén, E., Jong, M., & Ohlsson, L. (2023). *I am able, happier, livelier and stronger - perceptions of adults with intellectual disability participating in a web-based physical activity intervention [manuscript submitted for publication]*. Department of Health Sciences. Mid Sweden University.
- International Labour Organization (ILO). (2020). These occupations are dominated by women. <https://ilostat.ilo.org/these-occupations-are-dominated-by-women/>
- Kurti, A. N., Logan, H., Manini, T., & Dallery, J. (2015). Physical activity behavior, barriers to activity, and opinions about a smartphone-based physical activity intervention among rural residents. *Telemedicine Journal and E-Health*, 21(1), 16–23. <https://doi.org/10.1089/tmj.2014.0034>
- Laxton, P., Patterson, F., & Healy, S. (2023). Factors related to physical activity in adults with intellectual disabilities in group home settings: A systematic literature review. *Adapted Physical Activity Quarterly*, 40(2), 347–377. <https://doi.org/10.1123/apaq.2022-0064>
- Michalsen, H., Wangberg, S. C., Anke, A., Hartvigsen, G., Jaccheri, L., & Arntzen, C. (2020). Family members and health care workers' perspectives on motivational factors of participation in physical activity for



- people with intellectual disability: A qualitative study. *Journal of Intellectual Disability Research*, 64, 259–270. <https://doi.org/10.1111/jir.12716>
- Perez-Cruzado, D., & Cuesta-Vargas, A. I. (2017). Smartphone reminder for physical activity in people with intellectual disabilities. *International Journal of Technology Assessment in Health Care*, 33(4), 442–443. <https://doi.org/10.1017/S0266462317000630>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037//0003-066x.55.1.68>
- Sheerin, F., Allen, A. P., Fallon, M., McCallion, P., McCarron, M., Mulryan, N., & Chen, Y. (2022). Staff mental health while providing care to people with intellectual disability during the COVID-19 pandemic. *British Journal of Learning Disabilities*, 1–11. <https://doi.org/10.1111/bld.12458>
- Thogersen-Ntoumani, C., & Ntoumanis, N. (2006). The role of self-determined motivation in the understanding of exercise-related behaviours, cognitions and physical self-evaluations. *Journal of Sports Sciences*, 24(4), 393–404. <https://doi.org/10.1080/02640410500131670>
- Truong, A., Alverbratt, C., Ekstrom-Bergstrom, A., & Antonsson, H. (2021). Caring for persons with intellectual disabilities and challenging behavior: Staff experiences with a web-based training program. *Frontiers in Psychiatry*, 12, 580923. <https://doi.org/10.3389/fpsy.2021.580923>
- van der Ploeg, H. P., van der Beek, A. J., van der Woude, L. H., & van Mechelen, W. (2004). Physical activity for people with a disability: A conceptual model. *Sports Medicine*, 34(10), 639–649. <https://doi.org/10.2165/00007256-200434100-00002>
- World Health Organization. (2000). *The world health report 2000: Health systems: Improving performance*. Geneva.

**How to cite this article:** Fjellström, S., Hölttä, J., Nordström, A., Flygare Wallén, E., Lund Ohlsson, M., & Hansen, E. (2024). Increasing physical activity through an adapted web-based exercise program for people with intellectual disabilities: Support staff are crucial for feasibility. *Journal of Applied Research in Intellectual Disabilities*, 37(2), e13191. <https://doi.org/10.1111/jar.13191>