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### Lifestyle Opportunities

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# Chapter 5

## Development of a Dutch training/education program for a healthy lifestyle of people with intellectual disability

### **Abstract**

*Background:* Individuals with intellectual disability (ID) need support from direct support professionals (DSPs) to engage in a healthy lifestyle. However, literature shows DSPs feel insufficiently equipped to support a healthy lifestyle. Therefore, the aim of this study is to develop a theory-based program for DSPs to support physical activity and healthy nutrition for people with moderate to profound levels of ID, and to design its evaluation.

*Method and design:* The Intervention Mapping Protocol (IM) was followed to develop a theory-based program for DSPs. The program evaluation consists of process and feasibility evaluations.

*Conclusion:* This study provided a theory-based program consisting of a training and education section with online and face-to-face components to support DSPs in promoting health for people with ID.

Overwijk, A., Hilgenkamp, T.I.M., Van der Schans, C.P., Van der Putten, A.A.J., & Waninge, A. Development of a Dutch training/education program for a healthy lifestyle of people with intellectual disability. *Intellectual and Developmental Disabilities*. 2022; 60(2).

## Background

People with intellectual disability (ID) experience limitations both in intellectual and adaptive functioning, in the following domains: conceptual, social, and practical adaptive skills. Nowadays people with ID are classified according to their support needs using a four-level system: mild, moderate, severe, and profound. This attention for the support needs focuses on the capacity and development of people with ID. The support needs of people with moderate to profound levels of ID experience gives a comprehensive understanding of the degree of ID<sup>1</sup>. People with moderate to profound levels of ID need encouragement in several domains, such as language, motor skills, sensory, and activities for daily living<sup>1,2</sup>.

People with ID often exhibit physical inactivity<sup>3-5</sup> and unhealthy food consumption<sup>6</sup>. This unhealthy lifestyle causes health issues such as obesity<sup>3</sup> and cardiovascular risks<sup>3,7</sup>, and may have negative impact on quality of life and participation<sup>8,9</sup>. Additionally, people with moderate to profound levels of ID experience limitations in several other domains and need support in activities for daily living. As a consequence, they are more at risk for an unhealthy lifestyle because of their disabilities<sup>10</sup>. Individuals with moderate to profound levels of ID who are living in residential facilities and/or participate in day activity centers require support from direct support professionals (DSPs) to optimize physical activity and healthy nutrition. DSPs play a significant role in providing a health-supporting environment for this population<sup>11</sup>.

Despite the importance of DSPs in health support, they indicate that they are not sufficiently equipped and require additional knowledge and skills<sup>12-15</sup>. Therefore, it is necessary to tailor to the needs regarding competencies of DSPs and focus on the required determinants in order to change their behavior<sup>16</sup>. Theory-based interventions can be beneficial for DSPs and are more likely to help them succeed, as shown in the general population<sup>17-19</sup>. However, theory-based interventions tailored to DSPs to support people with ID are scarce<sup>20,21</sup>. To develop theory-based interventions, the Intervention Mapping Protocol (IM)<sup>16</sup> can be utilized as a systematic approach to guide the process of development. To meet the need for theory-based interventions based on relevant determinants, the aim of this study is to develop a program for DSPs to support physical activity and healthy nutrition for people with moderate to profound levels of ID and to design its evaluation.

## Method and design

The IM was followed in order to develop the intervention<sup>16,22</sup> focused on DSPs who support people with moderate to profound levels of ID. IM consists of six increments: (1) needs assessment, (2) program objectives, (3) theory-based strategies, (4) program plan, (5) implementation, and (6) evaluation<sup>16</sup>. These increments are described in the following paragraphs.

### Needs assessment

Describing the needs of DSPs who support people with ID, literature and results from two previous studies were utilized by the authors.

Literature research shows first that it is important to focus on healthy lifestyle interventions for people with moderate to profound levels of ID. People with moderate to profound levels of ID often do not have a healthy lifestyle regarding physical activity and healthy nutrition<sup>5,23,24</sup>, they have obesity or malnutrition<sup>3,6,25</sup> and more health problems<sup>26,27</sup>, like diabetes and hypertension<sup>7,28</sup>. Second, literature shows that the focus of these interventions should be on DSPs of people with moderate to profound levels of ID<sup>11,29</sup>, because of the support they provide in daily life for healthy lifestyle behavior.

In addition to the literature research, results of an interview study conducted by the authors demonstrated that the following five domains were most frequently mentioned by DSPs as support needs: (1) Environmental Context and Resources, (2) Social/Professional Role and Identity, (3) Social influences, (4) Skills, and (5) Knowledge<sup>34</sup>. DSPs indicated the following specific support needs within these domains: (1) dealing with the different seasons and having the time to support physical activity and healthy nutrition, (2) addressing norm/values and the autonomy of those individuals with ID, (3) social support from family/parents/others and working together with colleagues, (4) competence/skills to motivate people with ID and correlate this with their individual needs, and (5) knowledge about physical activity and nutrition specific guidelines for people with ID. The DSPs, who have an important influence on the healthy life of people with ID, are not sufficiently equipped to support them: DSPs need skills, knowledge, and confidence for supporting a healthy lifestyle<sup>11,30</sup>. In this previous study, DSPs indicated that the program should focus on all three elements in terms of Capability, Opportunity and Motivation (COM-B system in the Behavior Change Wheel) with the following five determinants: Knowledge and Skills (Capability); Social Influences, Environmental Context, and Resources (Opportunity); and Social/Professional Role and Identity (Motivation). In the COM-B system, capability is defined as the person's

psychological and physical capacity to perform an activity; opportunities are external factors outside the individual that influence the performed behavior; and motivation is the process that energizes and directs a person's behavior<sup>31</sup>. The second study revealed information about the current use of Behavior Change Techniques (BCTs)<sup>32</sup> in daily practice to support a healthy lifestyle<sup>33</sup>. This observation study indicated that DSPs employ BCTs in daily practice. Nevertheless, DSPs indicated that they lack skills to motivate and encourage people with ID<sup>34</sup>. Because of the support need of DSPs, awareness of the use of BCTs would be necessary to overcome this need and make DSPs more confident to motivate people with ID.

In addition, DSPs were asked about the desired mode of delivery of the program. According to them, they prefer a team program that is tailored to the population with which they work. They also suggest involving experts who have experience with people with ID to deliver the program. In addition, an interactive practical approach for the program would be important (e.g., with example cases and short videos). Furthermore, the program should have a sustainable character. Final points of attention would be a positive approach and minimal time investment.

### **Program objectives**

The overall program objective was formulated as supporting DSPs in terms of the skills required to be able to encourage people with moderate to profound levels of ID to engage in physical activity and healthy nutrition. In order to achieve the program objective, the program was focused on the five domains that emerged from the needs assessment as described in the first step of IM<sup>33,34</sup> and on changeable determinants focused on DSPs. Table 1 provides an overview of the theory and the support needs that are components of the program. The program focused on improving Capability (Knowledge and Skills), Opportunity (Social Influences, and Environmental Context, and Resources), and Motivation (Social/Professional Role and Identity) of DSPs<sup>31</sup>.

The performance objectives were composed based on the program components. Change objectives were subsequently formulated to show what participants need to learn or change in order to achieve the performance objective. Table 2 depicts an overview of the performance and change objectives.

Table 1 | *Overview of theory and needs assessment/program components*

Behavior Change Wheel's COM-B system in relation to Theoretical Domains Framework determinants		Support needs from Direct Support Professionals/program components	
Capability	Psychological	Knowledge	X
		Skills	X
		Memory, Attention and Decision processes Behavioral regulation	
	Physical	Skills	X
Opportunity	Social	Social Influences	X
	Physical	Environmental Context and Resources	X
Motivation	Reflective	Social/Professional Role and Identity Beliefs about Capabilities Optimism Beliefs about Consequences Intentions Goals	X
	Automatic	Social/Professional Role and Identity Optimism Reinforcement Emotion	X

In order to meet the performance objectives, six BCTs<sup>33,35</sup> were selected. Three BCTs were indicated in earlier research as being applicable for people with a mild level of ID (BCT 9: set graded tasks, 12: prompt rewards contingent on effort or progress towards behavior, 26: prompt practice)<sup>35</sup>; two BCTs were most frequently employed by DSPs (BCT 19: provide feedback on performance, 21: provide instruction on how to perform the behavior)<sup>33</sup>; and one BCT (BCT 24a: environmental restructuring) was added specifically for individuals with severe to profound levels of ID<sup>33</sup>. The selected BCTs for the program are accommodated in the 'Skills' determinant of the program.

Table 2 | COM-B component, Determinants, Performance objectives, Change objectives and Practical strategies

COM-B component	Determinants	Performance objectives	Change objectives	Practical strategies
Opportunity	Environmental Context and Resources	-Direct Support Professionals (DSPs) pay attention to the available tools and time within the environment in order to support healthy food consumption and physical activity.	-The DSP can picture a situation in daily practice where he/she can pay attention to nutrition and physical activity.	Discussing example cases from daily practice with attention for experiencing, reflecting, thinking, and acting. Attention will be paid to: difficulties in practice, exchange expertise, practice, and sustainable attention for the topic. There will be application in daily practice with practical assignments.
	Social Influences	-DSPs use support (when possible) from family/parents/ others for a healthier lifestyle for people with ID.	-The DSP knows an example situation in which he/she can use support from family/parents/others for a healthy lifestyle. -DSPs work together for a better lifestyle (nutrition/physical activity) for people with ID.	
Motivation	Social/Professional Role and Identity	-DSPs are aware of their professional role regarding a healthy lifestyle and the provided support to people with ID.	-DSPs are aware of their own norms and values and the norms and values of colleagues and are aware of the autonomy of people with ID in relation to nutrition and physical activity and the influence of norms and values on the given support.	
Capability	Skills	-DSPs motivate/stimulate people with ID to eat healthy and perform physical activities by using Behavior Change Techniques (BCTs) and thereby satisfy the needs of people with ID.	-The DSP is able to use one BCT and knows a situation in which he/she can apply it.	

Table 2 | *Continued*

COM-B component	Determinants	Performance objectives	Change objectives	Practical strategies
Capability	Knowledge	-DSPs have knowledge about a healthy lifestyle for people with ID.	<ul style="list-style-type: none"> <li>-DSPs have knowledge about healthy nutrition and the possible meaning of physical activity for people with moderate to profound levels of ID.</li> <li>-DSPs know physical activities for people with moderate to profound levels of ID.</li> <li>-DSPs know the benefits of healthy nutrition and physical activity for people with moderate to profound levels of ID.</li> <li>-DSPs know practical tips (for example, how to stimulate/motivate people with ID) and recognize possibilities for healthy nutrition and physical activity for people with moderate to profound levels of ID.</li> </ul>	<p>Online information about healthy nutrition and physical activity for people with moderate to profound levels of ID. This information will be tailored by filling in characteristics of persons with moderate or severe to profound levels of ID from the own daily practice.</p>



### Theory-based strategies

As described in the previous paragraphs, the content of this theory-based program was based on the Theoretical Domains Framework (TDF), related to the COM-B system<sup>31,36</sup>, and BCTs<sup>32</sup>. To improve the support of DSPs, they have to change their behavior. The TDF and COM-B system are evidence-based methods to change professional support<sup>37</sup>. The domains of the TDF are related to the COM-B system, a complementary theory for changing behavior with three components (Capability, Opportunity, and Motivation). This system is designed to understand interlocking determinants of behavior in order to devise theory-based interventions<sup>31</sup>. This theoretical system supports intervention development by selecting the components that are required for behavior change in order to achieve the goals of the intervention. From the needs assessment, all three parts of the COM-B system were addressed to change the behavior of DSPs. Therefore, the program focuses on the capacity of DSPs, external factors outside the DSPs, and the motivation of DSPs in order to achieve the program goal. BCTs were used in the TDF skills component, whereas DSPs mentioned the need for motivating people with ID to engage in healthy lifestyle behavior. These BCTs can be employed to support a healthy lifestyle<sup>32</sup>.

Due to the educational character of the intervention, the mode of delivery of the program was based on Kolb's theory of learning styles in order to modify the targeted determinants and effective learning of DSPs. Kolb's theory connects the learning style of the DSPs to their daily practice and encourages students' active participation with the following cycle: experiencing in practice, reflecting on the process, thinking about relations in acting, and acting in practice. These learning styles were validated and applied in several studies in diverse fields<sup>38,39</sup>. According to Kolb and Kolb<sup>39</sup>, knowledge is gained from experience. DSPs are able to learn new things related to the program components from what they experience in daily practice. Therefore, learning in practice, knowledge exchange, and online components were important for the development of the program. Informal learning in networks<sup>40</sup> appeared in the program from co-creation on the work floor. DSPs discussed daily issues, gathered new ideas from colleagues in informal talks, and were prompted by other colleagues to learn about interesting new developments. This is referred to as social learning, i.e., a method of informal learning in which social networks are used to gather new knowledge<sup>40</sup>. Important assumptions in the development of the program included working cohesively in learning networks, formal and informal learning, leadership, and reflection of the learning process. Table 2 provides an overview of the change objectives and practical strategies of the program related to the determinants.

## Program plan

The five determinants from the needs assessment were the foundation of the program plan. One of these five determinants (Knowledge) was transferred online. The remaining four determinants (Social/Professional Role and Identity, Skills, Social Influences, and Environmental Context and Resources) were addressed in three face-to-face sessions. The mode of delivery of the program was based on the needs assessment where DSPs indicated they prefer an interactive team program with experts. Because of the practical feasibility of the program (time investment), the knowledge component was offered online. The components of the program for DSPs were as follows:

1. An e-learning module to increase knowledge and awareness of physical activity and healthy nutrition for people with moderate to profound ID.
2. Three sessions of two hours each with the following themes:
  - Social/Professional Role and Identity
  - Skills (BCTs)
  - Social Influences, and Environmental Context, and Resources

The content of the program was developed based on the needs assessment from this study and the Dutch guidelines for physical activity and healthy nutrition<sup>41-44</sup>. During the face-to-face sessions, DSPs brought in their own example cases and emphasis was placed on structural attention of lifestyle and sustainability. The face-to-face sessions were performed by two trainers, of which one trainer from the location where the program was implemented. See Table 3 for the preparation and content of the program. In order to transfer the experience from the program to daily practice, DSPs conducted practical assignments between the sessions within the team in which they reflected on specific situations and their performance, discussed the situation with a colleague, thought about what they wanted to change in the situation, and experimented with the new behavior in practice.

In order to facilitate factors improving feasibility and connection to daily practice, the ideas of experts were collected during the program development. The first author made the first draft of the program and was provided with feedback several times by the research team via e-mail and in-person, people with ID and their proxies in-person, allied health care professionals via e-mail, DSPs via e-mail and in-person, students in-person, and teachers from the university of applied sciences and from senior secondary vocational education via e-mail and in-person. In an early stage, the following experts contributed to the development of the program: behavioral scientists ( $n=2$ ), physiotherapists ( $n=2$ ), professionals in movement education ( $n=3$ ), dieticians ( $n=3$ ), and a speech therapist ( $n=1$ ). These experts checked the

program components. The content of the e-learning was developed in collaboration with a physiotherapist ( $n=1$ ), professionals in movement education ( $n=3$ ), dieticians ( $n=4$ ), and speech therapists ( $n=2$ ). The program manual was written in collaboration with education developers and a trainer/coach experienced in motivating within the priority population. Furthermore, a group discussion with people with ID and their proxies was held to adapt the program to daily practice. Additionally, during the development of the e-learning, DSPs (who did not receive the program), students, and a teacher of senior secondary vocational education were invited to provide feedback at three different times. A trainer/coach experienced in motivating within the priority population also offered feedback on the e-learning at the third feedback moment. The feedback was focused on linking and testing scientific and practical knowledge of the program<sup>45</sup>.

Table 3 | Detailed description of the program for Direct Support Professionals

Structure and description of the program	
Theoretical strategy of session	
	Social/Professional Role and Identity/ Autonomy of people with ID
Experience	<p><b>Session 1*:</b></p> <p>e-learning module:</p> <ul style="list-style-type: none"> <li>-Knowledge about healthy nutrition and physical activity for people with moderate to profound levels of ID with interactive assignments<sup>41-44</sup></li> <li>-Additional tips, for example for recipes or physical activities for the target group</li> <li>-BCTs for motivating people with ID</li> <li>-Short assignments (to take to the training session) about the first steps to change in daily practice</li> </ul> <p>Preparation of Direct Support Professionals (DSPs) for the session:</p> <ul style="list-style-type: none"> <li>-Thinking about your own base for supporting people with ID</li> <li>-Reading: 10 professional dilemmas</li> <li>-Discussing the goal for the team</li> <li>-Choosing example cases related to the theme</li> </ul>
Reflecting	<p><b>Session 2:</b></p> <p>Skills (Behavior Change Techniques; BCTs)</p> <p>Preparation of DSPs for the session:</p> <ul style="list-style-type: none"> <li>-Looking back at the e-learning for using BCTs</li> <li>-Discussing the goal for the team</li> <li>-Choosing example cases related to the theme</li> </ul>
Thinking	<p><b>Session 3:</b></p> <p>Social Influences, and Environmental Context, and Resources</p> <p>Preparation of DSPs for the session:</p> <ul style="list-style-type: none"> <li>-Discussing the goal for the team</li> <li>-Choosing example cases related to the theme</li> </ul>
Reflecting	<p>Introduction</p> <p>Feedback e-learning</p> <p>Set goal for team based on the theme</p> <p>Example cases from the team</p>
Experience	<p>Introduction</p> <p>Feedback assignment 1</p> <p>Set goal for team based on the theme</p> <p>-Video with BCTs</p> <p>-Example cases from the team</p>
Reflecting	<p>Introduction</p> <p>Feedback assignment 2</p> <p>Set goal for team based on the theme</p> <p>-Video with environmental context and resources</p> <p>-Example cases from the team</p>
Thinking	

Table 3 | *Continued*

	Session 1	Session 2	Session 3
Reflecting	Linking theme to example cases: What are the own norms/values in relation to the person with ID?	Linking theme to example cases: Applying BCTs. Does this also align with what the person with ID wants and can do?	Linking theme to example cases: How to use environmental context, resources and social environment (e.g. involving family/relatives)? What does the person with ID want and how do you align with what he/she can?
Thinking			
Experience	Exchange experience	Exchange experience	Exchange experience
Reflecting			
Thinking			
Reflecting	Thinking and talking about: What do you encounter as a DSP when it comes to nutrition/physical activity, what gives you pause and how do you approach such a situation?		Thinking and talking about: What do you encounter as a DSP when it comes to nutrition/physical activity, what gives you pause and how do you approach such a situation?
Thinking	-Role of autonomy of people with ID -Alignment with norms/values of people with ID, their wishes regarding healthy living, and support needs		
Acting			
Maintenance	Working together as a team for healthy lifestyle	Role play: practice with BCTs for people with ID Working together as a team for healthy lifestyle	Working together as a team for healthy lifestyle
Maintenance	Continuing attention for this theme and healthy lifestyle	Continuing attention for this theme and healthy lifestyle	Continuing attention for this theme and healthy lifestyle
Maintenance	Closing session: What do you take from this session to daily practice?	Closing session: What do you take from this session to daily practice?	Closing session: What do you take from this session to daily practice?
Experience	Assignment 1	Assignment 2	Assignment 3
Reflecting			
Thinking			
Acting			

\*The topics of the training sessions are based on the Theoretical Domains Framework<sup>31,36</sup>.

## **Implementation**

Within collaboration between care providers for people with ID, managers selected four teams to participate in the program that included two teams in the north and two in the center of the Netherlands (DSPs:  $n=32$ , people with ID:  $n=24$ ). Two teams were employed at living facilities, one at a day activity centre, and one in a setting in which living and day activities are integrated for people with moderate to profound levels of ID. Three teams worked at a residential facility, and one team was located in a small community home. All of the teams had one contact person (a team member or coordinator of the team) to plan the program components for the team.

For a successful implementation of the program, various stakeholders (e.g., DSPs, the trainers, educationalists, and experts) were involved during the program and its development. This involvement of stakeholders created a connection to daily practice and the implementation context. The e-learning was implemented in collaboration with the technical staff of the involved care providers. Prior to beginning the face-to-face sessions, a joint meeting with the trainers was held to coordinate the sessions. Subsequent to each session, brief contact occurred with the trainers regarding the course. The first author was also present at one face-to-face session of each team. During the sessions, the author observed whether the meetings were conducted as intended. Before and during the program, the implementation was discussed with the managers and contact persons of the involved care providers.

## **Evaluation**

The evaluation consists of process<sup>46</sup> and feasibility evaluations<sup>47</sup>. A mixed method design will be utilized to conduct the evaluations.

### ***Process***

In the process evaluation, the following components will be reported: context, reach, dose delivered, dose received, fidelity, and recruitment, according to Linnan and Steckler<sup>46</sup>.

### ***Feasibility***

The feasibility objectives are the following: evaluation of recruitment capacity, evaluation of data collection process, acceptability/suitability of the program, implementation, and the preliminary results<sup>47</sup> (see Figure 1).

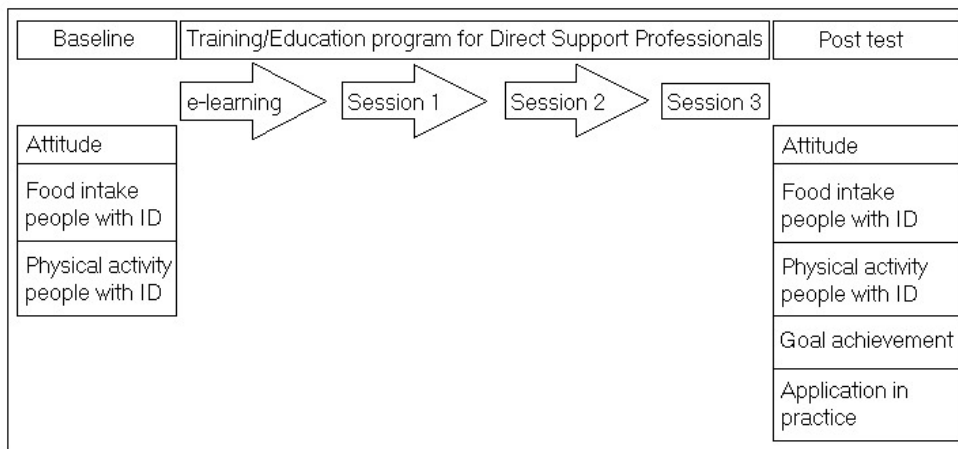


Figure 1 | Design for preliminary results

The primary outcomes (which are part of the preliminary results of the feasibility study) are the influence of the program on the DSPs ( $n=32$ ) measured by the attitude, goal achievement (performance and change objectives), and application in practice (performance and change objectives). The attitude of DSPs will be measured at baseline, one week after, and again three months after the last program session with an attitude questionnaire<sup>48</sup>. This attitude questionnaire consists of six items where DSPs can reflect on their Capability (Knowledge and Skills), Opportunity (Social Influences, and Environmental Context, and Resources), and Motivation (Social/Professional Role and Identity) for supporting a healthy lifestyle of people with ID, which is the program objective. The goal achievement of the program will be measured one week after the last program session with a questionnaire for DSPs, and the trainers will reflect on the goal achievement after each session. The application in practice will be measured during the program with practical assignments and then three months after the program with interviews with DSPs. There will also be a questionnaire for managers of the participating teams one week after the program. The first author checked the fidelity of the program by attending one session at each care provider.

Secondary outcome measurements of the preliminary results are the level of physical activity and the food intake of people with moderate to profound levels of ID ( $n=24$ ). Physical activity will be measured with the Actigraph<sup>49,50</sup> for walking respondents and the Actiwatch<sup>51</sup> for non-walking respondents. Additionally, DSPs will record the planned movement activities during the measurements of physical activity. Food intake will be measured with food diaries for three days<sup>52</sup>. Food intake and physical activity of people with ID will be measured at baseline and after three months following the last program session.

***Planned analysis preliminary results***

The attitude of DSPs at baseline, one week after the program, and three months after the program will be compared. To what extent the goals of the program have been achieved will be reported on a scale from 0 to 5. During the program, the practical assignments of DSPs will be evaluated on quality. A questionnaire completed by the managers of the participating teams will be analyzed regarding if support was provided for a healthy lifestyle from DSPs in daily practice. In addition, interviews with DSPs will be analyzed with a conventional content analysis<sup>53</sup> regarding the manner in which the information learned from the program was applied in daily practice.

A number of comparisons will be made for this study of people with ID. Food diaries before and after the program will be compared with the national health guidelines. The level of activity of people with moderate to profound levels of ID will be compared before and after the program. In addition, the number of planned movement activities in daily programs will be compared.

**Discussion**

This study resulted in a theory-based program consisting of a training and education section for DSPs to support physical activity and healthy nutrition for people with moderate to profound ID, and a design of its evaluation. DSPs were provided with knowledge, theory, and suggestions for skills about physical activity and healthy nutrition for this population in an online learning module. In three face-to-face sessions, the following components were discussed: (1) Social/Professional Role and Identity; (2) Skills: Behavioral Change Techniques; (3) Social Influences and the Environmental Context and Resources. These sessions were focused on behavioral change and collaboration in daily practice. The program can be individually adapted to the learning needs of DSPs and the persons with ID that they support.

IM guided the development of this theory-based program. This protocol was helpful for organizing and carefully taking the steps to develop an intervention and making this development transparent. The IM protocol was also used by other researchers to develop interventions<sup>22,54</sup>; these studies can be an example for developing more theory-driven interventions in a transparent manner. The involvement of stakeholders to keep the intervention feasible for daily practice is a strength in the developing process for applying the intervention. Besides IM, another framework for developing interventions, the Behavior Change Wheel<sup>55</sup>, was considered for use because it is in line with the theoretic approach of



the TDF. Although the steps in both frameworks are very similar, IM has a longer scientific history and is a more practical instrument guiding through the development steps; therefore, we opted for IM.

The content of this program is theoretically based by employing domains from the TDF, related to the COM-B system<sup>31</sup> and BCTs for DSPs<sup>32</sup>, because behavior is related to different influencing factors. The BCTs were particularly used by DSPs to motivate people with ID, because of the needs they indicated to do so. Due to the educational character of this intervention, to change the behavior of DSPs, Kolb's theory<sup>39</sup> was adapted for the mode of delivery of the program. In this way, each aspect of the program was supported by the best suitable theoretical basis.

This program consisting of a training and education section is the first theory-based intervention for DSPs tailored to people with moderate to profound levels of ID. This program provides what is lacking from the theory-based interventions for DSPs and for people with ID to promote a healthy lifestyle<sup>20,21</sup>. An important element in the program is the focus on physical activity and healthy nutrition whereas, previously, most interventions in daily practice focused only on physical activity<sup>20</sup>. Furthermore, this program is the first to use BCTs for people with moderate to profound levels of ID. With this inclusion, the usability of BCTs in this population can be further explored.

A strength of this study is the close collaboration with daily practice, which facilitated its implementation and adoption in order to contribute to a healthy lifestyle of people with ID<sup>16</sup>. This collaboration however can also be a limitation, because there may be a certain degree of subjectivity and projection from an individual's daily practice. As a consequence, the balance between an optimal program on one side, and feasibility in practice on the other, may have shifted to practice, whereby for example a smaller number of sessions with shorter duration was chosen. However, we have tried to overcome this possible limitation by the involvement of various experts and DSPs from several care providers. For further evidence, this program requires a process evaluation and a feasibility study.

## **Conclusion**

In conclusion, this study provided a theory-based program consisting of a training and education section with online and face-to-face components, to support DSPs in promoting health for people with moderate to profound levels of ID. The program can be individually adapted to the learning needs of DSPs and the persons with ID who they support. The next step will be to execute the process and feasibility evaluations of the program.

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