

# Parents' Experience with the CO-OP Approach: A Consolidation of Three Qualitative Investigations

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## Expérience Vécue Par Des Parents Face à L'approche CO-OP : Consolidation De Trois Études Qualitatives

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**Mots clés :** Approche cognitive orientation to daily occupational performance (approche CO-OP); Enfants; Parents; Trouble du développement de la coordination; Trouble des habiletés motrices.

### Abstract

**Background.** In the cognitive orientation to daily occupational performance (CO-OP) approach, parent involvement is critical for transferring skills from therapeutic settings to everyday contexts. **Purpose.** This study aimed to gain insight into the experience of parents whose children with developmental coordination disorder participated in CO-OP intervention. **Method.** This consolidation of three small qualitative studies investigating parents' experience involved an inductive qualitative content analysis of 10 parent interviews and 1 parent focus group. **Findings.** Four overarching themes emerged as depicting parents' experience. Although parents recognized the improvements their children made with the intervention, they also expressed several challenges, such as incorporating CO-OP tasks into daily routines, shifting of parent-child relationship and feeling self-efficacious with the approach. **Implications.** This study highlights that parent observation of intervention sessions is not enough to support parents applying CO-OP at home. Research is needed to understand how to best engage parents in the CO-OP approach.

### Abrégé

**Description.** Dans l'approche cognitive orientation to daily occupational performance (approche CO-OP), la participation des parents est déterminante pour favoriser le transfert des habiletés acquises par les enfants, des milieux thérapeutiques aux contextes de la vie quotidienne. **But.** Cette étude visait à mieux comprendre l'expérience vécue par les parents dont les enfants atteints de troubles du développement de la coordination avaient participé à l'intervention CO-OP. **Méthodologie.** Cette consolidation de trois petites études qualitatives qui étudiaient l'expérience vécue par des parents a fait appel à l'analyse qualitative inductive du contenu de 10 entretiens effectués auprès des parents et d'un groupe de réflexion formé de parents. **Résultats.** Quatre thèmes dominants décrivant l'expérience des parents ont été mis en relief. Bien que les parents aient reconnu les améliorations survenues chez leur enfant grâce à l'intervention, ils ont également décrit plusieurs difficultés, comme celle d'intégrer les tâches CO-OP dans les habitudes quotidiennes, de transformer la relation parent-enfant et d'éprouver un sentiment d'auto-efficacité face à cette approche. **Conséquences.** Cette étude met en lumière le fait que l'observation des séances d'intervention n'est pas suffisante pour que les parents soient en mesure d'appliquer l'approche CO-OP à la maison. D'autres études seront requises pour mieux comprendre comment faire participer davantage les parents à l'approche CO-OP.

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## Introduction

Parent involvement in the therapeutic process is an important and essential component to successful intervention outcomes (Jeon & Myers, 2017; Phoenix et al., 2019). The cognitive orientation to daily occupational performance (CO-OP) approach recognizes parent involvement as one of its key structural elements (Cameron et al., 2017). The CO-OP approach is an intervention approach that fosters a problem-solving process to attain occupation-focused goals (Polatajko et al., 2001a, 2001b). The problem-solving process involves interacting with the child to identify problematic aspects of their task performance and then guiding them to discover the strategies that will enable them to overcome these difficulties and carry out the desired task with success (Polatajko & Mandich, 2004). Parents are described as the link between the therapeutic setting and the child's other environments (Polatajko & Mandich, 2004). In the CO-OP approach, parents can be involved in different ways. They can participate in the assessment and goal-setting process, particularly with young children. Parents can also play a role in ensuring that practice tasks (a.k.a. homework or home program) assigned by the therapist are completed, as well as encourage strategy use by their children outside of the therapy session (Cameron et al., 2017).

Parental involvement outside of therapy sessions provides an important opportunity to practice skills learned in treatment (Laptook, 2016; Steiner et al., 2012). A recent study on parental attendance and homework adherence with children with attention deficit and hyperactivity disorder (ADHD) showed that the quality of parent's engagement (such as completion of therapeutic assignments and implementation of skills between sessions) was a much stronger predictor of intervention outcome than the number of sessions attended (Clarke et al., 2015). Given the integral role parents play in their children's rehabilitation outcomes, it is important to examine parents' experience of engaging in their children's intervention (Jackman et al., 2017).

Jackman et al. (2017) explored six parents' experience with the CO-OP approach in which they participated with their children with cerebral palsy (CP) in an intensive CO-OP group. They conducted semi-structured interviews via phone and used a grounded theory approach to code and identify categories and overarching themes. Parents felt that the CO-OP intervention led to improvement in outcome and had the potential to transfer to other tasks in the children's lives. Parents identified a child's personality traits, such as motivation, as influencing the success of the CO-OP intervention. In terms of the intervention approach, parents discussed how handing control of the therapy over to their child had an empowering effect for their child, such as increasing their initiative to practice and giving them a sense of achievement. They also described that it was difficult for them to "guide" their child, rather than "do" for their child. Finally, parents reported that being actively involved in the CO-OP process with their child was beneficial for them to learn different ways of asking questions and modeling therapist behaviour with their child.

Although this study explored the experience of parents with children with CP, to our knowledge, the parent experience with the CO-OP approach has yet to be explored with parents of children with developmental coordination disorder (DCD), the disorder for which this intervention was originally designed (Missiuna et al., 2001). Studies exploring the experience of parents living with and caring for children with a variety of diagnoses have found that, while there are commonalities, parents' experiences, concerns, and routines may be differentially affected depending on the child's condition (Le et al., 2019; Smith et al., 2013; Webster, 2019). CP and DCD are distinct disorders where motor impairment and function in CP are generally more severely affected than in DCD. Alghamdi et al. (2017) found that a family's activities differed based on children's level of function. As such, it is reasonable to expect that the CO-OP experience of parents of children with DCD will differ to that of parents with CP.

Furthermore, unlike the Jackman et al. (2017) study, most CO-OP therapy intervention sessions are not conducted in groups and do not actively involve parents with their children. The active involvement of parents during therapy sessions likely impacts parent experience, particularly as some parents in the Jackman et al. study reported feeling supported by the having other parents in the group. As such, it would be important to understand the experience of parents whose children are receiving the typical individual CO-OP intervention where parents are invited to observe, thereby adopting a more passive role during the session.

In the context of a typical individual CO-OP intervention, Mandich et al. (2003) sought the perspective of 10 parents on the impact of DCD on their children's daily participation. Their findings describe the negative effects experienced by children with DCD as a result of their incompetence in performing everyday activities. Like the parents in the Jackman et al. study, these parents also recounted the positive impact the CO-OP approach had in helping their child not only achieve competency in daily tasks, but also increase their child's sense of self-efficacy. With respect to the CO-OP approach specifically, parents highlighted the far-reaching positive effects of having child-chosen goals that focus on everyday activities that are important to them, rather than on simply skill acquisition. Although Mandich et al. (2003) study focused on understanding the children's experience from the parents' perspective, it provides limited insight on the parents' own experience with the intervention.

The present study aimed to answer the question "What are the experiences of parents of children with motor coordination difficulties who participated in the CO-OP intervention?" To do so, a consolidation of three small scale qualitative studies was conducted. Each of these three smaller studies explored the experiences of parents with the CO-OP approach, but in the context of three different formats of the CO-OP intervention. The first study aimed to gain insights into parents' experience with the application of the CO-OP approach outside of the clinical setting during an intensive one-week summer day-camp where the CO-OP intervention was administered in a

group format. Following this first study, the second study explored parents' experience applying the CO-OP approach outside of therapy sessions during their child's participation in typical individual CO-OP intervention sessions over 10 weeks. To confirm and strengthen the findings of the previous two studies on parent experience, the researchers sought to conduct a focus group to provide parents with the opportunity to share their experiences with the CO-OP intervention. This third study explored parents' experience with their child's participation in individual CO-OP intervention sessions during a randomized waitlist-control trial (ClinicalTrials.gov ID: NCT02597751).

## Methodology

### Design

To describe and understand parents' experience, a qualitative descriptive research design was adopted in each of the three small-scale studies. Although descriptive phenomenology aims to discover the essence and meaning of a lived experience, qualitative description aims to describe a range of responses of a lived experience (Willis et al., 2016). Unlike a descriptive phenomenology (whose focus is not exclusively descriptive, but also explanatory), a qualitative descriptive approach is used when one wants a straight forward description, summary, and understanding of the experience (Lambert & Lambert, 2012; Willis et al., 2016). The first two studies entailed individual interviews, while the third undertook a focus group. Individual interviews or focus groups are common methods for exploring experiences within a qualitative descriptive approach (Willis et al., 2016).

### Data Collection

University research ethics board approval was obtained for each of the three studies and all parents provided written consent prior to their involvement in the study. Purposive sampling was used in all three studies. The interview guides developed for the semi-structured interviews was piloted prior to data collection in each of the first two studies. No a priori framework guided the questions posed, but as occupational therapists, the researchers used this lens in developing the interview guide and in interpreting the data. The questions in the interview guides for each of these studies were designed to obtain an in-depth understanding of the parent experience and consisted of pre-determined, open-ended questions, such as (a) engagement questions (e.g., "What do you know/understand about the CO-OP intervention?"); (b) exploration questions (e.g., "Describe your involvement with your child and the CO-OP intervention," "Tell me about the CO-OP approach in your family," "Tell me about obstacles/facilitators to your involvement or application of the CO-OP intervention"; and (c) an exit question (e.g., "Is there anything else you would like to share regarding the CO-OP intervention?"). A flexible approach was adopted to generate spontaneous, in-depth

answers to achieve the richest possible data (Kallio et al., 2016). The sequence of the questions depended on the respondents and how the interviews unfolded, so as to facilitate dialogue. The semi-structured interview guide for the focus group was developed similarly with the aim to understand different parent experiences, thoughts, and feelings among the various participants (Moser & Korstjens, 2018). As with the individual interviews, a flexible approach was adopted with the intention to facilitate interaction and discussion amongst the participants. For both individual interviews and the focus group, probes or follow-up questions were used to maintain the flow of the interview and to gain more detailed information on particular points that were shared (Kallio et al., 2016). All interviews were audio-recorded with two voice recorders with a second researcher present to take notes.

### Study I

**Description of intervention.** The summer day-camp was designed to address a clinic's long wait list and followed a previously published protocol (Martini et al., 2014). All parents participated in two evening information sessions, conducted by the first author, which touched on understanding the nature of DCD, the CO-OP approach (using mix of explanation, demonstration, and active learning activities), and the summer camp. At the end of each camp day, parents were invited to the last 30-minute of the camp when children reviewed and noted in their notebooks (with the therapists' help) their individual successes and discovered strategies, as well as reviewed short practice tasks for the evening. During the day-camp, children participated in two 50-minute CO-OP group intervention sessions per day, for a total of eight sessions over four days. Two of the parents were also able drop-by during the camp day to observe a session. During the rest of the day, children participated in various games and activities, such as group games, going to the park, or swimming. For the group intervention sessions, the adult: child ratio was 4 adults (occupational therapist with 2–3 occupational therapy students and/or clinic speech pathologist) to 7 children. The first author assisted four of the eight intervention sessions during the camp.

**Data collection.** At least one parent of six of the seven children agreed to participate in the interviews (for one child, both parents participated during the interview). The seventh parent declined to participate due to lack of time. Parents participated in one face-to-face semi-structured interview. Interviews were conducted in the language (English or French) in which parents reported that they were most comfortable. Two researchers (JCe, EC, and/or MN) were always present during the interview. These researchers (occupational therapy students at the time) were present during parts of the day-camp to videotape intervention sessions. Researcher A proceeded with the interview while researcher B took interview notes and was responsible for the verbatim transcription. Researcher C (who was not present) listened to the audio files and verified the transcriptions. Researcher A always conducted the interviews

Table 1  
Parent Characteristics

Participant	Participating Parent	Marital Status	Parent's Education Level Mother (Father)	Living Environment	Parents' Work Schedule	Number of Children
Study 1						
1-1	Mother	Married	Undergraduate university (undergraduate university)	Urban	Both parents work full time	2
1-2	Mother/father	Married	Undergraduate university (College)	Suburban	Both parents work full time	2
1-3	Mother	Married	College (undergraduate university)	Suburban	Both parents work full time	2
1-4	Mother	Married	Undergraduate university (undergraduate university)	Suburban	Both parents work full time	2 (twins)
1-5	Mother	Married	Undergraduate university (undergraduate university)	Suburban	Both parents work full time	2
1-6	Mother	Married	Graduate university (graduate university)	Suburban	Both parents work full time	3 (twins)
Study 2						
2-1	Mother/father	Married	College (undergraduate university)	Suburban	Both parents work full time	2
2-2	Mother/father	Married	Undergraduate university (undergraduate university)	Urban	Both parents work full time	2
2-3	Mother/father	Married	Undergraduate university (undergraduate university)	Suburban	Both parents work full time	4
2-4	Mother	Married	Vocational studies (college)	Rural	Both parents work full time	2
Study 3						
3-1	Father	Married	Graduate university (graduate university)	Urban	Both parents work full time	1
3-2	Mother	Married	College (high school)	Rural	Both parents work full time	4
3-3	Mother/father	Married	High school (college)	Suburban	At home/works full time	8
3-4	Mother	Married	College (undergraduate university)	Suburban	Both parents work full time	2
3-5	Mother	Separated	Undergraduate university (undergraduate university)	Suburban	Both parents work full time	1
3-6	Mother/father	Married	Graduate university (undergraduate university)	Suburban	Both parents work full time	2
3-7	Mother	Married	College (undergraduate university)	Suburban	Both parents work full time	3

to assure consistency. The roles of researchers B and C were interchangeable. Before the beginning of the day-camp, parents were provided with a journal and asked to write about their experience with CO-OP (e.g., when they practiced tasks, used strategies, how it went); however, only one parent completed this task. Interviews lasted between 40 and 100 minutes and took place in a quiet room in the comfort of the client's home or a mutually convenient site.

## Study 2

**Description of intervention.** The children in this second study participated in the classic 10-session individual CO-OP intervention. Prior to their children's intervention (with JCa as therapist), the CO-OP intervention was verbally explained, and parents also received a written document describing the CO-OP approach. In this study, parents were asked to be

present during the goal-setting session, the first intervention session (where the teaching of the global strategy Goal-Plan-Do-Check occurred), and at least two other intervention sessions, as recommended in Polatajko and Mandich (2004). Nevertheless, all the parents in this study were present at all their children's intervention sessions throughout the intervention. At the end of each session, the therapist verbally explained practice and strategy-use assignments and provided a written document to parents with this information.

**Data collection.** Four parents of five children who completed the CO-OP intervention participated in face-to-face semi-structured interviews. All interviews took place in participants' homes and took between 60 and 120 minutes to complete. They were conducted with one or both parents (Table 1) and in the language (English or French) in which they reported

being most comfortable. Two researchers (JCa and JV) were always present during the interview. Although JCa (occupational therapist and research master's student at the time) proceeded with the interview, JV (occupational therapy student at the time) took interview notes and was responsible for the verbatim transcription. Thereafter, the author who undertook the interview listened to the audio files and verified the transcriptions. Completed transcriptions were emailed to parents for member checking (inviting them to edit, clarify, or elaborate). As in the first study, parents were provided with a journal prior to beginning intervention sessions and were encouraged to share when they practiced tasks, what strategies they used, and their thoughts or experiences throughout the study period. Two of the four parents who participated in the interview process provided us with their journal.

### Study 3

**Description of intervention.** The children in this third study participated in a randomized waitlist-control trial examining brain changes associated with CO-OP intervention. CO-OP was delivered once weekly over 10 weeks as per published protocol (Polatajko & Mandich, 2004). The parents who participated in this study were expected to attend the first session and then invited to stay for the rest of the sessions. At the end of each therapy session, parents were provided with a sheet about what strategies were used for each of the child's goals and what to practice at home. They were also asked to complete a weekly homework log about how long and on which goals they practiced. Weekly homework time was reported by all families participating in the current study, via the weekly logs for six families and a verbal report of 15 minutes per goal per week by one family.

**Data collection.** Unlike the first two studies, where data were collected through individual (or paired) parent interviews, the data for the third study were collected using a focus group. It was anticipated that this forum would foster rich discussion by providing parent participants with the opportunity to share their stories about their CO-OP experience, raise questions about concerns or suggestions for improvement, as well as shed light on potential strategies to support involvement in fostering their child's successful occupational performance. The goal was to highlight as many different issues, opinions, and perspectives as possible. The focus group was led by the first author, who was not involved in the CO-OP intervention the children received. The research assistant who took notes completed the transcriptions while the first author verified them. Nine parents of seven children aged between 10 and 12 years participated in the focus group.

### Analysis

An inductive qualitative content analysis was used. Analysis was undertaken using the Microsoft Excel software, with transcripts prepared using Microsoft Word (Bree & Gallagher, 2016; Meyer & Avery, 2009). Data saturation was confirmed

through an iterative process of constant comparison, sorting through the original transcripts, and the following three steps: (a) open coding; (b) creating categories; and (c) identification of themes (Elo & Kyngas, 2007; Erlingsson & Brysiewicz, 2017; Moser & Korstjens, 2018; Willis et al., 2016). Initial content analysis of the three transcripts was undertaken by the first author. The categories and themes were then confirmed by co-authors and disagreements discussed. The results were presented and corroborated by fellow authors verifying the representativeness of the data as a whole (Elo et al., 2014). The authors involved in the data analysis were occupational therapy professors (RM and JZ), occupational therapist and PhD candidate (JCa), and occupational therapists who participated in study 1 and 2 during their professional masters' studies (JCe, EC, MN, JV). The researchers on the team brought a variety of experiences and perspectives to the research process, including those with and without parenting experience (four of the authors were parents at the time of data collection/analysis). None of the researchers had personal experience parenting a child with special needs but were sympathetic to the situation and keenly motivated to understand parents' experiences.

As described in Korstjens and Moser (2018), several triangulation strategies were adopted to ensure the trustworthiness of this research. For study 1 and 2, parent journals around the CO-OP approach served as an additional method of data collection. Even though a small number of parents submitted these journals, no new information or themes arose from the journals, thus confirming perspectives of obtained through the transcripts of all parents. As a member check, transcripts of interviews were sent to participants in study 1, 2, and 3 for feedback; for study 1 and 2, a follow-up telephone interview was also done. Credibility in the three small-scale studies, as well as in the present consolidation, was ensured by multiple researchers being involved in coding analysis and interpretation decisions. The present consolidation of the three studies also provides a type of methodological triangulation, as two different data collection methods (interviews and focus group) were used to gather data on parent experience. As much as possible, a reflective process was adopted throughout using the following strategies: (a) a reflective iterative analysis process; (b) the incentive for continuously seeking to confirm the understanding of parent experience with CO-OP by exploring it within three different contexts; and (c) consistently seeking to convey a non-judgmental attitude toward parents during interviews and focus group.

### Findings

By way of these three small-scale studies, the parents of 17 children shared their experience of having their child participate in CO-OP intervention (see Tables 1 and 2 for children and parent characteristics respectively). The children ranged in age from 7 years 3 months to 12 years 8 months, and all, but two also had co-occurring difficulties such as language, attention, or learning difficulties (Table 2). In reviewing the transcripts of

Table 2  
Child Characteristics

Participant	Gender of Child	Age (Years, Months)	M-ABC-2 Percentile	DCDQ	Co-occurring Difficulties
<b>Study 1</b>					
1-1	M	8,9	5	Not returned	None
1-2	F	7,7	5	Indication of or suspect DCD	Dyslexia, ADHD-I
1-3	M	7,5	2	Indication of or suspect DCD	Language difficulties
1-4	M	7,8	5	Indication of or suspect DCD	Phonological difficulties
1-5	M	7,3	1	Indication of or suspect DCD	Language difficulties
1-6	M	7,9	16	Indication of or suspect DCD	Language difficulties
<b>Study 2</b>					
2-1	M	7,7	0.1	Indication of or suspect DCD	ADHD
2-2	F	11,4	1	Indication of or suspect DCD	ADHD
2-3	M	10,4	1	Indication of or suspect DCD	ADHD
2-4	M	10,9	1	Indication of or suspect DCD	ADHD language difficulties
<b>Study 3</b>					
3-1	M	10,11	5	Indication of or suspect DCD	ADHD-C
3-2	F	12,8	9	Indication of or suspect DCD	LD
3-3	M	12,4	1	Indication of or suspect DCD	ASD, learning disability
3-4	M	12,0	9	Indication of or suspect DCD	ADHD-I, gifted LD
3-5	M	11,6	0.5	Indication of or suspect DCD	ADHD, LD
3-6	M	11,10	2	Indication of or suspect DCD	None
3-7	M	10,5	16	Indication of or suspect DCD	LD, anxiety, SPD

Note. M-ABC 2 = Movement Assessment Battery for Children-2nd edition; DCDQ = Developmental Coordination Disorder Questionnaire; M = male; F = female; ADHD = attention deficit and hyperactivity disorder—type not specified; ADHD-I = attention deficit and hyperactivity disorder predominantly inattentive; ADHD-C = attention deficit and hyperactivity disorder combined type; ASD, autism spectrum disorder; LD = learning disability; SPD = sensory processing difficulties.

these 23 parents (7 parents from study 1, 7 parents from study 2, and 9 parents from study 3), four overarching themes emerged (see Table 3 for example of coding) that describe the experience of parents of children with motor coordination difficulties who participated in CO-OP intervention: (a) it's a question of time; (b) there's an existing relationship; (c) asking the right question is hard to do . . . more practice please; and (d) Let's go s/he can do it!

### It's a Question of Time

Although all parents recognized the importance of practice assignments, parents in all three studies reported that finding time to do the practice assignments was a challenge. When intervention occurred in the summer, time of year was identified as an issue for undertaking practice assignments. Parents from study 1 describe children as being generally drained at the end of a long day at the camp, oftentimes too tired to engage in any type of practice. Furthermore, in the summer, it was difficult to have a structure or maintain a routine that involved assigned practice tasks. Several parents suggested that the camp take place during the school year. They felt that the children are more structured during this time (with homework and school) and family routines are more in place:

So it's just—so for me the challenge for me is the summer time, it's like I just find we really do need a break, and I'm not keen on pushing things . . . then [doing camp during the school year] there might be more opportunity because now you are in

your routine and you're doing all these other things. (Participant 1-3, mother)

—in school time, it's fine but I think that entire summer of 10 weeks [list of activities] and we weren't in a normal house and I was bringing it [practice tasks] to a campsite and other kids were there . . . but it just has to go to the regular routine of life. It was kind of difficult to put into the "summertime" [singing]. (Participant 3-7, mother)

In the second study, the individual intervention sessions took place during the school year. Ironically, the parents in this study also identified the time of year as an issue. They reported having many different activities going on during the school year and suggested that there would be more time to undertake practice tasks if sessions took place over the summer:

The CO-OP homeworks were hard to get into the routine because with the school homework . . . If I may suggest can CO-OP be done . . . in the summer. (Translated, Participant 2-4, mother)

Other than the ball [task] which was fun for him, you know, there was the school homework, there is, you know, lots, lots of stuff to do and it [CO-OP practice assignment] was like another homework . . . so it was hard to say okay we will practice because there was his homework, his reading, and you know, his spelling, . . . (Translated, Participant 2-1, mother)

The time of year also influenced the undertaking of practice assignments for certain goals. In the summer, it was less opportune and children/parents were less inclined to practice tasks

Table 3  
Example of Codes, Categories and Themes

Codes	Categories	Themes
Too many activities to fit in a day Encouraging strategy use takes too much time CO-OP homework not a priority Difficult to find time to practice tasks	Lack of time Hard to fit in family routine	It's a question of time
Need to motivate child with reinforcement to work on CO-OP task Child quickly became tired and frustrated Child resists working with me (the parent) Child participates better with others Child not used to being asked questions by parent It's hard to change how you do things Parent usually does for child	Child needs to be motivated Child resists to work with parent at home Child used to doing another way (being told)	There's an existing relationship
Parent did not know what question to ask to guide the child Parent struggled to breakdown the task/ see where the problem was with the child's task performance Parent was not sure where to start Parent was not confidence they were encouraging CO-OP properly with their child	Knowing what questions to ask Not enough practice Difficult analysing steps of a task	Asking the right question is hard to do . . . more practice please
Parent just used to do tasks for their child, now will ask child to try or say a plan first Don't just assume anymore that their child cannot do it Realized that if they always do for their child, child will never be able to do it. Won't let child give up, try different ways Child is breaking tasks down/has a plan Child now comes to parents for help, not so they can do it for him	Encourage their child to try Less telling, more hints	Let's go s/he can do it!

that are more applicable during the school year, such as “preparing your lunch,” “organizing your school bag,” or even “tying shoelaces.” Tasks that were “in-season” were more pertinent and easier to practice than tasks that were not:

Well that is a winter thing, because everything in winter has laces . . . so that was one of the season thing, one of the time specific because it was so hot in July reality is like, it was deadly. So, didn't work on it much because there was no necessity because anytime that I would say, put your shoes on or let's try to do the shoe laces, it was like, “why?” (laughing) because it's just not appropriate and it's not his reality at that point in time. If we said okay these are your shoes, we are getting ready for school like, we will next week and week after, then it starts making sense. (Participant 1-5, mother)

The button was not a big issue in the summertime when the bathing suits don't have buttons, and again like that's more jeans and pants that's going to be in the fall. Summertime, sports shorts don't have buttons. It wasn't part of his reality so it was hard to make it really worthwhile. (Participant 1-6, mother)

Lack of time was an obstacle identified by all parents, although some parents reported that their practice was facilitated by integrating it into their routine. Although incorporating practice tasks into an existing routine was a challenge, some parents shared that the effort decreases with time. They reflected that having the practice assignment become what is expected (rather than perceived as a choice) makes it easier:

I think just the routine. Honestly—I know I keep saying it—after the first two weeks—it was such a struggle—and then once it was an established part of what we did, it wasn't easy, but it was easier. (Participant 3-5, mother)

. . . I just need it [structured routine]. And it also stops the battle. The verbal battle between us [parent and child]. (Participant 3-2, mother)

Parents identified key topics that the therapist should discuss with them about CO-OP intervention, such as the family context, possible ways of incorporating practice assignment within the family routine, and highlighting the importance of practice:

Maybe even asking the parents a questionnaire or something about what does life look like for you guys right now? And then picking goals, so then the homework can be incorporated into whatever we do on a daily basis anyways, rather than an aside. (Participant 3-6, mother)

I think maybe during the OT—the training of the parents—that the homework is more valuable than the class [i.e., camp session]. I think you need to remind the—you know, talk to the parents. (Participant 3-4, mother)

Although parents under-scored the importance of incorporating practice assignments into the family routine, they also recounted how practicing and strategy cuing takes time and effort, making it inconvenient to implement on every occasion. One parent talked about the importance of being flexible and “picking your battles”:

... and just letting go. He—it's at home and you can't do it every day—it's the not using the cutlery. And I mean, you have a ten-year-old eating with his hands and you're like, "can't really take you to a restaurant like this, buddy." [laughs] But you can't do it every mealtime, so the repetition can't be every time we have dinner because it's not the best environment mood-wise every time to do it. (Participant 3-7, mother)

A few parents also asserted that it would have been helpful if the therapist had been more precise with the amount of practice expected for the next session; this precision would aid in scheduling the practice during the week and ensure that it was done for the following therapy session:

I think that if you had told us to do like 3 sheets, I would have done it because I would have ... you could have said MATT okay for Wednesday I want you to practice this and it would have been a support for us to say "okay, look, [therapist] wants us to do this practice for Wednesday. (Translated, Participant 2-1, mother)

... it was summer so if you would have said three times, maybe we would have done it twice, but it's, you know, we would have forced ourselves more ... It would have been easier look you have to write your name five times or one time each night. (Translated, Participant 1-4, mother)

Several parents recount how finding time to practice is unrealistic considering families' busy schedules. A couple of families revealed that practice was only possible by involving other family members:

So, I'm usually not home until seven. So, if I get home, make dinner, and then sit down with him to do writing practice at 8 o'clock at night—[laughs]—it is guaranteed melt-down. So she [grandmother] was really good. He would come home from school and he'd have that little break and then that's when it would get done. And I honestly think that to put those expectations on a kid with working parents who aren't home until dinner time—it would be really challenging for the family. (Participant 3-5, mother)

Well dad was there and was more or less aware of how it worked, but it just happened that grandma was there and she also worked on his homework. (Participant 2-4, mother)

Telling their child how to do a task is faster than helping them problem solve through it, at least in the moment. Parents claimed the effort was well worth it if they thought about it as a long-term investment:

When you think about it, if I give the answer it is much faster than question him or if I said well do it like that. But ultimately, it's not necessarily faster, because you always start over. It's faster in the moment. (Translation, Participant 2-3, mother)

### There's an Existing Relationship

In all three studies, parents talked about how the CO-OP approach is not something you can learn overnight. Some alluded to the fact that there is an existing relationship between parent and child that needs to be considered and recognize that this pattern of interaction influences practice and implementation of the intervention.

Several parents reflected that, due to their existing relationship, their child's collaboration and engagement was more easily obtained by persons other than themselves:

... even riding the bike, like I said, when the girls came back, for whatever reason, she wants to do those things. I think its maybe ... out of strangers, I think, she does better in a ... with strangers than she does with us. (Participant 1-2, father)

Because I heard that at the camp, he had ... he had come up with super nice plans, but, for me, he does not do them. I don't know if it is or ... I don't think that it's because I don't have the trick, I think it's just that ... with me, he ... is comfortable to say "No, I do not want to," then, he will do his little tantrum, he will throw himself on the floor, and then uh, cry there ... But in front of people he does not know, he would not do that, so with me he is more likely to do that. (Translated, Participant 1-3, mother)

We [parents] cannot ask him that question, because he gets angry or he will say "let me just do it" or when we ask him about his plan, he will say "I don't know." (Participant 2-2)

I'm not sure I was the biggest asset being in that room [pause] because we have a relationship that's good and bad, ... (Participant 3-7, mother)

Parents talked about how there is a sort of transformation that needs to take place, for both the child and the parents: a change of attitude and manner of interacting with each other:

Ohh it's hard. It's hard, its hard ... it's hard because one, the history of the interaction with the child was not in CO-OP mode in the sense that, you know we tend to okay, do this, do this, and it's more like from the time they are little, so when you try to shift that out its difficult because that's not the way that we've been working before. (Participant 1-5, mother)

Although parents are keenly aware that this change in interaction style should happen, they recognize that this will take effort on their part, as well as time and perseverance. It is a work in progress:

No, I think it's just ... not being left ... I think ... everybody else is doing it ... I mean, I baby her, like, I mean, she knows, "daddy I don't want to do it" (translated). Ok, I'll do it, I'll do it, it's part of my fault, a bit ... I think it's ... but when she's left ... I think we have to leave her alone, on her ... she has to be on her own more, she has to learn ... we have to kind of let her ... sink or swim to be honest, I think that's what we got to do with her. (pause) But I can't! (Participant 1-2, father)

Uhh ... I think I still have the tendency to put my hands over his when he does things. Then I tell myself that I am not supposed to do that (laughing). At least now, I know I am not supposed to!" (laughing) (Participant 1-6, mother)

My first reflex is still to show him. (Translated, Participant 2-3, father)

### Asking the Right Question Is Hard to Do ... More Practice Please!

Several parents expressed trying to implement the CO-OP problem-solving process at home. They all talked about how observing therapist-child interaction during an intervention



session was very helpful for them to gain an understanding of the approach and to see how they could go about doing it themselves with their own child:

The time I spent with him [child] and [first author] when doing the bike helped a lot to see . . . it helped me see how I would do it, then how others [clinical therapist and occupational therapy students] were doing it, how they were talking to the kids, I found that super (pause) super helpful. So, it would be something that would be good one-on-one. (Translated, Participant 1-3, mother)

When parents recounted their attempt to undertake aspects of the CO-OP intervention at home, they oftentimes talked about getting stuck. Statements reflected their poor sense of self-efficacy with respect to their ability to implement the problem-solving approach at home with their own child. Parents described how they found it difficult to analyse and breakdown tasks themselves, and even more difficult to guide their child through this analysis process and encourage their child's own problem-solving. Parents know that they need to guide their children through the problem-solving process so the children identify their own strategies, and even though they intend to do so, parents described how they had trouble knowing what questions to ask to guide their child toward the solution, without getting frustrated, and without giving them the answer:

. . . It happened that I did not know what questions to ask, he was doing a task and it was not working. . . I could not find the words so he could solve his problem. . . and you don't want to give him the answer. . . (Translation, Participant 2-3, mother)

. . . not to fall into the easy way of telling. Instead have him do the analysis phase, then question himself, that you [as a parent] skip that step and then you simply give him the answer. That's the hardest part [analysis] for us to do. It's less instinctive, at least for me, I can't seem to do that. (Translated, Participant 2-3, father)

Sometimes I struggle trying to break things down and ask those questions so that he can figure out how to break it down himself. And I think it's just going to be repetition, repetition, repetition. Eventually, it's going to become a learned skill. Again, sometimes I get frustrated just as he's frustrated and I just try to break it down for him because it's just going to be quicker and easier. And sometimes I have to think about it and try to take a step back myself. (Participant 3-6, father)

. . . so [with the climbing wall] I ended up having to tell him . . . I mean, last week, with the running, he's the one who came up with the solution. It's like . . . what questions can I ask so that he can find the . . . uh . . . like the goal, we know it, the goal is easy. Ok, I try to reach my goal, but what questions can I ask him to tell him, which solution he can use. (Translated, Participant 1-4, mother)

I found that it was . . . uhm . . . I found that it was good. I found that it made good sense, the um, all of the CO-OP approach, there . . . it was . . . me. I found it difficult to apply it at home because . . . (pause) well, because one, he [child] did not really want to. Then, uhm . . . then I don't really know how

to go about it to (laugh) to bring it back so that it is positive, so that he wants to do it, he wants to try. . . . (Translated, Participant 1-3, mother)

Some parents distinguished between knowing and doing. Parents reflected that they felt they knew what to do, but would have benefited from actually practicing and applying the problem-solving process with their child during sessions with therapist supervision:

Of course, if I had more practice in applying it, it would have been better, but because I only had the theory, I was like . . . I kinda had the tendency to do what I used to do before, but . . . uh . . . I know I am not supposed to, so then I stop. (Translated, Participant 1-6, mother)

If there was one session with one of the counselors where you have the child and you look at a simple task and we work with the child . . . would be more beneficial to the kid and to the parent. Doesn't have to be months of training, but just one hands-on session with the child . . . and so if we had a couple of sessions where we picked a smaller task and worked through it with my child. (Participant 1-5, mother)

### Let's Go! S/He Can Do It!

Parents shared the joys of seeing their child experience success in the activities they had selected for intervention and what a difference this made in their child's lives:

I . . . we think this helped a lot . . . self-confidence wise, which is everything.

so, you know, she can tie her shoes now, that, she . . . you know, she was beaming about that, she can . . . (Participant 1-2, father)

Her friends used to tie her shoes for her. Yeah, that's a huge. I know it sounds so small . . . but for her is massive, so . . . . (Participant 1-2, mother)

They identified the "plan" as being a key aspect of the CO-OP approach that they believed helped to boost their child's confidence in their ability. They highlighted the importance of being able to attribute performance failure to the "plan" and directing the onus of failure away from the child:

. . . but I will get better, at doing that . . . well, I say that, but [child] understands the method and I think that it's been helpful for us to accept that he has difficulties and also . . . like, maybe that he does not blame himself, like it will help him avoid long term confidence problems, that he understands that he has to do a plan, that it's just the plan, not him, uhm. (Translated, Participant 1-4, mother)

Now we recognize okay it's not to do with effort, it's to do with strategy, and sort of more hope just on yeah him [child] having a plan, but at the same time don't give up, do the work, try a different way, try this way, try that way. So yeah, so those things I think really helped through for us. (Participant 1-1, mother)

Yeah, because the trick of the time, which I did clue into was now we can tie garbage bags and he can take the garbage

out. We used a lot of just that process and then he could tie the dog up when we went out—all the steps. And I didn't make it sound like that to him, like, "This is what you learned." I just, "Hey buddy, I think it's like the shoelace—" and he'd think it through. And so now, he ties so many things . . . (Participant 3-7, mother)

Parents talked about noticing a change in attitude in themselves as well as in their child. As parents, they were able to see their child as being able to accomplish activities that they previously did not think s/he would be able to do by themselves. Parents developed more confidence in their child's ability to succeed:

Since the project, especially because we realized that he [child] is not handicapped and that he can do it, so we pushed him to do it by himself. (Translated, Participant 1-6)

For us it is less discouraging cause we can see that it will work at the end . . . While now he keeps working until it works. (Translation, Participant 2-1, mother)

We don't let him give up. Before, we were more prone to let it go and we move on to something else. [Now], we [are] more prone to try to find a way with him to make it work [and] to succeed. There is a change in our attitude, since we see that she is able, she can do it. Maybe this is what CO-OP approach is all about? (Translation, Participant 2-2, mother)

. . . for us now, what we realize is that we are able to have more confidence in him, cause we know he will succeed at what he did. (translation, Participant 2-3, mother)

Parents observed that, since the CO-OP intervention, their child approaches tasks differently. Rather than in a haphazard or "trial and error" way, children now go about doing tasks in a more methodical and reflective manner:

Like I walk in on him doing stuff, so in terms of Lego, and in terms of his pants, he was throwing them last time like, he actually now takes all the instruction, looks at number one, looks at number two, looks number three, it's not just like strength and pulling everything out and keep it together, and he is just—maybe actually its just that idea that you do things slowly, do things methodically, you look at what needs to be done . . . (Participant 1-1, mother)

Well, he'd always redo the same thing. You know, sometimes that's what we'd see. He would retry, but he'd retry it always the same way. He did not question himself you know, on how to do it. Now, he questions himself on how to do it better. (Translate, Participant 2-3, father)

Children were now more open to trying new things and to approaching tasks in different ways. They revealed that their child seemed to realize that they are capable and their attitude toward difficult or new tasks changed:

He is more open to try to think in a different way . . . (Translated, Participant 1-2, father)

I feel that knowing this approach, he [child] realizes that he is able to do things that he was not able to do before and obviously it helps develop his view of self-esteem. So he does not say anymore I'm no good, I'm not able to do it. (Translation, Participant 2-3, mother)

## Discussion

Findings from this consolidation of three qualitative studies suggest that parents of children with DCD found the CO-OP approach useful and perceived notable improvement in their child's selected goals. They especially appreciated the fact that CO-OP focuses on strategy use, and several observed their child apply strategies outside of the intervention sessions when undertaking tasks on their own. Parents reported seeing the potential for CO-OP to enable the performance of different tasks in which their child has to engage, throughout their life. Parents also commented on how the CO-OP intervention contributed to their child's confidence in doing motor tasks and in being open to try new things. These findings are consistent with parent reports in the Mandich et al. (2003) study, who reported that not only did the CO-OP intervention lead to improvements in their children's competence in everyday activities, but it also increased their children's self-efficacy to try new activities. Similarly, parents in Jackman et al. (2017) noted improvement in their children's goals following their participation in the CO-OP intervention. As in the present study, these parents reported appreciating the strategy use element of the approach, and the benefits that this problem-solving ability could potential give their children with future goals. These parents of children with CP also observed their children feeling more empowered and more motivated following the CO-OP intervention.

Although parents found CO-OP challenging, they recognize the significance of having their child engage in a problem-solving process, analyzing, and coming up with solutions on their own. Although the intention to do homework or encourage strategy use was present, oftentimes these were hampered by several challenges. A first obstacle was finding time to practice in an already busy family routine. Parents are more likely to complete practice assignments if they are enfolded (or contextualized) into the family routine (McConnell et al., 2015). Routines provide families with a predictable structure and, once embedded in a routine, behaviours become more habitual with little thought (Fiese, 2007; Fiese et al., 2002; Spagnola & Fiese, 2007). However, adapting even a seemingly mundane family routine may not be that simple (Segal, 2004). Routines are influenced by family structure, context, and culture (Fiese et al., 2002; McConnell et al., 2015) and so are unique to each family. It is therefore critical for therapists to discuss their families' daily routines and identify times in these routines where CO-OP activities can realistically be embedded. Also, critical to consider is how a change in one member's daily routine can affect the whole household (Fiese, 2007). Therapists need to be mindful of the multiple demands placed on families. Care should be taken not to overburden; practice assignments and strategy use expectations need to be accommodated in accordance to a family's capability.

The child's attitude and existing parent-child relationship were also identified as a possible hurdle because CO-OP generally calls for a shift in the relationship where parents are encouraged to guide their child, rather than do for their child. Discomfort with seeing their child struggle, and feeling the

impetus to help or “rescue” their child by giving the solutions, was shared by parents. These findings are similar to Jackman et al. (2017), where a child’s personality traits, such as motivation or attention, were reported to influence the outcome and ease with which CO-OP was put into action by parents. As mentioned earlier, the parents in Jackman et al.’s study also talked about the challenge of shifting from “doing” for their child to “guiding.” This may be related to parents’ lower sense of self-efficacy with the CO-OP approach which also emerged as a challenge. Parents reported not knowing what questions to ask to guide their child to identify where the problem was or finding a solution, without giving their child the answer or getting them frustrated. Medina-Miapeix and colleagues (2017) described that parents decreased self-efficacy was an important factor that prevented the implementation of home program activities in parents of children with developmental disabilities. Likewise, King et al. (2014) propose that self-efficacy is key in parents’ behavioural involvement outside of treatment, such as carrying out an agreed-upon intervention

To facilitate parent involvement in the CO-OP intervention, one needs to consider the findings of the present study whereby “knowing” about the CO-OP approach and observing the CO-OP approach is not sufficient. The findings of this study point to the importance of reflecting on the teaching strategies adopted for engaging parents in the CO-OP approach. Although a multitude of studies exist demonstrating the effectiveness of a variety of parent-implemented interventions, there is limited research on how to best implement parent education or training (Steiner, et al., 2012; Mahoney et al., 1999). Notwithstanding, a meta-analysis of parent education components found that parents practicing new skills in sessions (rather than the therapists spending more time in modeling skills) was associated with larger intervention effects (Kaminski et al., 2008). This is in line with what some of the parents in this study suggested in their interviews—more hands-on practice in implementing CO-OP strategies with coaching from the therapist. Interestingly, the parents in the Jackman et al. (2017) study were not only educated on the theoretical background of the CO-OP approach and shown examples of practical application of strategies, but they were also actively involved in the CO-OP intervention group with their children.

The nature of the triadic therapist–parent–child relationship is complex with intersecting roles and reciprocal relationships (Brown & Woods, 2016) that can vary and influence a parent’s engagement with the CO-OP approach. The role of the therapists in this study was principally a directive one, where instruction and information (focused around the child) were given and the parent took on a rather passive role in learning how to apply techniques with their children. Alternatively, more collaborative therapist–parent partnerships favour an exchange of information and instruction where parents take on a more participatory role in intervention as therapists provide guidance and feedback (Brown & Woods, 2016). Programs that foster collaborative therapist–parent relationships have generally been accepted as more beneficial in general, and in building parent skill and self-efficacy (Ziegler &

Hadders-Algra, 2020). If the expectation is for parents to implement elements of the CO-OP intervention with their children, therapists should adopt a more collaborative relationship with parents and actively coach them on the implementation of CO-OP elements and teaching strategies to support their child. Evidently, along with parents’ role and active level of involvement in sessions, other active ingredients of the intervention used to train parents need to be explored, such as the format (e.g., individualized one-on-one sessions vs group), the provision of corrective feedback (e.g., in vivo immediate feedback vs video feedback), the context of the intervention (e.g., clinic vs home) (Steiner et al., 2012), the dosage (e.g., frequency, duration, and number of sessions), as well as whether other skills need to be addressed concomitantly (e.g., behaviour management).

### Limitations

There are several limitations to this study. First, the administration of the format of the CO-OP intervention was not uniform across studies. Despite the heterogeneity in intervention delivery, recurrent themes emerged in each of these smaller studies, hence the rationale for coding the three studies simultaneously. Interestingly, despite the different intervention formats, no contrasting or opposing views were communicated by parents, other than the timing of when the intervention should take place (i.e., summer vs school year). Parents across intervention formats reported similar experiences around the obstacles and needs to implement CO-OP strategies at home, thereby increasing confidence that data saturation was achieved. Although the findings of this study arise from the interviews of 23 parents (of 17 children), it should be noted that the results reflect these parents’ perspectives regarding their experience with the CO-OP approach and cannot readily be generalized to other parents (such as those from different cultures or socioeconomic status) or other intervention approaches. A final limitation is that one of the interviewers in study 2 had been involved directly with participating families as the treating CO-OP therapist, potentially influencing these parents’ willingness to candidly speak about their experiences with CO-OP. Nevertheless, the perspectives and experiences shared by parents in study 2 did not differ from those shared by parents in study 1 or in study 3.

### Clinical Implications and Future Directions

The findings of this study suggest that when undertaking the CO-OP approach, if we expect parent to encourage skill practice and strategy use with their children, we need to more actively involve parents in the intervention sessions. To bolster parent engagement, therapists are encouraged to foster a collaborative relationship, with parents taking on a more participatory role. Although modeling the effective use of CO-OP strategies is beneficial for parents to observe, the emphasis should shift on coaching parents to engage in the problem-solving process and guide their child to discover strategies to support motor skill acquisition. It is also important for

therapists to take the time to gain an understanding of a family's routines and discuss how to embed task practice and strategy use within these routines.

Future research should focus on determining the active ingredients (e.g., format, feedback, dosage) to consider for feasibly and effectively engaging parents in the CO-OP approach, along with how parent education strategies can be integrated with the CO-OP intervention. Furthermore, studies need to examine how these education strategies are associated with parent implementation and child outcomes, including across different ages and differing co-occurrences. Finally, the effectiveness of parent engagement in the CO-OP approach on children's generalization and transfer of skill acquisition and strategy use should be explored.

## Conclusion

The CO-OP approach recognizes the key role parents play in supporting children's practice of learned skills and strategy use in order to enable the generalization and transfer to other skills. The findings of this study indicate that providing parents with information on the CO-OP approach and having them observe intervention sessions may not be sufficient to support parents in implementing CO-OP at home. Further research is needed to determine the most effective and efficient manner to engage parents in the CO-OP approach.

## Key Messages

Parent observation of intervention sessions and knowledge about CO-OP is not enough to support their application of CO-OP at home.

The main challenges parents describe for supporting the CO-OP approach at home are: incorporating CO-OP tasks into daily routines, shifting of parent-child relationship, and parents' poor sense of self-efficacy with respect to their abilities.

Parent remarks suggest therapists adopt a more collaborative relationship with parents. Discuss daily routines with families to identify times where CO-OP activities can realistically be embedded and have parents take on a more participatory role during sessions to improve their sense of self-efficacy around their implementation of CO-OP elements.

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## Author Contributions

RM (first author): first investigation: conceived and planned investigation, supervised data collection and qualitative thematic analysis undertaken by students (JC<sub>3</sub>, EC, MM); second investigation: co-conceived and planned investigation, supervised data collection and qualitative thematic analysis undertaken by students (JC<sub>2</sub>, JV); third investigation: conceived and co-planned investigation, carried out focus groups and initial qualitative thematic analysis; carried out the synthesis analysis and wrote the manuscript with input from all authors.


JC<sub>2</sub> (second author): co-conceived and planned the second investigation presented; carried out the initial data collection and qualitative thematic analysis; JC<sub>2</sub> reviewed the present synthesis and commented on the manuscript.


JC<sub>3</sub>, EC, MM (third, fourth, and fifth authors): the first investigation was part of the requirement for the professional master's degree in occupational therapy, which involved carrying out the initial data collection and qualitative thematic analysis; JC<sub>3</sub>, EC, MM reviewed the present synthesis and commented on the manuscript.

JV (sixth author): the second investigation was part of the requirement for the professional master's degree in occupational therapy, which involved carrying out the initial data collection and qualitative thematic analysis; JV reviewed the present synthesis and commented on the manuscript.

JZ (last author): involved in the planning of the third investigation and discussion of analysis, monitored data collection; reviewed the present synthesis and commented on the manuscript.

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