



# Self-Efficacy for Physical Activity in Children with Developmental Coordination Disorder



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## INTRODUCTION

- Children with Developmental Coordination Disorder (DCD) have low motor skills including marked delays in achieving motor milestones, poor balance, low coordination and handwriting difficulties.
- Studies have indicated that children with DCD have lower self-efficacy toward physical activity and participate in fewer organized and recreational play activities than children without the disorder.
- While there does not seem to be any gender differences in self-efficacy, no studies have analyzed age as a factor into self-efficacy in children with DCD.
- The purpose of this study was to determine self-efficacy in children with DCD by using two unique assessments and compare the results by age.

## METHODS

- There were 11 participants diagnosed with Developmental Coordination Disorder, 9 males and 2 females, all participants were a part of a group intervention program for DCD.
- Participants were divided into two age categories, with the “younger” group between 7 to 9 years and the “older” group with ages between 10 to 13.
- Participants completed two questionnaires, the Children's Self-Perception of Adequacy in, and Predilection for Physical Activity (CSAPPA) and the Children's Assessment of Participation and Enjoyment (CAPE).

## METHODS

- The CSAPPA dealt with the participant deciding between a physical activity or a non-physical activity and whether or not this choice really describes them or does not describe themselves.
- The categories used from each assessment were as followed; from the CSAPPA we used the Total Score (max score is 80 points out of 20 questions) and the category Active Games score (max score is 40 points out of 10 questions).

Some kids have one nose on their face. ----- But other kids have three noses on their face!

That shouldn't be too hard for you to decide! Once you have circle the sentence that is most like you, then you have to decide if it is SORT OF TRUE for you or REALLY TRY for you, and put a checkmark in the right box. Here is another example for you to try. Remember: First circle the sentence that is most like you and then check off if it is REALLY TRUE or only SORT OF TRUE for you.

Really true for me	Sort of true for me	Some kids like to play with computers	But	Other kids don't like playing with computers	Sort of true for me	Really true for me
<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>

Now you are ready to start filling in this form. There are no right or wrong answers, just what is most like you. Take your time and do the whole form carefully. If you have any questions just ask! If you think you are ready you can start now. BE SURE TO FILL IN BOTH SIDES OF EACH PAGE!

Really true for me	Sort of true for me	Some kids like to take it easy during recess	But	Other kids would rather play active games	Sort of true for me	Really true for me
<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	Some kids have fun in physical education class	But	Other kids would rather miss physical education class	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	Some kids aren't good enough for sports teams	But	Other kids do well on sports teams	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	Some kids like to play quiet games	But	Other kids like to play active games	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	Some kids like to play active games outside on weekends	But	Other kids like to relax and watch T.V on weekends	<input type="radio"/>	<input type="radio"/>

- The CAPE is a more detailed questionnaire that involved asking whether the participant has done the activity, how often, with whom, where, and how much they enjoyed the activity.
- For the CAPE we used the subcategories Diversity (max score 55 based off of 55 items) and Enjoyment (max score of 275 from a point scale of 1-5 with 55 items).

**Playing computer or video games**

Have you done this activity in the past four months?

No (go to the next item)

Yes (complete each of the questions below)

How often?

1 2 3 4 5 6 7

1 time in the past 4 months 2 times in the past 4 months 1 time a month 2-3 times a month 1 time a week 2-3 times a week 1 time a day or more

With whom do you do this most often?

1 Alone 4 With Friends

2 With Family (Parents, Brothers, Sisters) 5 With Others (Instructors, Other individuals, or Multiple types of people)

3 With Other Relatives (Grandparents, Aunts, Uncles, Cousins)

Where do you do this most often?

1 At Home 4 At School (but not during classes)

2 At a Relative's Home 5 In Your Community

3 In Your Neighborhood 6 Beyond Your Community

How much do you like or enjoy doing this activity?

1 2 3 4 5

Not at all Somewhat Sort of Pretty much Very much Love it

**Writing a story**

Have you done this activity in the past four months?

No (go to the next item)

Yes (complete each of the questions below)

How often?

1 2 3 4 5 6 7

1 time in the past 4 months 2 times in the past 4 months 1 time a month 2-3 times a month 1 time a week 2-3 times a week 1 time a day or more

With whom do you do this most often?

1 Alone 4 With Friends

2 With Family (Parents, Brothers, Sisters) 5 With Others (Instructors, Other individuals, or Multiple types of people)

3 With Other Relatives (Grandparents, Aunts, Uncles, Cousins)

Where do you do this most often?

1 At Home 4 At School (but not during classes)

2 At a Relative's Home 5 In Your Community

3 In Your Neighborhood 6 Beyond Your Community

How much do you like or enjoy doing this activity?

1 2 3 4 5

Not at all Somewhat Sort of Pretty much Very much Love it

**Doing team sports**

Have you done this activity in the past four months?

No (go to the next item)

Yes (complete each of the questions below)

How often?

1 2 3 4 5 6 7

1 time in the past 4 months 2 times in the past 4 months 1 time a month 2-3 times a month 1 time a week 2-3 times a week 1 time a day or more

With whom do you do this most often?

1 Alone 4 With Friends

2 With Family (Parents, Brothers, Sisters) 5 With Others (Instructors, Other individuals, or Multiple types of people)

3 With Other Relatives (Grandparents, Aunts, Uncles, Cousins)

Where do you do this most often?

1 At Home 4 At School (but not during classes)

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3 In Your Neighborhood 6 Beyond Your Community

How much do you like or enjoy doing this activity?

1 2 3 4 5

Not at all Somewhat Sort of Pretty much Very much Love it

## RESULTS

- An independent *t*-test analysis indicated a significant age group difference for the CSAPPA total score, where the younger group had a higher percentage of self-efficacy than the older group (69% compared to 54%).
- No other group comparisons were significant.
- In two scales of the CSAPPA (Total Score & Active Games) and two of the CAPE (Diversity & Enjoyment) a negative correlation was found between age and percentage values, indicating that self-efficacy decreases as age increases (CSAPPA – total:  $-.54$ , active games:  $-.53$ , CAPE – diversity:  $-.41$ , enjoyment:  $-.53$ ).

## CONCLUSION

- With these results we can support the preliminary notion that that self-efficacy in children with DCD decreases with age.
- This could be due to their typically developing counterparts advancing in their abilities, making it more apparent to the DCD child that they have difficulties.
- Older participants have had more opportunities to experience different activities and the understanding of whether they are successful or not.
- Children with DCD are susceptible to mental health problems, therefore it is important to assess and promote self-efficacy especially with older children.