

## Barriers and facilitators to exercise, sport and physical activity maintenance: a qualitative study

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**Background:** Physical activity, sport and exercise (PASE) are low-cost, low-risk, high-benefit and recommended for all children and young people (CYP) with CF, however levels of participation vary. Interventions can be effective at increasing levels of activity temporarily, but less is known about maintaining participation.

**Objectives:** CYP with CF, and one parent/carer each, were interviewed 12-35 months after participating in an exercise intervention study (INSPIRE-CF). INSPIRE-CF was a randomised trial in which 37 of 71 CYP were randomised to receive a weekly, individually prescribed personal training session at a gym facility for 24 months<sup>1</sup>. The personal training sessions were withdrawn after the trial ended.

This qualitative study aimed to:

1. Identify experiences, behaviours and attitudes towards PASE among CYP with CF, and their parents;
2. Explore barriers and facilitators to PASE maintenance.



**Methods:** Purposive sampling identified more than 30 participants from the INSPIRE-CF cohort (both intervention and control) who fulfilled a range of characteristics such as age and gender, and thus could provide depth and richness of data. Semi-structured interviews were transcribed verbatim and analysed using thematic analysis. Themes were independently identified by two researchers and confirmed via discussion to develop the framework of categories and themes.

**Results:** A total of 40 one-to-one interviews were held with 20 CYP (aged 11-16 years: 6 male) and 20 parents (17 mothers, 3 fathers), data saturation was reached.

**EXPERIENCES, BEHAVIOURS AND ATTITUDES**

**CYP:** All participants reported taking part in some form of PASE regularly, considering it a normal part of life, and all recognised benefits of PASE (figure 1), including CF-specific health benefits. However, levels of participation varied:

- 2 CYP reported that their only regular activity was physical education at school
- Another 2 reported participating in 6 different PASE activities weekly.

Attitudes towards PASE were varied: some CYP were wholly positive about physical activities, and others preferred sedentary pastimes. Despite that, all CYP participants identified physical activities that they found enjoyable.

- 12 CYP reported preferring informal physical activities, such as scootering, and cycling,
- 8 CYP reported enjoying structured sport and exercise, such as gym training, dance and team sports.



**Figure 1: Word cloud of CYP and parent interview responses**

**‘I’m not very competitive and I always feel pathetic. I feel like I’m rubbish, all the time.’**  
**CYP participant 1**  
 Attitude and personality: Not competitive  
 Attitude and personality: Lack of confidence  
 Identity: Non-exerciser

**‘Sporty things, like football, especially football, I just really see no point in it, its pointless.’**  
**CYP participant 4**  
 Activities: Disliked activities  
 Identity: Non-exerciser

**‘I like doing stuff that you can win at.’**  
**CYP participant 18**  
 Attitude and personality: Personality: Competitive  
 Facilitators: Intrinsic: Competition

**‘She can sometimes completely withdraw because she thinks she’s failing.’**  
**Parent participant 11**  
 Attitude and personality: Lack of confidence  
 Barrier: Intrinsic: Self-conscious

## Results continued:

**Parents:** Parents were unanimously positive in their attitude towards PASE for their CYP with CF but attitudes towards personal PASE were varied:

- 9 parents actively facilitated their CYP's participation in sport or exercise
- 8 parents reported enjoying PASE activities themselves and regularly participated, and others were completely avoidant
- Not all active parents facilitated exercise for their CYP.

Eight parents and one CYP discussed changes in levels of participation in relation to age. A further six CYP talked about activities that they had given up.

**'I feel I've just become a bit lazier.'**

**CYP participant 17**

Activities: Changes with age

**'She was always the sort of girl that would love to go down the park, loved climbing, loved everything. Now she's very much into social media.'**

**Parent participant 11**

Identity: CYP

Activities: Changes with age

Conflict between CYP and parent was reported by two parents, both of whom exercised regularly but their CYP were reluctant to engage in structured sport and exercise.

**'I love it. I don't know why she's so adamant, it's such a shame'**

**Parent participant 5**

## **BARRIERS AND FACILITATORS TO MAINTENANCE**

Barriers and facilitators to PASE maintenance in CYP were categorised into intrinsic and extrinsic factors:

- Intrinsic factors (such as feeling self-conscious, finding activities boring, achieving goals) were reported in greater number and frequency than extrinsic factors (such as technology, parent availability, weather) (table 1).
- Notably barriers frequently cited in previous literature<sup>2,3</sup> (such as time, cost and access to facilities) were only mentioned in relation to parents participation, not CYP.
- Both CYP and parents identified that PASE activities must be fun to keep a CYP engaged, but that developing skills, achieving goals, and receiving praise and acknowledgement also contribute to maintaining participation.
- Both CYP and parents reported that PASE participation facilitation by an adult was important. The role of a personal trainer was highly valued by the 18 families who had experience of regular training.

# Results continued:

	CYP reported	Parent reported
<b>Barriers</b>	<ul style="list-style-type: none"> <li>• Impact of CF</li> <li>• Lack of skill</li> <li>• Impact/perceptions of others</li> <li>• Pain/other sensations</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of confidence</li> <li>• Intimidated by others</li> <li>• Attitude/mood of CYP</li> </ul>
Parents reported that competition is a barrier for some CYP but a facilitator for others		
<b>Facilitators</b>	<ul style="list-style-type: none"> <li>• Fun</li> <li>• Impact of others (sociability and accountability)</li> <li>• Skill/experience</li> <li>• Technology</li> </ul>	<ul style="list-style-type: none"> <li>• Fun</li> <li>• Impact of others (sociability and accountability)</li> <li>• Skill/experience</li> <li>• Technology</li> </ul>

**Table 1: Most frequently reported barriers and facilitators to maintenance of PASE participation in CYP**

## Conclusion:

- CYP with CF and their parents value PASE, and agree with CF guidelines that it is essential for health outcomes, and thus should be a part of routine care.
- Maintenance of PASE is challenging but is facilitated by: sociability, fun, and ‘normality’; developing skills, achieving goals, and receiving praise and acknowledgment; and the inclusion of an adult, either as a trainer or supporter.
- Accountability to another, most notably a trainer, was thought to be the most significant facilitator of maintained PASE participation.

**This is the first study to suggest that adult facilitation is required to maintain PASE in CYP with CF, and that having a trainer helps by overcoming modifiable intrinsic barriers such as building skills and confidence.**

### References:

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 2. Sallis JF, Hovell MF. 1990 Determinants of exercise behavior. *Exercise and sport sciences reviews*, 18(1), 307-30; 3. Hoare E, Stavreski B, Jennings G, Kingwell B. 2017. Exploring motivation and barriers to physical activity among active and inactive Australian adults *Sports*, 5, 47