

ABSTRACT

Youth sport participation can positively predict adult physical activity. In young adults, fitness gains help motivate exercise behaviors and enjoyment facilitates sport participation. CrossFit (CF), a high-intensity group-based exercise program that has recently surged in popularity, offers a competitive, community environment. PURPOSE: To determine if past youth sport experience differentially affected adherence to, fitness improvements from, and enjoyment of CF. **METHODS:** Data were from a 12-month program evaluation at a university CF gym with assessments at baseline, 2-, 6-, and 12-months. The 88 participants enrolled at baseline were ages 18-66 (M=30±11), 52.8% female, and 89.8% white; all but two had some college education. Participation was tracked over time. Strength was assessed at each time point through 1-rep max squat, press, and deadlift, which were summed for a "CrossFit Total" (CFT). At baseline and 6-months, participants rated how they felt at the moment about doing CF from 1="I hate it" to 7="I enjoy it." At 2-months, participants indicated their past sport participation as none, through 8th grade, in grades 9-12, or both. Using SPSS, one-way ANOVAs with sport participation as the independent variable were used to examine between-group differences for each outcome variable. RESULTS: Fifteen participants (17%) dropped out of CF after baseline, eight (9.1%) after two-months, four (4.5%) after sixmonths, and six (6.8%) discontinued the study, but continued CF. Changes in CFT ranged from -20 to 146lb (M=33.8±45.1), and changes in enjoyment ranged from -1 to +3 (M=-0.1±0.7). Sports participation included none (n=17), through 8th grade (n=5), grades 9-12 (n=7), and both time periods (n=31). No significant differences were found between sport participation groups for length of adherence to CF, f(3,53)=0.774, p=.51; change in CFT, f(3,48)=1.235, p=.31; or change in CF enjoyment, f(3,25)=1.922, p=.15. CONCLUSION: Unlike previous research, youth sport participation did not predict continued participation in CF, changes in strength or enjoyment. Although a group exercise program, CF also has aspects of sports (e.g., affiliation, challenge, competition) and thus may be able to address multiple exercise motivations, regardless of previous sport participation.

INTRODUCTION

- Youth sport participation has been shown to positively predict adult physical activity.¹
- In young adults, fitness gains help motivate exercise behaviors and enjoyment facilitates sport participation.²
- CrossFit (CF), a high-intensity group based exercise program, has recently surged in popularity.³
- CF offers a competitive, community environment that induces similar characteristics of sports.³
- Although previous research has examined these relationships for youth sport participation predicting adult physical activity, none have examined the relationship between youth sport participation and CF.

PURPOSE

To determine if past youth sport experience differentially affected fitness improvements from, adherence to, and enjoyment of CF.

METHODS

<u>Design</u>: 12-month program evaluation study at a university CF gym, with assessments at 2-, 6-, and 12-months.

Participants: 88 total adults

- Ages 18-66, M = 30 ± 11
- 52.8% female
- 89.8% white
- All but 2 had some college education.
- Participants were from a range of backgrounds and activity levels

Effect of Previous Organized Sport Experience on Improvements from, Adherence to, and Enjoyment of CrossFit

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Measures:

- Adherence
- The amount of time that each participant continued the exercise program
- months, after six-months, discontinued the study but continued CF, or finished the study.
- Past Sport Participation
- At 2-months, participants indicated what sports they had participated in during specific time periods including through 8th grade and during high school.
- through 8th grade, grades 9-12, both, or none.
- Strength Improvements
- Each participant worked up to a 1-repetition maximum squat, press, and deadlift, which were summed for a "CrossFit Total" (CFT) score at each assessment interval Enjoyment
- At baseline and 6-months, participants rated how they felt at the moment about doing CF from 1="I hate it" to 7="I enjoy it".

<u>Procedure</u>

- The program evaluation study was done at a university CF gym where each participant was already a part of group exercise classes. Classes were offered every day of the week except for Sundays and were offered at 3 different times (Morning, Afternoon, Evening) throughout each day. Attendance varied and was tracked over time by coaches at each class.
- Workouts were constantly varied, functional movements performed at relative high-intensity. Coach-led group workouts incorporated weightlifting, gymnastics, and mono-structural movements in varying time and rep schemes

Data Analysis

Using IBM SPSS 20 software, one-way ANOVAs with sport participation as the independent variable were used to examine between-group differences for each outcome variable.





RESULTS

Adherence: Fifteen participants (17%) dropped out of CF after baseline, eight (9.1%) after two-months, four (4.5%) after six-months, and six (6.8%) discontinued the study, but continued CF. No significant differences were found between sport participation groups for length of adherence to CF, f(3,53)=0.774, p=.51.

Sport Participation: No sports (n=17), through 8th grade (n=5), grades 9-12 (n=7), or both (n=31). See Figures 1 and 2 for more details.

Strength Improvements: Changes in CFT ranged from -20 to +146 lb. (M=33.8±45.1). No significant differences were found between sport participation groups and change in CFT, f(3,48)=1.235, p=.31. See Tables 1 and 2.

Enjoyment: Changes in enjoyment ranged from -1 to +3 (M=-0.1±0.7). No significant differences were found between sport participation groups and change in CF enjoyment, f(3,25)=1.922, p=.15.

METHODS

- Recorded in categories of whether they dropped out of CF after baseline, after two-

- These entries were then transformed into a variable of whether they participated in sports





Table 1. Mean Changes in Key Variables based on Sport Participation (n=20)				Table 2. Mean Changes in Strength (CFT) Over Time (n=20)	
Time Period	Strength Improvements (lbs)	Adherence (months)	Enjoyment (scale)	Baseline to 2- months	+24.6 lbs
None	26.5	10.33	0.5	2- to 6-months	+18.4 lbs
Thru 8 th Grade	30.2	11.25	-0.6	6- to 12-months	+2.1 lbs
9 th -12 th Grade	50.3	11.14	1.0		
Both	41.0	9.94	0.1	Baseline to 12- months	+33.8 lbs

CONCLUSIONS

Unlike previous research, youth sport participation did not predict continued participation in CF, changes in strength, or changes in enjoyment.

Although a group exercise program, CF also has aspects of sports (e.g., affiliation, challenge, competition) and thus may be able to address multiple exercise motivations, regardless of previous sport participation.

Future research could compare different group exercise programs and how people from different backgrounds adhere to, succeed in, and enjoy those programs.

¹Risto Telama, Xiaolin Yang, Jorma Viikari, Ilkka Välimäki, Olli Wanne, Olli Raitakari, Physical activity from childhood to adulthood: A 21-year tracking study, American Journal of Preventive Medicine, Volume 28, Issue 3, April 2005, Pages 267-273. ²Wang, C. J., & Biddle, S. J. (2001). Young people's motivational profiles in physical activity: A cluster

analysis. Journal of Sport and Exercise Psychology, 23, 1-22. ³Partridge, J., Knapp, B., & Massengale, B. (2014). An Investigation of Motivational Variables in CrossFit Facilities. Journal of Strength and Conditioning Research, 28(6), 1714-1721. doi:10.1519/JSC.000000000000288. ⁴Smith, M., Sommer, A., Starkoff, B., & Devor, S. (2013). Crossfit-Based High-Intensity Power Training Improves Maximal Aerobic Fitness and Body Composition. Journal of Strength and Conditioning Research, 27(11), 3159-3172.

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