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SPARC – A Community-based Participatory Research Project with Youth with Autism Spectrum Disorders

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SPARC – A Community-based Participatory Research Project with Youth with Autism Spectrum Disorders

Richard Fleming, Department of Exercise and Health Sciences

About SPARC

SPARC (Supporting Physical Activity and Recreation in the Community) aims to meet a community-identified need for more physical activity programming for youth with autism spectrum disorders (ASD). SPARC’s collaborative approach addresses the unique social, cognitive, behavioral, and physical needs of this growing population of children by infusing diverse perspectives into its model. This project incorporated a CBPR conceptual and methodological model, a strong community partnership, and an evidenced-based instructional approach, to develop and evaluate a community-based walking program for adolescents with ASD.

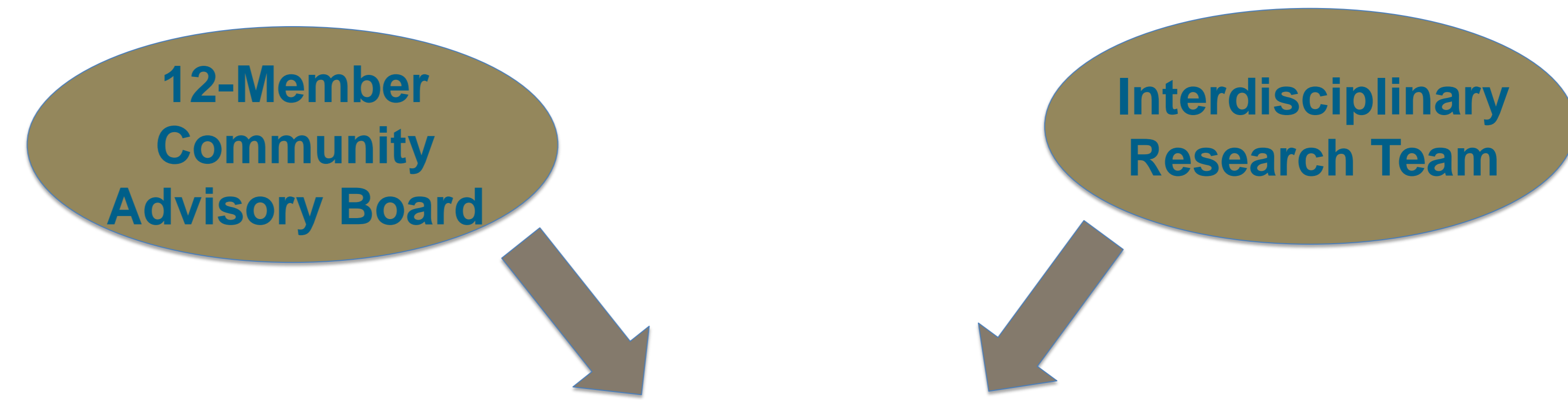
Why SPARC?

SPARC Partners

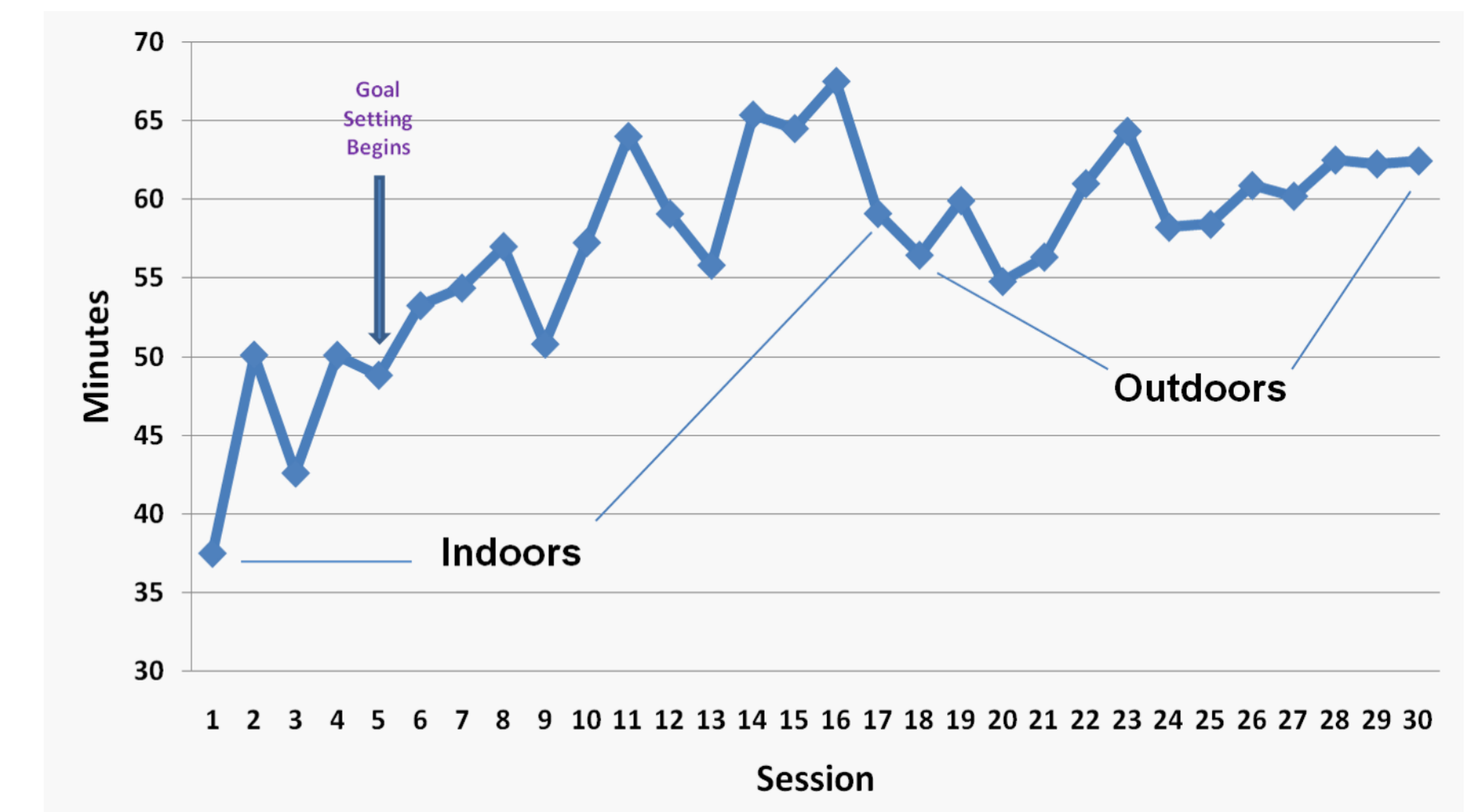
- Malden YMCA
- Newton YMCA
- YouthCare, Inc.
- UMass Boston
- UMass Medical



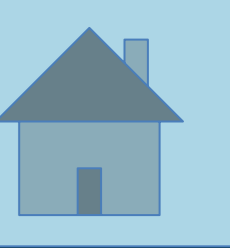
The SPARC Model



A Walking Club



Outcomes



Why SPARC?

What We Know

- Adolescents with ASD have been found to have significantly lower levels of physical fitness and higher levels of sedentary behavior than their age matched peers.
- Physical activity in children with ASD has been shown to decline by middle childhood and adolescence, in part because they neither possess the skills to participate in regular PA or qualify, based on their disability, for existing exercise and sport programs.
- Rates of overweight and obesity in children with ASD appear to be as high or slightly higher than in children without ASD.

SPARC Goal

To foster healthier lifestyles and reduce risk of chronic health problems among youth with ASD.





Developing Shared Vision & Goals

- Adolescents with ASD
- Parents
- Speech/language pathologist
- Adapted physical ed specialists
- Certified personal trainer
- Recreation director
- Organization youth-care director



- Psychology
- Adapted physical activity
- Social work
- Physical therapy
- Nutrition/dietetics
- Disability law

Consensus to:

Pilot/test a community walking program with adolescents aged 12-17 with autism

- *Context:* In community YMCAs
- *Scope:* Set motivating goals for moderate to vigorous physical activity (MVPA)
- *Recruitment:* Youth with “moderate” autism, a sub-group of children with ASD for whom there is less health research and greater need for support.

A Walking Club



Implementing A Walking Club

An example of a social story



Increasing Step Count

Many people who walk for exercise try to take more steps each time they walk. This is called "increasing step count."

SPARC club members will increase their step counts too.

This is a good idea because it will help them have better workouts.

The more someone walks, the faster and longer they will be able to walk, and the stronger they will become.

Their hearts will get stronger too.



Organizational Capacity Building:

- Trained coaches in behavioral support strategies

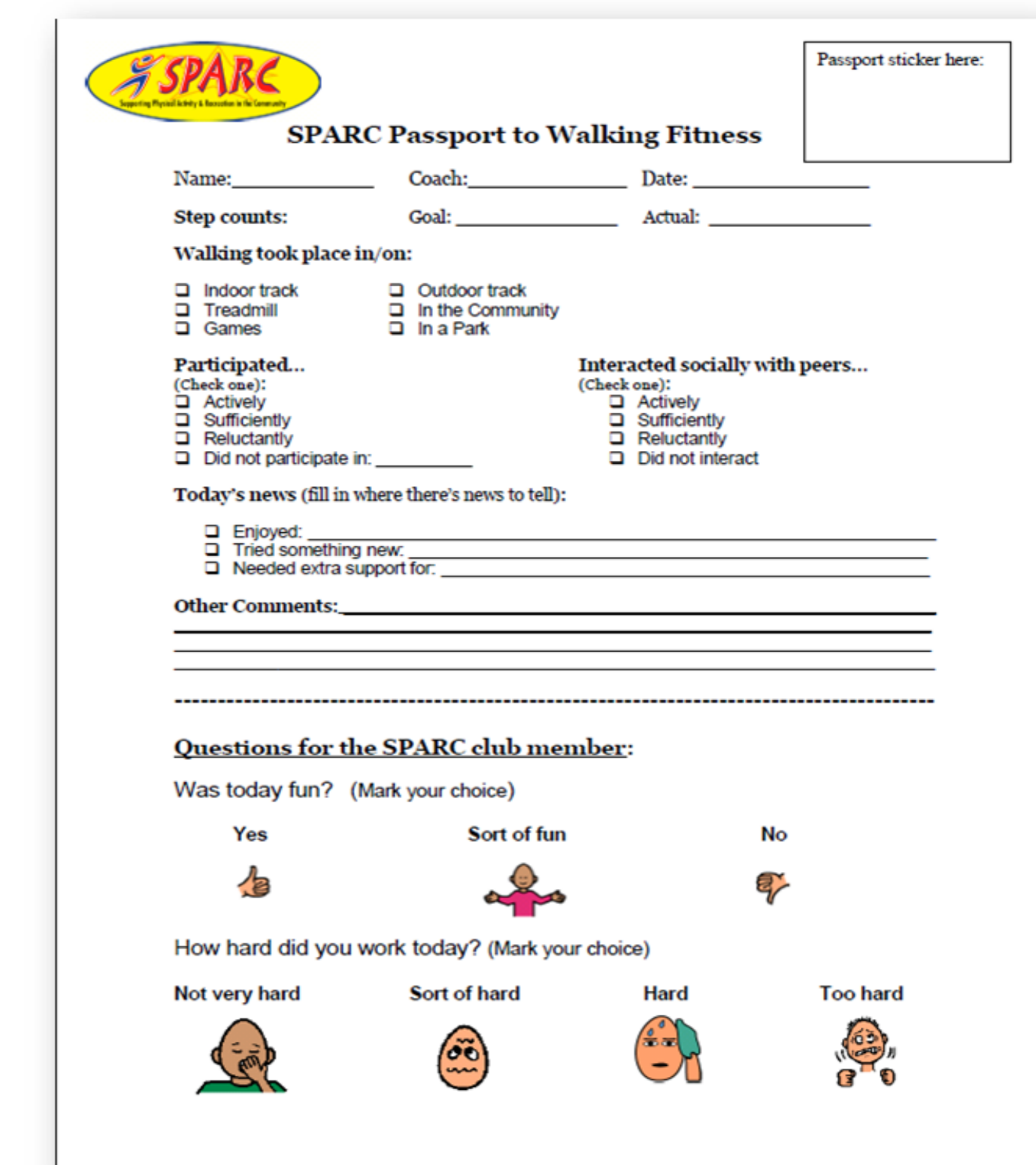
Parent and Family Engagement:

- Passport to Walking Fitness enables communication and reinforcement

Behavioral Strategies:

- Picture-supported instructions
- Social stories for each activity
- Goal setting via steps
- Monitoring by pedometer to increase level of activity
- Feedback and social reinforcement

CONTEXT	2 YMCAs	12 Adolescents	1:2 Coach- Youth Ratio
DURATION	3 Months	32 Sessions	90 Minutes



SPARC Passport to Walking Fitness

Name: _____ Coach: _____ Date: _____

Step counts: _____ Goal: _____ Actual: _____

Walking took place in/on:

Indoor track Outdoor track
 Treadmill In the Community
 Games In a Park

Participated... (Check one): Actively Sufficiently Reluctantly Did not participate in: _____

Interacted socially with peers... (Check one): Actively Sufficiently Reluctantly Did not interact

Today's news (fill in where there's news to tell):
 Enjoyed: _____
 Tried something new: _____
 Needed extra support for: _____

Other Comments: _____

Questions for the SPARC club member:

Was today fun? (Mark your choice)

Yes Sort of fun No

How hard did you work today? (Mark your choice)

Not very hard Sort of hard Hard Too hard



Implementing A Walking Club



Participants walk indoors in the winter.

In the spring, participants walk outdoors in various neighborhood settings.



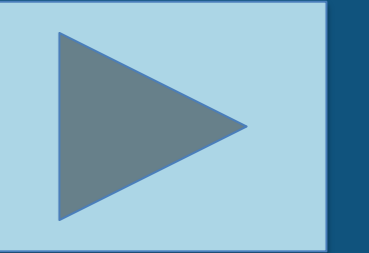
Games are incorporated into the walks, such as this “Scavenger Hunt Walk.”

To assess the results of the Walking Club intervention, we used **accelerometry**, or number of steps, as our **activity measurement**.

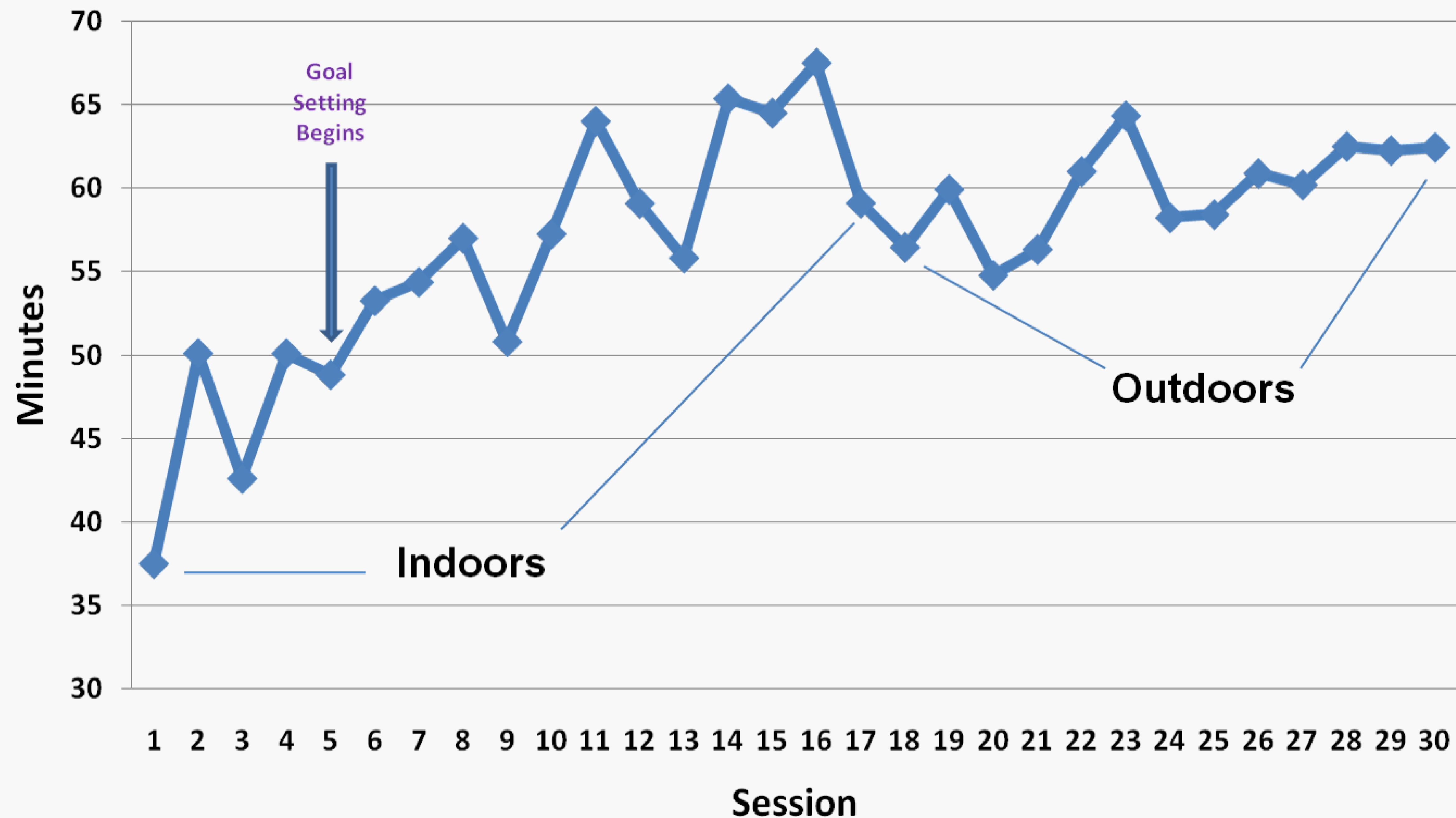
Outcomes



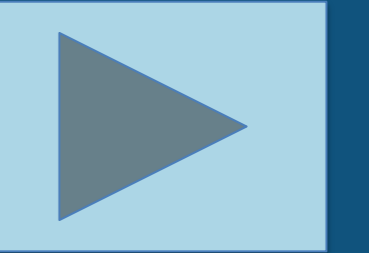
Sparky the Mascot was used by coaches for humor and camaraderie.



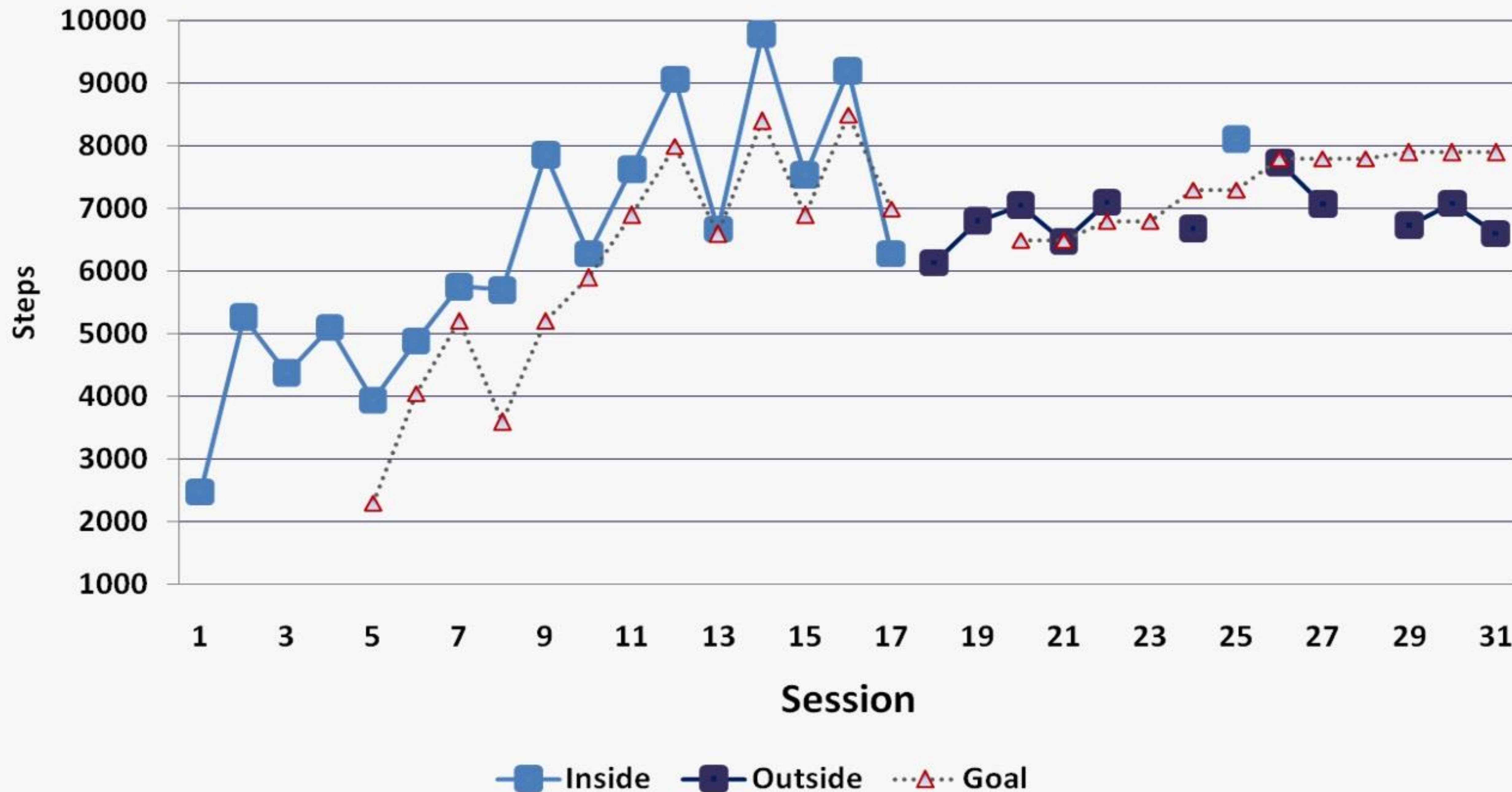
Average Minutes in Moderate to Vigorous Physical Activity Per 90-Minute Session (All Participants)



Participants also **formed friendships** around health during the sessions and were **supported by their peers.**



Individual Participant Goal Setting

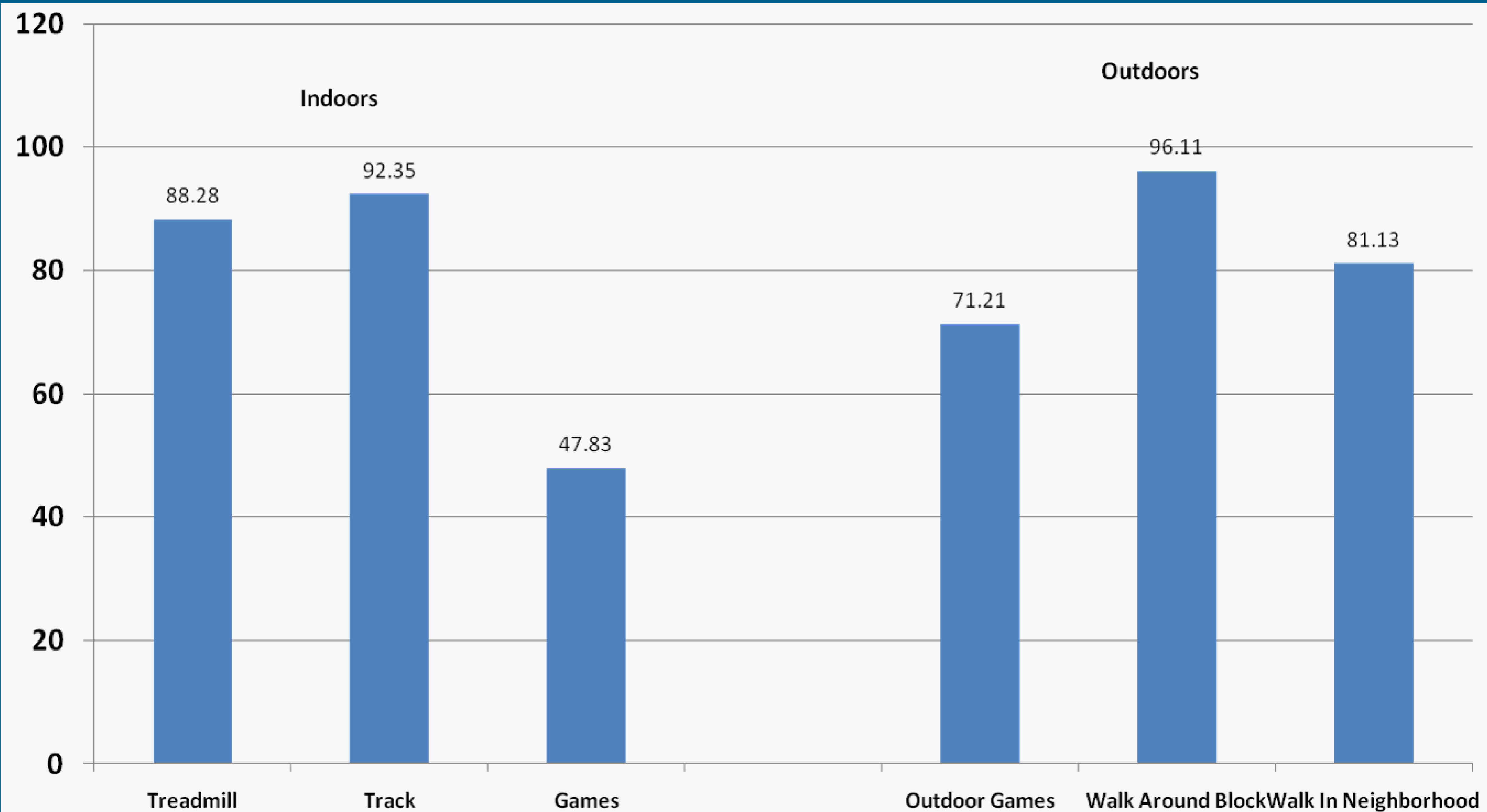


Participants gained knowledge about community resources, such as within YMCAs and neighborhood walking options.



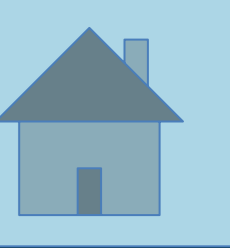
The program helped participants build **social skills and self-efficacy.**

**Average Number of Steps per Minute per Activity
(All Participants)**





SPARC – A Community-based Participatory Research Project with Youth with Autism Spectrum Disorders



In addition to the project's community partners, 8 co-researchers led the research aspects of SPARC and are co-authoring a publication to share what is learned from the research.

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