

**Keep Moving for Parkinson's: Exploring the Impact of a Seven-Day Multimodal  
Community-Based Exercise Program for People with Parkinson's Disease on Confidence,  
Engagement, and Quality of Life**

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## Abstract

*Background:* Exercise is a well-established non-pharmaceutical therapy that can mitigate motor and nonmotor symptoms in people with Parkinson's disease (PD). However, less than 40% of individuals with PD meet the recommended 150 minutes of weekly exercise. *Purpose:* This community-based initiative explored the implementation and participant feedback on the impact of a seven-day multimodal exercise initiative, Keep Moving for PD: Exercise Week, on participants' confidence, motivation, and perceived quality of life. *Methods:* Nineteen individuals with PD participated in a hybrid (in-person and virtual) weeklong program from February 24 to March 2, 2025. Each day featured a unique evidence-based modality (boxing, yoga, Pilates, PD Warrior™, resistance training, and community walking). This project was conducted as a community engagement initiative and did not require IRB approval. It evaluated the impact of a seven-day multimodal exercise initiative, Keep Moving for PD: Exercise Week, on participants' confidence, motivation, and perceived quality of life. Participants completed post-program surveys that combined quantitative ratings with open-ended qualitative feedback. Descriptive statistics and thematic analysis were used to evaluate outcomes. *Results:* 93% of participants rated the program as Excellent or Good. The most frequently cited benefits were the variety of exercises, a supportive community, and accessibility. 93.3% of participants reported increased confidence in incorporating daily movement. Thematic analysis revealed five dominant themes: (1) empowerment, (2) engagement through variety, (3) accessibility and flexibility, (4) community connection, and (5) challenge and growth. *Conclusion:* The Keep Moving for PD initiative demonstrates that a structured, short-term, multimodal exercise program can enhance confidence, motivation, and engagement among people with PD. Integrating both quantitative outcomes and participant narratives highlights the effectiveness of community-based, hybrid exercise programs in improving both physical and psychosocial well-being, empowering individuals living with PD to achieve the recommended weekly activity limits.

*Keywords:* Parkinson's disease, Parkinson exercise, community exercise, quality of life

## **Keep Moving for Parkinson's: Exploring the Impact of a Seven-Day Multimodal Community-Based Exercise Program for People with Parkinson's Disease on Confidence, Engagement, and Quality of Life**

Parkinson's disease (PD) is a progressive neurological disease affecting 10 million people worldwide (1). Parkinson's disease is characterized by its symptoms, including tremors, slow movements (bradykinesia), postural instability, rigidity, autonomic dysfunction, sensory dysfunction, sleep disorders, and psychological disorders. These symptoms impact daily function and movement for people with Parkinson's (PWP). The severity of these symptoms results in devastating consequences such as falls, immobility, impaired quality of life, and reduced general activity both physically and socially. With no known cure, efforts to manage the symptoms utilize both pharmaceutical and non-pharmaceutical options. Exercise, a non-pharmaceutical therapy, is a common therapy that provides many benefits in mitigating the motor and nonmotor symptoms of PD. Early exercise interventions can slow the progression of PD and reduce symptoms throughout the disease. People with Parkinson's disease (PWP) who maintain a consistent exercise routine (two and a half hours per week) or a community-based multimodal exercise routine have demonstrated smaller declines in health-related quality of life, functional mobility, and cognitive function. They also show greater potential to foster neuroprotection than those who exercise less (2, 3). However, despite the established guidelines by the American College of Sports Medicine and the Parkinson Foundation recommending at least 150 minutes of exercise per week (4), only 40% of PWP exercise regularly, with 20% not participating in exercise at all (5). The purpose of this community-based initiative was to explore the implementation and participant feedback on the impact of a seven-day multimodal exercise initiative, Keep Moving for PD: Exercise Week, on participants' confidence, motivation, and

perceived quality of life. The initiative aligns with current recommendations for exercise in the Parkinson's population, ensuring participants meet the minimum requirements in each domain. By addressing these needs holistically, "Keep Moving for PD" fosters physical and mental resilience in participants.

### **Evidence-Based Exercise Strategies for People with Parkinson's Disease**

Exercise provides broad benefits for people with Parkinson's disease. Research suggests exercise improves motor function, reduces nonmotor symptoms, and improves the quality of life (6). The Parkinson's Foundation recommends including the domains of aerobic fitness, strength training, flexibility, and neuromotor exercises in programs designed for people with PD. The strategies of combining exercises and integrating different exercise modalities, including aerobic training, strength training, balance and gait training, flexibility and mobility work, and dual tasking and cognitive challenges, were used to effectively target both the motor and nonmotor symptoms of PD in the Keep Moving for PD: Exercise Week protocol.

### **Aerobic Training for People with Parkinson's Disease**

Aerobic training improves cardiovascular health and endurance. For PWP, aerobic training not only provides these benefits but also reduces symptoms of PD. Aerobic training improves neuroplasticity and motor function, increases strength, and decreases non-motor symptoms of PD, like sleep disturbances and autonomic dysfunction (7-9). The minimum recommended aerobic exercise for PWP is three days a week for thirty minutes at a moderate to vigorous intensity (4, 8). Research shows that a variety of different aerobic exercises yield benefits; therefore, exercising aerobic capacity is more important than a specific type of exercise

for the Parkinson's community. A structured program tailored to your client's specific fitness level and enjoyment ensures long-term adherence and benefits.

### **Strength Training for People with Parkinson's Disease**

Strength training is important for building strength, enhancing muscle function, and increasing mobility. Sarcopenia (loss of muscle mass) and osteoporosis (loss of bone mass) are common in an aging population and may prove more deleterious for the PD population as movement difficulties increase. Building muscle strength and muscle volume, a goal of resistance training, is important to those experiencing sarcopenia. The results of a regular strength training program reduce fall risk by improving postural stability. Research has shown that resistance training has a positive effect on symptoms related to PD (10-12). The minimum recommended guidelines for strength training for PWP include two to three non-consecutive day sessions per week for at least 30 minutes per session. Ten to fifteen repetitions of exercise should be included for major muscle groups. The focus per session should be on resistance, speed, or power (4).

### **Balance, Agility, and Multitasking Training for People with Parkinson's Disease**

Postural instability, rigidity, and slow movements increase the risk of falls in PWPs. Incorporating balance and agility into exercise can enhance sensory integration and neuromuscular control, improving postural stability and reducing the likelihood of falls. Research shows that balance training that includes weight shifts in different directions, changing from double support to single support, and large amplitude movements improves dynamic balance in PWPs (13). The minimum recommended guidelines for balance, agility, and multitasking for PWP include two to three days per week with daily integration if possible (4).

## **Flexibility and Mobility for People with Parkinson's Disease**

Stretching, flexibility, and mobility training improve the range of motion, address the motor symptoms of rigidity, enhance postural alignment, and promote relaxation and stress relief. Research shows that incorporating exercises like Pilates, yoga, and Qigong are beneficial for people with PD and can improve functional mobility, balance, motor function, and quality of life, and improve non-motor symptoms of PD (12, 14, 15). The minimum recommended guidelines for flexibility for PWP include two to three days a week, with daily integration being the most effective (4).

## **Dual Tasking and Cognitive Challenges for People with Parkinson's Disease**

Individuals with PD frequently struggle with dual-tasking (performing two tasks at once) and cognitive functions due to deficits in executive function, attention, and working memory. These impairments increase motor symptoms, heighten the risk of falls, and diminish independence in daily activities. Evidence indicates that integrating cognitive and motor dual-task training can enhance gait, balance, executive function, and overall quality of life in PWP (2, 9, 16). Because dual-task exercises and cognitive challenges can be incorporated into the different exercise domains, the minimum exercise guidelines follow the specific domain. Effective dual-task training includes:

- Gait and balance exercises with cognitive challenges – Walking while counting backward, navigating an obstacle course while naming items in a category, or alternating between fast and slow walking to improve gait speed, stability, and cognitive flexibility.

- Cognitive-motor coordination drills – Tossing a ball while reciting words in a category or stepping in a pattern while following a sequence to enhance motor control and cognitive engagement.
- Task switching and executive function training – Boxing while recalling a list of words or using virtual/augmented reality training to improve adaptability and decision-making in real-life scenarios.

Dual-task training should incorporate progressive overload (gradually increasing task complexity), error-based learning (allowing mistakes to reinforce adaptability), and real-world application (practicing exercises relevant to daily life). By integrating cognitive challenges into structured exercise programs, PWP can improve motor and cognitive function, enhancing overall independence and quality of life.

### **Methods:**

Nineteen individuals with PD participated in a hybrid (in-person and virtual) weeklong program from February 24 to March 2, 2025. Each day featured a unique evidence-based modality (boxing, yoga, Pilates, PD Warrior™, resistance training, and community walking). This project was conducted as a community engagement initiative and did not require IRB approval. It evaluated the impact of a seven-day multimodal exercise initiative, Keep Moving for PD: Exercise Week, on participants' confidence, motivation, and perceived quality of life. Participants completed post-program surveys that combined quantitative ratings with open-ended qualitative feedback. Descriptive statistics and thematic analysis were used to evaluate outcomes.

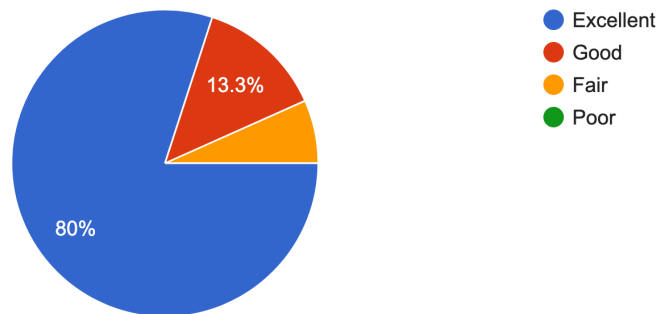
## Results

Fifteen participants responded to the feedback survey. 93% of participants rated the program as Excellent or Good (Chart 1). The most frequently cited benefits were the variety of exercises, a supportive community, and accessibility. 93.3% of participants reported increased confidence in incorporating daily movement (Chart 2). Thematic analysis revealed five dominant themes: (1) empowerment, (2) engagement through variety, (3) accessibility and flexibility, (4) community connection, and (5) challenge and growth (Table 1).

**Chart 1**

How would you rate your overall experience in the program?

15 responses



## Chart 2

After participating in this program, do you feel more confident in purposely incorporating daily movement into your lifestyle?

15 responses

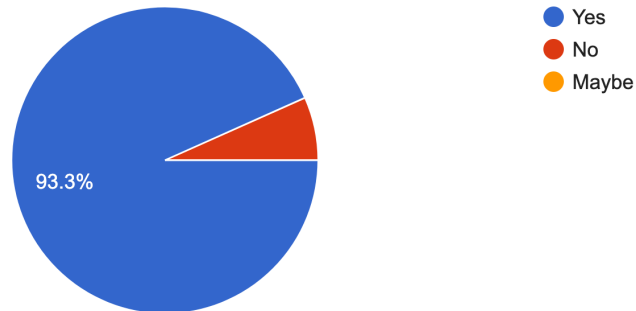


Table 1: Participant Themes, Feedback, and Key Insights

Theme	Supporting Participant Feedback	Interpretation / Key Insight
1. Empowerment	“Really had fun in each class and appreciate the fun friendliness of this group... very encouraging.”	Participants described increased confidence and willingness to try new activities in a supportive environment.
	“It was nice to challenge myself and know that I can do it.”	The program fostered self-efficacy and reinforced participants’ belief in their physical abilities.
	“Program reminds me to get off my butt and move!”	Participants felt motivated to intentionally incorporate movement into daily life.
	“Customized to ability level.”	Tailoring exercises to participant ability promoted confidence and successful participation.

Theme	Supporting Participant Feedback	Interpretation / Key Insight
	“Jen was most accommodating and helpful in making adjustments that worked for me.”	Individual modifications supported autonomy and encouraged continued engagement despite physical limitations.
	“I loved the boxing intro class, challenged me to do an activity I normally might not try.”	Exposure to unfamiliar activities encouraged participants to move beyond perceived limitations.
2. Engagement Through Variety	“Exposure to variety of exercises I had not previously experienced.”	Variety increased novelty, curiosity, and sustained participant interest.
	“Experiencing different modalities of exercise. Liked learning about the boxing the most!”	Participants valued trying multiple exercise formats and discovering preferred activities.
	“The variety of exercises was refreshing and kept me inspired.”	Rotating modalities appeared to enhance motivation and reduce monotony.
	“The introduction to activities I have not previously tried — yoga for PD, Pilates for PD, and PD Warrior exercises.”	Variety broadened participant awareness of available exercise approaches for Parkinson’s disease.
	“It was nice to make connections with the other 20 people in the program. The variety of exercises was good and permitted us to try out new exercise programs.”	Diverse activities increased engagement while also promoting social interaction and exploration.
	“Boxing and yoga!” / “Loved the yoga and pilates.” / “PD Warrior exercises.”	Participants identified different favorite modalities, suggesting the varied format helped meet diverse interests and needs.
3. Accessibility and Flexibility	“The ability to participate in-person/virtually.”	Hybrid delivery options improved access and accommodated different participant preferences.
	“Hard to make 1 pm for 6 days in a row.”	Scheduling presented a barrier for some participants, highlighting the importance of flexible timing.

Theme	Supporting Participant Feedback	Interpretation / Key Insight
	“It would be great if some of these activities were offered on a regular basis in the afternoon.”	Participants expressed interest in additional scheduling options to improve accessibility.
	“All classes in person.”	Some participants preferred fully in-person programming, suggesting varied delivery preferences.
	“Internet/technical issues (for virtual sessions).”	Technology challenges impacted accessibility for virtual participants.
	“More readable schedule... the handout could have had times.”	Clear communication and organization of schedules may improve participation and reduce confusion.
	“2–3 days/week in person with online options on other days.”	Participants valued flexibility and desired ongoing hybrid opportunities.
	“Should get better over time.”	Participants demonstrated resilience and adaptability when managing fatigue or physical limitations.
4. Community Connection	“The supportive environment.”	A positive social atmosphere was consistently identified as a major strength of the program.
	“People contact.”	Social interaction itself was viewed as beneficial and meaningful.
	“It was nice to make connections with the other 20 people in the program.”	Participants valued relationship-building and peer support.
	“I appreciate Jen’s enthusiasm and joy. She really seems to care for us.”	Instructor compassion and encouragement contributed strongly to participant experience.
	“Jen is excellent, compassionate teacher.”	Participants perceived emotional support and empathy as central components of the program.
	“Opportunity provided so much enjoyment and greater sense of well being.”	Community participation contributed to emotional well-being and enjoyment.

Theme	Supporting Participant Feedback	Interpretation / Key Insight
	“It’s fun to incorporate guided small talk for getting to know each other better and strengthen our community.”	Participants desired even more opportunities for social engagement and interpersonal connection.
5. Challenge and Growth	“A good mix of hard and easy tasks.”	Most participants felt the program achieved an appropriate balance between challenge and accessibility.
	“PD Warrior were very challenging.”	Higher-intensity exercises promoted physical and cognitive challenge.
	“Pilates was too easy for me.”	Participant responses reflected differing ability levels and the need for exercise progression options.
	“Some of the yoga was difficult for me to do. So just did what I could.”	Participants adapted exercises to their abilities while remaining engaged.
	“Need more practice in getting up off the floor!”	Participants identified specific functional areas for continued improvement.
	“Adding some dance moves for fun and brain challenge.”	Participants valued exercises that combined physical and cognitive demands.
	“The boxing was the best, after strength and balance classes.”	Challenging, functional activities were perceived as especially beneficial.
	“Really had fun in each class... challenged me to do an activity I normally might not try.”	Appropriate challenge promoted growth, confidence, and enjoyment simultaneously.

## Discussion

Findings from participant feedback suggest that the multimodal exercise program supported several interconnected themes related to quality of life, engagement, and participation for people with Parkinson’s disease (PD). Participants consistently described experiences that reflected empowerment, engagement through variety, accessibility and flexibility, community

connection, and challenge and growth. Together, these themes highlight the potential value of a community-based, multimodal exercise approach that extends beyond physical exercise alone and addresses psychosocial and behavioral aspects of living with PD.

A prominent theme emerging from the feedback was empowerment. Participants frequently described increased confidence in their ability to move, participate in exercise, and engage in activities they may not have otherwise attempted. Several individuals noted that the program encouraged them to intentionally incorporate movement into their daily lives, while others described feelings of accomplishment after completing challenging activities such as boxing or balance-based exercises. These responses suggest that exposure to supportive, adaptable exercise experiences may enhance self-efficacy, an important factor influencing long-term exercise adherence in individuals with PD. The ability to modify exercises based on individual needs and symptom presentation also appeared to contribute to feelings of success and autonomy, particularly for participants managing fatigue, balance impairments, or musculoskeletal limitations.

Engagement through variety was another dominant theme throughout participant responses. Many participants emphasized that the rotating exercise modalities—including boxing, yoga, Pilates, walking, balance training, and PD Warrior exercises helped maintain interest, motivation, and enjoyment. Exposure to unfamiliar forms of movement was frequently described as refreshing and stimulating, suggesting that variety may reduce monotony and increase sustained participation. Importantly, participants identified different modalities as their personal favorites, reinforcing the notion that individuals with PD may benefit from diverse programming that accommodates varying preferences, abilities, and interests. This finding aligns with growing

recognition that multimodal exercise interventions may offer broader physical and psychological benefits compared to single-modality programs. (2, 7, 15, 16)

Accessibility and flexibility also emerged as meaningful considerations affecting participation. Participants appreciated the option to attend sessions either in person or virtually, highlighting the importance of flexible delivery methods for accommodating transportation needs, fatigue, symptom fluctuations, and scheduling demands. However, participants also identified barriers related to session timing, technology challenges, and scheduling consistency. Several participants expressed interest in additional afternoon offerings, ongoing hybrid programming, or fewer consecutive daily sessions. These findings underscore the importance of designing exercise programs that remain adaptable and responsive to the practical realities faced by individuals living with PD. Enhancing accessibility through scheduling flexibility, clear communication, and multiple participation formats may support greater long-term engagement and inclusivity.

The importance of community connection was strongly reflected in participant feedback. Many individuals described the supportive environment, opportunities for social interaction, and positive group atmosphere as central strengths of the program. Participants valued connecting with others living with PD and frequently referenced the encouragement, compassion, and enthusiasm demonstrated by the instructor. Social engagement appeared to contribute not only to enjoyment but also to emotional well-being and motivation to participate. Some participants additionally expressed interest in incorporating more opportunities for interpersonal interaction, such as guided conversation or collaborative activities. These findings support existing evidence

suggesting that group-based exercise programs may provide meaningful psychosocial benefits by reducing isolation and fostering social support among people with PD.

Finally, participants frequently discussed the balance between challenge and growth within the program. Most individuals perceived the sessions as appropriately balanced between easier and more demanding activities, although some exercises were viewed as overly easy or particularly challenging, depending on individual ability levels. Participants appeared to value exercises that challenged both physical and cognitive systems, such as boxing, balance activities, and dual-task movement exercises. Importantly, even when participants described exercises as difficult, responses generally reflected persistence, adaptation, and willingness to continue participating. This suggests that appropriately scaled challenge within a supportive environment may promote both confidence and functional growth. The variability in perceived difficulty further highlights the importance of individualized progression and adaptable programming within heterogeneous PD populations.

Collectively, these findings suggest that multimodal community-based exercise programs may positively influence not only physical activity participation, but also confidence, enjoyment, social connection, and perceived quality of life among people with PD. The integration of varied exercise modalities, supportive instruction, and opportunities for social engagement may create an environment that encourages sustained participation and meaningful lifestyle changes.

Limitations of the Keep Moving For PD: Exercise Week initiative include the small sample size, reliance on self-reported participant feedback, and the absence of a control group, which limits the ability to determine a causal relationship and generalize the findings to the broad Parkinson's community. The short duration of the one-week initiative did not allow for

assessment of long-term adherence, sustainability of benefits, or objective changes in motor and non-motor symptoms. Future programs or studies could be strengthened by a quantitative study design with validated outcome measures and objective physical assessments, a larger and more diverse sample, and a longitudinal follow-up to better evaluate the lasting impact of multimodal community-based exercise programs for people with Parkinson's disease.

### **Conclusion**

In conclusion, the Keep Moving for Parkinson's exercise initiative demonstrated the potential value of a multimodal, community-based exercise approach for supporting confidence, engagement, movement, and overall quality of life in people with Parkinson's disease. Participant feedback highlighted the importance of combining physical activity, social connection, and holistic wellness strategies within an accessible and supportive environment. These findings support the need for continued research and expanded community programming to further explore the role of interdisciplinary exercise and wellness interventions in Parkinson's disease care.

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