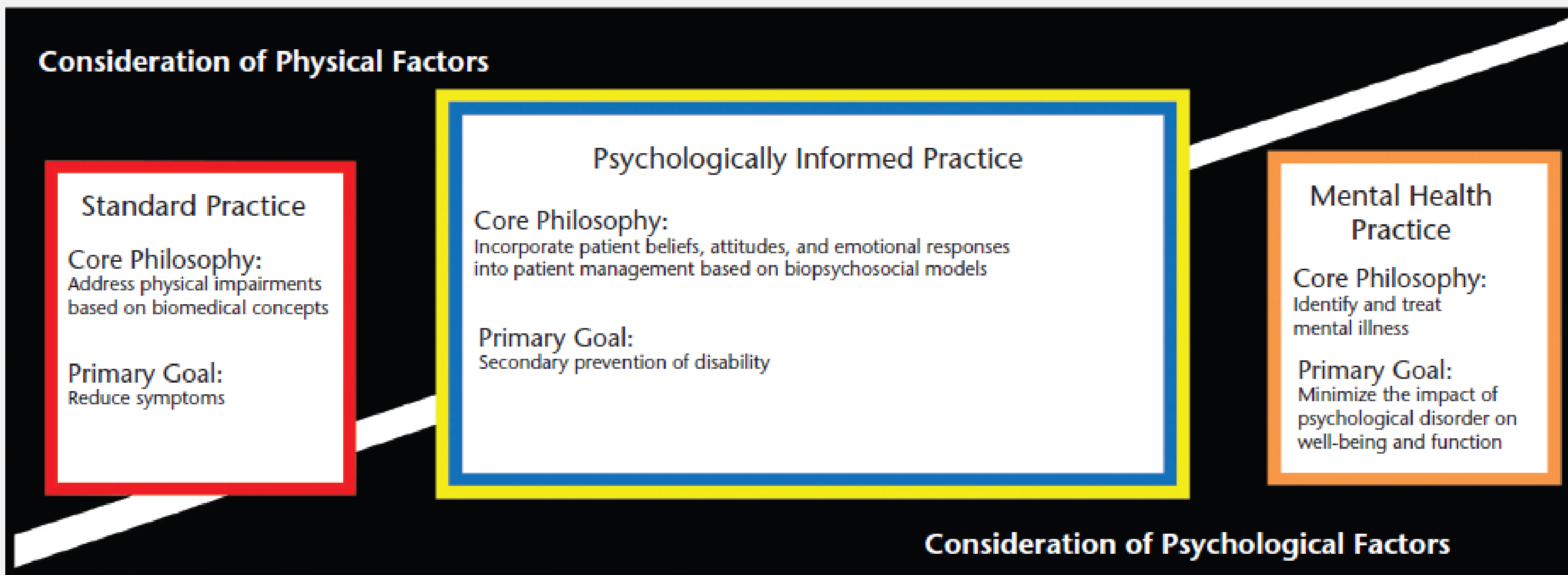# Feasibility and Acceptability of a Computer-Based Pain Self-Management Program for Acute Musculoskeletal Rehabilitation: Lessons Learned and Implications for Clinical Implementation

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INTRODUCTION

- A computer-based pain self-management program (CBSM) may provide a feasible alternative to in-clinic psychological strategies.

PURPOSE

- To examine the feasibility and acceptability of a CBSM program for patients in physical therapy for acute musculoskeletal pain.

METHODS

- 127 patients (mean [SD] age = 44.6 [13.7] years, 69% female, 65% White) were randomized to CBSM (n = 66) or Computer Education (n = 61).

- **CBSM**: Interactive program focused on pain self-management and targeted towards reducing fear-avoidance beliefs and catastrophizing, and improving pain, perceptions of control, self-efficacy, and physical activity (**Figure 1**).

- **Computer Education**: Non-interactive program covering general education about injury and recovery.

- <u>Feasibility measures</u>
  1.) Program completion rate
  2.) Number of lessons completed
  3.) Time to complete each lesson and program

- <u>Acceptability measures</u>
  1.) Ratings of perceived helpfulness of CBSM components
  2.) Feedback on most important skills, negative aspects, and suggestions for improvement

Figure 1. CBSM program modules.

Lesson 1: **Take Charge of Pain**
- Learn ways to take charge of pain by setting goals and using pain management tools
- Learn how pain impacts they body, mind and activity

Lesson 2: **Stress & Relaxation**
- Learn how stress can increase pain and delay healing
- Explore ways to relax the mind and body to manage stress

Lesson 3: **Your Brain & Pain**
- Explore how to use your brain to reduce pain
- Recognize pain changes over time

Lesson 4: **Thinking About Pain**
- Explore how negative thinking leads to negative feelings
- Learn how to change how you think

Lesson 5: **Rest & Activity**
- Understand how balancing rest and activity is about doing things in manageable amounts

Lesson 6: **Managing Emotions**
- Explore negative emotions that are common among people who experience pain

Lesson 7: **Putting It All Together**
- Learn about pain traps

RESULTS

- 23 (35%) CBSM participants and 46 (75%) Computer Education participants completed the program (p < .001).

- On average, participants completed 3.3 (3.0) CBSM lessons and 4.9 (2.1) Computer Education lessons (p < .001) (**Table 1**).

Table 1. Computer program usage.

	CBSM Mean (SD)	Computer Education Mean (SD)	p
Time, in minutes			
Lesson 1	22.1 (13.0)	8.3 (11.7)	.001
Lesson 2	23.6 (11.3)	6.9 (10.7)	.001
Lesson 3	17.5 (8.5)	6.6 (8.5)	.001
Lesson 4	23.2 (8.4)	7.6 (12.6)	.001
Lesson 5	18.4 (4.2)	6.1 (11.9)	.001
Lesson 6	21.3 (11.2)	4.9 (9.6)	.001
Lesson 7	20.0 (13.8)	-	-
Days to complete			
Lesson 1	6.0 (18.9)	4.5 (9.4)	.26
Lesson 2	14.0 (26.9)	6.8 (8.9)	.24
Lesson 3	20.4 (27.3)	8.2 (11.4)	.001
Lesson 4	25.6 (25.5)	10.5 (12.5)	.001
Lesson 5	28.0 (20.2)	12.2 (14.2)	< .001
Lesson 6	35.0 (25.9)	12.7 (14.1)	< .001
Lesson 7	36.6 (30.0)	-	-

Figure 2. Ratings of perceived helpfulness.
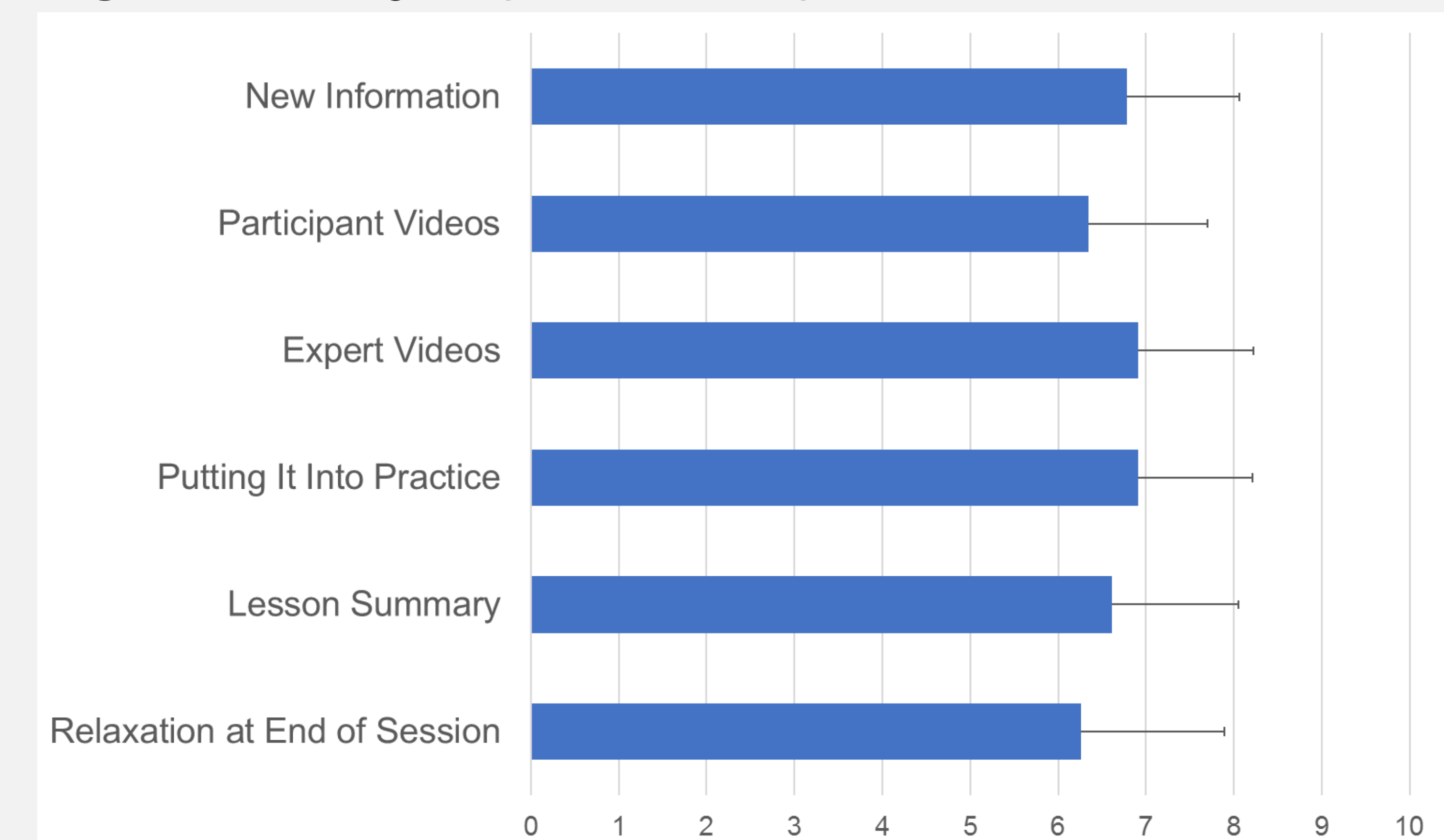
Table 2. CBSM participant feedback.

Most important lessons or skills learned
1. Thinking positive during painful situation and in life
2. Importance of having fun
3. Balancing life activities
4. Distraction

Negative aspects of program
1. Lack of relevance to acute pain condition
2. Time
3. Too many or irrelevant videos

Suggestions for improving program
1. Better targeting towards participants in need of strategies
2. Consider other pain management strategies
3. Alter some aspects of program

CONCLUSION

- A CBSM intervention shows potential in delivering PIPT in an easy to use platform, however low engagement rates and perceived helpfulness hinder implementation.

- **Future Directions**: Future efforts will aim to improve patient engagement, target patients with greater psychological burden, and enhance integration within physical therapy.