Promoting Physical Activity: Guidance from the Wellness Motivation Theory

Siobhan McMahon PhD MPH GNP-BC, Assistant Professor, School of Nursing, University of Minnesota

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Promoting Physical Activity in Older Adults: Guidance from the Wellness Motivation Theory

Siobhan McMahon
Assistant Professor
School of Nursing
University of Minnesota

Outline

• Physical activity recommendations for older adults
  • What are they?
  • Why are they important?
  • How is the uptake?

• Barriers and facilitators to physical activity in older adults
  • What are they?
  • How might they be addressed in programs that promote physical activity?

• Using the Wellness Motivation Theory to explain the problem of low physical activity

• How the Wellness Motivation Theory has been used to guide physical activity research: Ready Steady
  • How findings from this research can help promotion efforts in the future
  • Incidental findings from this research that have implications for developing community resources that support older adults’ physical activity
Physical Activity Recommendations for Older Adults

1. **Endurance activity:** At least 150 minutes per week/ approximately 30 minutes per day

2. **Strength building exercises:** At least twice per week

3. **Balance-challenging movements:** At least three times per week for those with changes in gait, balance

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**Why is physical activity important?**

**Prevention**

- Falls
- Exacerbation of chronic conditions

**Treat/ manage health conditions**

- Cardiovascular
- Mental Health
- Cognitive Health

**Quality of Life**
Promoting Physical Activity

Intervention studies conducted over several decades demonstrate positive effects (small to moderate) on older adults’ physical activity

Greater Effect

- Theory-based
- Combination of behavioral (self-monitoring) and cognitive (learning) strategies
- Motivational-type (promotes independent physical activity change)

No Greater Effect

- Exercise specialist
- Group or home
- Referral to community resources

Impact of intervention research to date

Impact of intervention research to date

Prior research does delineate

• Which physical activities are beneficial
• Dose of physical activities needed to elicit effects
• How to be active, safely
• Exemplar protocols and programs
  • Otago
  • Tai Chi
  • Silver Sneakers

Prior research does not delineate

• Strategies for promoting increased initiation (e.g., uptake) and maintenance (e.g., adherence) of physical activity

Problem
No evidence-based promotion strategies for increasing and sustaining older adults’ physical activity

Behavior Change Theory

Wellness Motivation Theory

Social
Contextual Resources

Behavioral Change Processes

- Biologic factors
- Environmental factors
- Social factors
- Self knowledge
- Motivation appraisal
- Self regulation

Action
- Behavior
- Health risk
Wellness Motivation Theory
As a guide to explain the problem of low physical activity

Social Contextual Resources

➢ Biologic factors
   (changes in balance, gait, pain)

➢ Environmental factors
   (hazards, extent to which people move throughout environment)

➢ Social factors
   (social support, social network, community/organizational resources)

Behavioral Change Processes

➢ Self knowledge
   (efficacy, personal goals/values that are consistent with behavior)

➢ Motivation appraisal
   (readiness for change)

➢ Self regulation
   (self-tracking, include activity in everyday life, self-evaluation of progress toward personal goals and ability to shift/adjust goals accordingly)

Action

➢ Behavior
   (fall reducing physical activity)

➢ Health risk
   (fall risk such as low balance/SPPB)
Wellness Motivation Theory
As a guide to explain the problem of low physical activity

Behavioral Change Processes

➢ Self knowledge
   (efficacy, personal goals/values that are consistent with behavior)

➢ Motivation appraisal
   (intention/readiness for change)

➢ Self regulation
   (self-tracking, include activity in everyday life
   self-evaluation of progress toward personal
   goals and ability to shift/adjust goals accordingly)

Wellness Motivation Theory
As a guide to explain the problem of low physical activity

Action

➢ Behavior
   (increased physical activity)

➢ Health
   (falls, management of conditions)
Wellness Motivation Theory
As a guide to intervention development

- **Environmental factors**
  - Identify environmental barriers
  - Problem-solve

- **Social factors**
  - Encourage social support
  - Use social and environmental factors to prompt physical activity
  - Social comparison

- **Biologic factors**
  - Use physical activity protocol accessible to older adults with diverse abilities

- **Self knowledge**
  - Identify personal barriers
  - Problem solve
  - Develop personally meaningful goals

- **Motivation appraisal**
  - Identify satisfiers

- **Self regulation**
  - Develop action plans
  - Link activities to existing personal habits/routines
  - Evaluate progress/revise goals/plans

- **Behavior**
  - Quantity of physical activity

- **Health**
  - Fall risk

Wellness Motivation Theory
As a guide to intervention research

- **Environmental factors**
  - Self-efficacy
  - Use of community resources

- **Social factors**
  - Social Support

- **Biologic factors**
  - Pain
  - Sex
  - As potential confounders

- **Self knowledge**
  - Self-efficacy
  - Goal attainment
  - Enjoyment

- **Motivation appraisal**
  - Index of readiness

- **Self regulation**
  - Index of Self-Regulation

- **Behavior**
  - Quantity of physical activity via Fitbit Accelerometer

- **Health/Risk**
  - Balance, Falls
Study 1 (N = 30) 2010-2012
Test the feasibility of intervention content and effect on targeted theoretical constructs and outcomes

<table>
<thead>
<tr>
<th>Intervention Content (Behavior change strategies)</th>
<th>Targeted Theoretical Constructs</th>
<th>Primary Outcomes</th>
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</thead>
<tbody>
<tr>
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<td>Evaluate Outcomes</td>
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Study 1 (N = 30)
Conclusion: The Ready-Steady intervention was feasible as evidenced by low attrition and good attendance and implementation, as well as positive effects on targeted outcomes and putative theoretical constructs of social support for exercise from friends, readiness and self-regulation.
Combining Motivational and Physical Intervention Components to Promote Fall-Reducing Physical Activity Among Community-Dwelling Older Adults: A Feasibility Study

- Siobhan McMahon PhD, MPH, GNP-BC
- Julie Fleury, PhD
- Nelma Shearer, PhD
- Eric Hekler, PhD
- Jean Wyman, PhD
- Michael Beylea, PhD

Advancing This program of research
**Study 2 (N = 102):**
*Assess the unique and combined effects of two sets of behavior change strategies, interpersonal and intrapersonal*

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Study 2 (N = 102) 2014-2016

Conclusion: “Findings suggest a set of interpersonally oriented behavior change strategies combined with an evidence-based physical activity protocol can elicit modest, but statistically and clinically significant, increases in older adults’ physical activity and functional strength and balance. Future research should replicate these findings and investigate the sustained quantity of physical activity elicited by these strategies and their impact on older adults’ quality of life and falls.”

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Assessing the Effects of Interpersonal and Intrapersonal Behavioral Change Strategies on Older Adults’ Physical Activity: A Factorial Experiment

- Siobhan McMahon PhD, MPH, GNP-BC
- Michael Oakes, PhD, School of Public Health
- Beth Lewis, PhD, School of Kinesiology
- Jean Wyman, PhD
- Weihua Guan, PhD, School of Public Health
- Alexander Rothman, PhD, Psychology

An exploratory, sequential study of older adults’ awareness and use of community resources that support physical activity and falls prevention

- Qualitative data from semi-structured interviews
- Quantitative data from intervention study that included encouragement to use community resources to maintain physical activity

## Secondary Findings

### Themes

#### Identifying a broad range of local community resources

- Walking near home
  - Outdoor: neighborhood sidewalks and park pathways
  - Indoor: home, condominium hallways, malls
- Structured physical activity
  - Community center exercise classes and programs
  - YMCA or other health club classes and programs
  - Pools (e.g., water aerobics)
- Unstructured physical activity
  - Stairs
  - Walking to the bus
  - Volunteering

#### Learning from trusted sources

- Learning via observation of role models
  - Positive role models
  - Negative role models
- Learning via word of mouth
- Learning via local newspaper or church bulletin

#### The dynamic gap between awareness and use of community resources

- Learning increases awareness but does not guarantee use
- Multilevel factors influence use
  - Environmental (weather, proximity)
  - Organizational (affordable, accessible to everyone)
  - Interpersonal (friendly; opportunities to learn from peers)
  - Intrapersonal (integrated with other personally valued activities; improves symptoms of chronic health conditions or pain; personalized)
Secondary Findings

- Are our results replicable?
- Will effects hold for at least 1 year?
- Will effects influence injurious fall rates and QOL?
- We need to explore theoretical mechanisms

NEXT steps?

- New study design, guided by MOST (multi-phase optimization strategies)
  - Differentiate intervention strategies according to theory and empirical evidence
  - Refine the intervention
  - Test using a 2x2 factorial study with larger sample size, longer follow-up period
Study 3 (N = 310) (2017-2022)

### Intervention Content
- Social support
- Social Comparison
- Problem Solve Social/ Env Barriers
- Problem Solve Personal Barriers
- Goals/ Action Plans
- Evaluate Outcomes

### Targeted Theoretical Constructs
- Social Support
- Use of Resources
- Self Efficacy
- Self Regulation
- Readiness
- Goal Attainment

### Primary Outcomes
- Post Intervention
- 6-Month follow up
- 12 month follow up

- Physical Activity
- Functional Balance
- Falls
- Quality of Life

### Study 3 (N = 310)

- **Process Evaluation**
  - Interview community center/ resource representatives about facilitators and barriers to providing this (or a similar) program in the future.
  - Interview topics will be framed using the reach- effectiveness –adoption-implementation-maintenance framework (RE-AIM), a system for evaluating this intervention’s potential for translation.
Acknowledgements

- Research Team
- Study Participants
- Community Partners
- National Institutes of Health/ National Institute of Nursing Research
- University of Minnesota
  - CTSI KL2 Scholars Program
  - Grant-in-Aid of Research, Artistry & Scholarship Program

Thank you!!

Questions?
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info@mngero.org

MGS 42nd Annual Conference:

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April 27 @ Earle Brown Heritage Center

NEXT WEBINAR

Comprehensive Report on Elder Abuse Prevention:
A Follow-up from the Legislative Session

Panel, Date and Time: TBD