

# Enhancing adherence to health care providers' instructions: Utilization of self-efficacy theory

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## Introduction

- Physical inactivity is related to a host of health problems including cardiovascular disease, cancer, diabetes, stroke, as well as obesity and its musculoskeletal comorbidities such as osteoarthritis, low back pain, soft tissue pain, and gout (CDC, 2015a; Anandacoomarasamy et al, 2011).
- Many inactive people seek medical treatment for these conditions--one important aspect of treatment is physical activity.
- Lack of adherence to health care providers' instructions, specifically to recommendations regarding physical activity, is common and detrimental to successful health outcomes.
- Medical spending on obese individuals an additional \$1,429 per year compared to a person of normal weight, the aggregate burden of obesity in 2008 was an estimated \$147 billion (Finkelstein, Trogon, Cohen, & Dietz, 2009)
- By 2030, osteoarthritis prevalence is expected to be increase to 67 million (CDC, 2015b).
  - In patients with severe osteoarthritis, those with greater muscle strength demonstrated increased physical performance on par with less-severe-osteoarthritis groups (Chun, et al., 2013), highlighting physical activity as an important treatment for osteoarthritis.

### Purpose

- The purpose of this review was to explore studies examining self-efficacy (SE) and its relationship to treatment outcomes and patient adherence to a health care provider's instructions related to physical rehabilitation.



## Methods

- A review of the literature was conducted using Scout, PubMed, and Science Direct.
- Key search terms were: self-efficacy, physical therapy, physical activity, exercise, maintenance, theory, chronic disease, prevention, compliance, and adherence.
- Studies were selected for analysis if they addressed self-efficacy theory; whether in its entirety or if one or more theory constructs were addressed.
- Due to inconsistent use in the literature, the terms adherence and compliance were used interchangeably for the purpose of this literature review.
- A total of 26 papers were selected for initial analysis.
  - Of the 26 total papers, five were selected for further review.
- List of abbreviations:
  - SE= Self-Efficacy
  - PA= Physical Activity
  - RCT= Randomized Controlled Trial
  - Rx= Prescription
  - HEP= Home Exercise Program

## Self-Efficacy Theory

- On SE theory, Bandura (1977) states, "people fear and tend to avoid threatening situations they believe exceed their coping skills, whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating."
- Perceived SE can have great influence on choice of activities (such as engaging in regular physical activity). High SE can also elicit positive coping mechanisms when participating in activities that may be perceived as intimidating, such as regular physical activity (Bandura, 1977).
- SE can determine how well individuals will overcome obstacles and unpleasant experiences related to behaviors such as PA (Bandura, 1977).
- Regarding efforts to overcome such obstacles, Bandura states, "the stronger the perceived self-efficacy, the more active the efforts" (Bandura, 1977).

## Recommended Strategies in the Physical Therapy Setting

Theory Construct	Definition	Strategy
Performance Accomplishments	• Previous successes that increase self-efficacy.	<ul style="list-style-type: none"> <li>• Patient should self-monitor exercise treatment for improvement.</li> <li>• Have patient demonstrate setting machines or gathering and preparing equipment for exercise.</li> </ul>
Vicarious Experience	• Seeing others with similar traits performing behavior can increase self-efficacy.	<ul style="list-style-type: none"> <li>• Schedule group appointments of soon-to-be-discharged patients.</li> </ul>
Verbal Persuasion	• Being led through suggestion increases self-efficacy.	<ul style="list-style-type: none"> <li>• Provide encouragement that patient can continue exercises on their own.</li> </ul>
Emotional Arousal	• Self-efficacy is usually higher when negative emotional arousal associated with the event is minimized.	<ul style="list-style-type: none"> <li>• Allow patient to select from a menu of potential exercises enjoyable, pain-free exercises that cause minimal distress.</li> </ul>

## Results

- Gyurcsik et al. (2009)** Examined whether efficacy to cope (among other variables) were predictors of planned physical activity in women with arthritis. SE was significant independent predictor of PA.
- Chen, Neufeld, Feely, & Skinner (1999)**: Cross-sectional investigation into health beliefs and how participants carried out their HEP.
- SE was the only construct that was significantly correlated with compliance. Participants reporting higher perceived SE were more compliant.
- Josyula and Lyle (2013)**: RCT with three groups: (1) Rx only, (2) Rx with toolkit containing resistance bands and illustrated instructions, and (3) Rx with booklet on active living.
- Rx with resistance band toolkit elicited greatest increase in PA due to a "probable boost in patient's self-efficacy..."
- Turner, Holtzman, and Mancl (2007)**: RCT intended to identify mediators, moderators, and predictors of patient improvement with cognitive-behavioral therapies. Among other variables, SE was shown to mediate the effects of the therapy on one-year pain intensity.
- Smeets et al. (2006)**: RCT to assess effectiveness of physical treatment (intent to increase physical function), *cognitive treatment (with verbal persuasion in the form of feedback and positive reinforcement)*, and combination of physical and cognitive treatment compared to waiting list control. Theory-based treatments were more effective (though not significantly) than the control.

## Conclusions/Significance

- Studies exist that identify SE as an important link between health care providers' physical activity recommendations and adherence.
- The American Physical Therapy Association (2015) asserts "Intervention, prevention, and the promotion of health, wellness, and fitness are a vital part of the practice of physical therapists."
- The current authors recommend strategies in the table above that can guide physical therapists as they attempt to promote adherence to physical activity recommendations. The strategies are also potential avenues for future research.
- More domestic and current research on self-efficacy and its relationship to adherence to physical activity recommendations is warranted. Studies with long-term follow-up are ideal.

