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Physical inactivity has been established as one of the most important issues affecting health-related quality of life. In contrast, participation in regular physical activity has been shown to be one of the most effective interventions to treat and prevent a wide variety of chronic diseases. Although well positioned, physical therapists have been found to ineffectively and inconsistently promote physical activity within patient care. The purpose of this study was to determine the extent of physical activity promotion as well as identify perceived barriers and facilitators affecting physical activity promotion in physical therapy practice within North Carolina.

Licensed physical therapists who practice within North Carolina were recruited to complete an online survey assessing areas related to physical activity including knowledge, promotion, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity participation (n = 1,067). Open-ended questions were also included to further explore physical therapists' perceived barriers and facilitators affecting physical activity promotion.

Data analysis included 13.8% (n = 1067) of physical therapists currently practicing in North Carolina. Results demonstrate that nearly all participants promote some form of physical activity; however, only about one-fourth promote physical activity at the highest extent with their current patients as part of the management plan. Additionally, results suggest the highest promoters were significantly different in every variable with relatively small differences in personal physical activity (d = .48), role perception (d = .32), and knowledge (d = .18) and moderate differences in feasibility (d = .70), confidence (d = .55), caseload perception (d = .54), and perceived barriers (d = .50). Open-ended responses suggest accessibility of resources, patient

education, and available time were the highest contributors to facilitating physical activity promotion among the highest promoters.

Targeted policy and education addressing extrinsic and intrinsic factors by providing accessible resources, education on patient counseling, and actions to implement physical activity promotion should be initiated.

PROMOTION OF PHYSICAL ACTIVITY IN PHYSICAL THERAPY PRACTICE WITHIN NORTH CAROLINA

by

Randall Scott Lazicki

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Approved by

_____
Committee Chair

I would like to dedicate this dissertation to my wife. Words can't describe *what you mean to me*. Your strength as a wife and mother is our strength as a family.

APPROVAL PAGE

This dissertation, written by Randall Scott Lazicki, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I

PROJECT OVERVIEW

According to the Centers for Disease Control and Prevention (CDC), physical inactivity is one of the most important issues affecting health-related quality of life (CDC, 2019). Only 22.9% of U.S. adults meet the recommendations for physical activity, neglecting a critical opportunity to reduce and prevent chronic diseases, including cancer, diabetes, and heart disease (Benzer, 2015; Blackwell & Clarke, 2018; CDC, 2019). An astonishing $117 billion is lost due to annual health care costs that are associated with low physical activity (CDC, 2019). Physical activity has not significantly improved over the past 10 years, with current trends suggesting the adherence rate to the recommendations for aerobic activity remain at 65.2% (Du et al., 2019). Additionally, time spent in sedentary behavior has increased over the same time frame (Du et al., 2019). Physical therapists are well positioned to promote physical activity because of their education, expertise, opportunity, and trusting relationships with their patients (Dean, 2009). Unfortunately, physical therapists have been found to ineffectively and inconsistently address physical activity participation within patient care (Rea, Hopp Marshak, Neish, & Davis, 2004; Rhodes & Fiala, 2009; Shirley, van der Ploeg, & Bauman, 2010). Determining the extent of self-reported physical activity promotion in physical therapy practice and identifying perceived barriers and facilitators affecting the promotion of physical activity can inform best practices and potentially facilitate a shift in the health care system from one based on illness to one based on wellness.

Background Literature

The most recent Physical Activity Guidelines Advisory Committee Scientific Report summarizes evidence on physical activity as a primary source of disease prevention in addition to abundant physical, emotional, and psychological health benefits (Powell et al., 2018). This report was utilized to develop the second edition of the Physical Activity Guidelines for Americans and firmly supports the addition of physical activity into every American's lifestyle to reduce the risk of many chronic diseases and improve health-related quality of life (Powell et al., 2018).

Physical inactivity and the associated health problems are a growing concern within the United States. Physical inactivity has been linked as the primary cause of most chronic diseases, including obesity, liver disease, heart disease, pulmonary disease, kidney disease, stroke, and cancer (Booth, Roberts, & Laye, 2012). In contrast, physical activity plays a key role in preventing obesity, reducing the risk of dementia, reducing risk of falls and fall-related injuries, and reducing the risk of cancers of the breast, colon, bladder, endometrium, esophagus, kidney, lung, and stomach (Powell et al., 2018). With robust evidence supporting the significant benefits of physical activity on health-related quality of life, every American should be meeting the recommendations found within the second edition of the Physical Activity Guidelines for Americans.

Unfortunately, according to the Centers for Disease Control and Prevention, the majority of adults do not obtain the appropriate amount of recommended physical activity (CDC, 2018). Research indicates 77.1% of U.S. adults do not meet the recommendations for physical activity (Blackwell & Clarke, 2018; CDC, 2018). As such, significant attention should be placed on the promotion of physical activity by health care providers to improve the health-related quality of life in patients and clients.

Health care providers are increasingly being encouraged to increase physical activity promotion to combat chronic disease as a result of physical inactivity. As most individuals routinely visit their general practice providers, most research and initiatives are focused on these providers (Exercise is Medicine, 2019; Verhagen & Engbers, 2009). As a result, global health initiatives such as Exercise is Medicine® encourages primary care physicians and other providers to include physical activity within their treatment plan and utilize resources to facilitate behavioral change (Exercise is Medicine, 2019). Physical therapists are health care providers that are recognized as movement experts who optimize the quality of life with people of all ages and abilities across multiple practice settings (American Physical Therapy Association [APTA], n.d.). For several years, the APTA has described and promoted the role of physical therapists in prevention, wellness, fitness, health promotion, and management of disease and disability (APTA, 2016; Guide to Physical Therapist Practice 3.0, 2014). As a result of these efforts, numerous policies and positions, APTA core documents, and other resources describe physical therapist roles in these areas of practice, including physical activity promotion (APTA, 2016; Guide to Physical Therapist Practice 3.0, 2014). As direct access providers, physical therapists can recognize the risk factors for chronic diseases as well as the potential impact on health-related quality of life and can include health promotion with every patient or client as appropriate (APTA, 2016). Health promotion strategies may include direct treatment for disease and disability, in addition to appropriate physical activity counseling put forth by current recommendations (APTA, 2016). Physical therapists play a unique role in society by serving as a dynamic link between health care services and health and wellness. Physical therapists are well positioned to create a positive impact on the physical activity lifestyle of Americans.

Dean (2009) proposed a paradigm shift from a disease focused to a health focused practice of physical therapy. Physical therapists are uniquely positioned because of their

education, expertise, opportunity, and trusting relationships with their patients to lead health promotion and the prevention of chronic disease and disability (Dean, 2009). However, it is not currently routine for physical therapists to address physical activity participation with their patients (Benzer, 2015). Among all health care providers, there are barriers to promoting physical activity. Cabana et al. (1999) performed a systematic review of physicians' barriers to health promotion. Within 76 published articles, 293 potential barriers were identified and categorized into knowledge, attitude, and external barriers (Cabana et al., 1999). Previous literature has also acknowledged several barriers and potential facilitators to the promotion of physical activity specifically within physical therapy. These include extrinsic and intrinsic factors such as knowledge about the amount of physical activity required for health benefits in adults, the perception of the physical therapist's role in physical activity promotion, confidence in promoting physical activity, time to spend promoting physical activity, and reimbursement for physical activity promotion services if not related to the patient's primary diagnosis (Benzer, 2015; Shirley et al., 2010).

With reports suggesting only about 50% of physical therapists are aware of physical activity guidelines (Shirley et al., 2010), knowledge may also be a significant barrier to best practice. When knowledge is first attained within health professional education, limitations may exist impacting physical activity promotion (Morris & Jenkins, 2018). Among accredited physical therapy academic programs, instructional delivery was found to be largely theoretical with few programs combining theory and practical application (Bodner, Rhodes, Miller, & Dean, 2013). There is also a lack of standardization of health promotion education among entry-level programs leading to significant variability in practice (Taukobong, Myezwa, Pengpid, & Van Geertruyden, 2014). As students enter clinical learning environments, there is a lack of knowledge within practicing physical therapists perpetuating the decreased application of physical activity

promotion (Morris & Jenkins, 2018). Additional to these factors, some of the highest-rated barriers included lack of interest, lack of resources, economic limitations, lack of community programs, and lack of time (Goodgold, 2005; Shirley et al., 2010).

Conversely, there are potential facilitators of physical activity promotion in physical therapy practice. Physical therapists report that they feel it is an important professional responsibility, are interested in doing it, and believe physical activity promotion is effective (Goodgold, 2005). The overwhelming majority of physical therapists (90%) believe wellness is a core responsibility of physical therapy and is worth the effort and cost (Goodgold, 2005). Additionally, greater than 90% of physical therapists and student physical therapists believe it is their role to promote physical activity by discussing the benefits of physical activity, suggesting ways to increase physical activity, and acting as a role model for their patients (Shirley et al., 2010). Lastly, since physical therapists are charged with adopting healthy lifestyle choices for themselves, they may be more likely to promote physical activity with their patients (APTA, 2016). Health care providers who are physically active are more likely to counsel patients on the benefits of physical activity (Chevan & Haskvitz, 2010). Studies suggest that physical therapists engage in physical activity at higher rates (81%) than the general public and model health-related behaviors (Black, Marcoux, Stiller, Qu, & Gellish, 2012). However, a critical gap exists in understanding barriers and facilitators to physical activity promotion among physical therapists. Previous studies that have been investigated are primarily in European medical models and in the pediatric setting. Thus, limited environments and practice settings in previous investigations narrow the application of findings to adults within the U.S. health care system, and North Carolina specifically.

With recent evidence suggesting efforts are warranted to promote physical activity and reduce sedentary time in the United States (Du et al., 2019), the time is now to promote effective

change in our health care system from one based on illness to one based on wellness. There remains a critical need to determine the extent of physical activity promotion in physical therapy practice and identify barriers and facilitators affecting the promotion of physical activity. Because physical therapists have been found to inadequately and inconsistently promote physical activity, such information could be used to advocate and educate physical therapists to increase their physical activity promotion with patients, inform best practice, and mitigate chronic and debilitating diseases. Currently, there are limited resources available from the APTA to improve physical activity promotion by physical therapists (APTA, 2018). Physical therapists' commitment to the role of primary prevention in the promotion of physical activity with patients will make a lasting contribution to society by treating and protecting against chronic disease and facilitate a paradigm shift in the health care system.

Purpose Statement

The purpose of this study was to determine the extent of physical activity promotion as well as identify perceived barriers and facilitators affecting physical activity promotion in physical therapy practice within North Carolina. By determining perceived barriers and facilitators to physical activity promotion, targeted policy and education initiatives may be developed to increase the frequency of physical activity promotion in physical therapy practice. Incorporating physical activity promotion into the standard of care of physical therapists can decrease the mortality and morbidity of chronic disease in patients and combat increasing health care costs. The objectives of this study were as follows:

1. Determine the extent of self-reported physical activity promotion in physical therapy practice within North Carolina.

2. Determine the difference in knowledge, role perception, barriers, confidence, feasibility, caseload perception, and personal physical activity between the highest promoters and other physical therapists.

Methods

An exploratory survey approach using non-probability sampling of licensed physical therapists who practice within North Carolina was completed. An online survey assessed the extent of physical activity promotion and perceived barriers and facilitators affecting physical activity promotion and determined the differences between the highest promoters and other physical therapists.

Participants

The target population for this study was licensed physical therapists practicing within North Carolina. At the time of this study, there were 9,021 licensed physical therapists within North Carolina. According to the North Carolina Board of Physical Therapy Examiners, 7,709 of the 9,021 physical therapists were practicing in North Carolina and were sent the online survey (Arney, 2019). Compared to this and other previous studies surveying physical therapists on health-related topics (Page et al., 2006; Shirley et al., 2010; Siengsukon et al., 2015), a range of 5-20% response rate or 385-1,541 participants was expected. Of those recruited, 1,187 consented to participate in this investigation. Participants were excluded from analysis if they did not complete the physical activity promotion section of the survey, as this was the main focus of the study. The final sample included 1,067 participants.

Instrumentation

An online survey was used to determine the extent of physical activity promotion occurring as well as identify perceived barriers and facilitators affecting physical activity promotion in physical therapy practice within North Carolina (Appendix A). The survey was

adapted from a previous survey used in a study of physical therapists within New South Wales (Shirley et al., 2010). Adaptations were made to make the questionnaire relevant to the current physical activity aerobic recommendations from the second edition of the Physical Activity Guidelines for Americans (Powell et al., 2018). No validity or reliability has been reported in the literature; however, content validity was assessed for the current study based on ratings obtained from a panel of physical therapists to determine if the survey adequately addressed physical activity promotion in physical therapy practice. The content-validity ratio (CVR) was calculated for each survey item based on the formula from Lawshe (1975), CV = $n_e - N/2 \div N/2$. Where n_e is the number of panelists rating an item as "essential," and N is the total number of panelists. If all panelists agreed an item was essential, then the CVR is 1, if 50% agree, then CVR = 0 and if none agree, then CVR = −1. Item-CVR ranged from 0.50 to 1.00, resulting in a survey-CVR (average of individual item-CVR values) of 0.98. Based on established criterion, the survey was deemed to have appropriate content validity (Lawshe, 1975).

The survey consisted of both closed and open-ended questions. The demographic section included general items (age, sex, and race/ethnic origin), practice setting items (years of experience, primary work setting, current employment status, and primary clinical focus), and educational level items (entry level physical therapy degree, highest academic degree, undergraduate degree, and APTA board certifications).

To determine barriers and facilitators to physical activity promotion in physical therapy practice, a 5-point Likert scale was used in sections on promotion (promotion of aerobic physical activity at various levels), role perception (physical activity as part of the physical therapist's role), confidence (confidence in promoting physical activity with patients), barriers (possible inhibitors to physical activity promotion), and feasibility (possible facilitators to physical activity promotion). Caseload perception (view of patients' ability to do any level of physical activity)

utilized a sliding percent scale. Knowledge included multiple-answer (*How familiar are you with the current Physical Activity Guidelines for Americans?*) and true/false items (*Which of the following statements are true about the current Physical Activity Guidelines for Americans?*) to assess both subjectively and objectively about current physical activity recommendations for Americans. Participants were also asked to rate their personal aerobic physical activity. Four options described by the Physical Activity Guidelines for Americans, second edition (Powell et al., 2018) were available: inactive, insufficiently active, active, and highly active. Open-ended questions were also included to further explain self-reported barriers and facilitators to physical activity promotion.

Procedure

The study was approved by the Institutional Review Board at the University of North Carolina at Greensboro. Electronic mail addresses for all licensed physical therapists who practice within North Carolina were obtained through the North Carolina Board of Physical Therapy Examiners. Participants were contacted via email to solicit their participation. The nature of the study was described to the participant and a link to the survey was provided. A follow-up email was sent 2 weeks after the initial email to remind participants of the survey questionnaire. The survey remained open for 4 weeks from the initial email recruitment.

Participants provided informed consent prior to accessing the survey and were instructed that their participation was voluntary and the survey would take approximately 10 minutes. The survey was administered anonymously using Qualtrics survey software. To incentivize participation in the study, participants had the opportunity to enter a drawing to receive a $25 gift card upon completion of the survey.

Data Analysis

Survey responses were downloaded from Qualtrics to SPSS Statistics Version 26 for analysis and interpretation. Descriptive analyses, including frequencies and percentages, were performed to describe the sample demographics.

In order to determine the extent of physical activity promotion occurring in physical therapy practice, a 5-point Likert scale (*never*, *rarely*, *sometimes*, *often*, and *very often)* was used for four items. These items included levels of aerobic physical activity: *Promote doing basic movements from daily life activities*, *Promote doing some moderate-intensity (i.e., patient able to talk, but not sing, during the activity) physical activity per week*, *Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week*, and *Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week).*

To determine if any physical activity promotion occurred at any level, participants who selected *never* for all four items were analyzed. Participants who selected *rarely*, *sometimes*, *often*, and *very often* for two of the items (*Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week*, and *Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week*) were analyzed to determine the extent of physical activity promotion occurring at or above the current physical activity recommendations for Americans.

To determine the highest extent of physical activity promotion occurring at or above the current physical activity recommendations for Americans, participants who selected *often* and *very often* for two of the items (*Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent*

combination per week, and *Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week*) were analyzed.

Participants were categorized into two groups for comparison purposes. Group 1 (High Promoters) consisted of those participants who selected *often* and *very often* for two of the items (*Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week*, and *Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week*). Group 2 (Low Promoters) consisted of the remaining participants.

Independent-samples *t*-tests (Welch's t-test) and Cohen's *d* effect sizes were used to determine differences in sum scores for knowledge, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity between physical therapists reporting the highest levels of physical activity promotion and all other physical therapists. Pearson correlations were performed to determine the strength of associations among knowledge, promotion, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity.

For physical therapists with the highest self-reported physical activity promotion, open-ended responses to the question "what facilitates (or would facilitate) promoting physical activity with your patients?" were grouped and coded according to the predetermined categories of knowledge, promotion, role perception, confidence, feasibility, caseload perception, and personal physical activity in line with the survey measures. For responses that did not fit into these categories, additional categories were created to provide additional context on observed differences and guide practical recommendations.

Results

A total of 15.4% (*n* = 1187) of those recruited consented to participate in the study. After exclusion, the final sample for data analysis included 13.8% (*n* = 1067) of physical therapists currently practicing in North Carolina. Although the expected response rate was achieved, as this is an exploratory study, conclusions will apply only to the sample studied here. These results will be helpful in formulating future research on the topic.

Demographics

Key sample demographics are described below and are based only on those who responded, with a full summary provided in Appendix B (Table 2).

General Demographics. Of those who responded (*n* = 1064), *n* = 809 (76.0%) identified as female, and *n* = 255 (24.0%) identified as male. The ages of the participants (*n* = 1061) ranged from 20 to 75, with an average age of 41.32 years (*SD* = 11.655). The majority of those who responded (*n* = 1064) reported their race/ethnicity as White (*n* = 934, 87.8%), while *n* = 45 (4.2%) reported as African-American, *n* = 50 (4.7%) as Asian, *n* = 12 (1.1%) as Hispanic/Latino, *n* = 15 (1.4%) as Biracial/ Multiracial, *n* = 3 (0.3%) as American Indian/Alaska Native, and *n* = 5 (.5%) as Other (not specified).

Experience and Education. Of those who responded (*n* = 1060), years of experience as a physical therapist ranged from 0 to 51, with an average of 15.05 years (*SD* = 11.853). Nearly half of the participants (*n* = 525; 49.5%) have an entry level physical therapy doctoral degree, *n* = 235 (22.2%) have a baccalaureate degree, *n* = 284 (26.8%) have a master's degree, and *n* = 16 (1.5%) have a post-baccalaureate certificate.

Practice Setting. Primary work setting varied among participants (*n* = 1063), including private outpatient office or group practice (*n* = 320, 30.1%), health system or hospital-based outpatient facility or clinic (*n* = 226, 21.3%), patient's home/home care (*n* = 134, 12.6%), acute

care hospital (*n* = 89, 8.4%), skilled nursing facility (SNF)/long-term care (*n* = 65, 6.1%), academic institution (*n* = 49, 4.6%), inpatient rehab facility (*n* = 40, 3.8%), school system (*n* = 21, 2.0%), health and wellness facility (*n* = 12, 1.1%), research center (*n* = 5,0.5%), industry (*n* = 6, 0.6%), and other (*n* = 96, 9.0%)

Physical Activity Promotion

Nearly all participants, 99.3% (*n* = 1059), promoted some level of physical activity with their current patients as part of the management plan. The majority of the sample (*n* = 949; 88.9%) promoted physical activity at or above the current physical activity recommendations for Americans. Of the participants, *n* = 289 (27.1%) promoted physical activity at the highest extent (participants who selected *often* and *very often*) with their current patients as part of the management plan.

Differences in Barriers and Facilitators

To assess differences in perceived barriers and facilitators affecting the promotion of physical activity, two groups were compared based on their reported level of physical activity promotion with patients. Group 1 (High Promoters) consisted of 289 participants and Group 2 (Low Promoters) consisted of 778 participants. Barriers and facilitators, including knowledge, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity were compared between the two groups, and significant results are reported below. Appendix B contains item descriptives (Table 3) and differences in barrier and facilitator scores between high promoters versus low promoters (Table 4).

Knowledge. As a measure of self-reported knowledge (*n* = 1020), *n* = 60 (5.9%) reported they were *extremely familiar*, *n* = 244 (23.9%) *very familiar*, *n* = 454 (42.5%) *moderately familiar*, *n* = 183 (17.9%) *slightly familiar*, and *n* = 79 (7.4%) *not familiar at all*. As an objective measure of knowledge, *n* = 667 (63.9%) of the 1044 responses answered all questions correctly.

The average score for the four questions was 3.5354 (*SD* = .70316). The mean of high promoters was significantly higher (*M* = 3.6281, *SD* = .67285) than the mean of the low promoters (*M* = 3.5007, *SD* = .71152) with Cohen's effect size value *d* = .18.

Role Perception. The mean of high promoters was significantly higher (*M* = 14.4861, *SD* = 1.65273) than the mean of low promoters (*M* = 13.8501, *SD* = 2.23711) with Cohen's effect size value *d* = .32.

Confidence. The mean of high promoters was significantly higher (*M* = 9.6332, *SD* = 1.03937) than the mean of low promoters (*M* = 8.9289, *SD* = 1.501166) with Cohen's effect size value *d* = .55.

Barriers. The mean of high promoters was significantly lower (*M* = 9.3697, *SD* = 3.23091) than the mean of low promoters (*M* = 10.9843, *SD* = 3.24749) with Cohen's effect size value *d* = .50.

Feasibility. The mean of high promoters was significantly higher (*M* = 19.3776, *SD* = 3.26771) than the mean of low promoters (*M* = 17.0846, *SD* = 3.32183) with Cohen's effect size value *d* = .70.

Caseload Perception. On average, participants in this sample reported that about two-thirds (66.79%) of their patients were capable of performing physical activity (beyond therapeutic/ home exercise program). An independent-samples *t*-test comparing the mean scores of high promoters (*n* = 289) and low promoters (*n* = 774) found a significant difference between the means of the two groups ($t(1061) = 7.515$, $p < .001$). High promoters perceived a greater percentage (*M* = 76.87, *SD* = 22.397) of their caseload was capable of being physically active than low promoters (*M* = 63.03, *SD* = 28.140) with Cohen's effect size value *d* = .54.

Personal Physical Activity. A total of four questions were utilized to determine physical therapists' self-reported physical activity levels. The average score for all participants (*n* = 1053)

was 2.86 (*SD* = .814). Of the participants who responded, *n* = 26 (2.5%) reported being inactive, *n* = 354 (33.6%) reported being insufficiently active, *n* = 413 (39.2%) reported being active, and *n* = 260 (24.7%) reported being highly active. Of the participants, 63.9% reported meeting or exceeding the current physical activity recommendations for Americans. The mean of high promoters was significantly higher (*M* = 3.14, *SD* = .759) than the mean of low promoters (*M* = 2.76, *SD* = .811), with a Cohen's effect size value *d* = .48.

Relationships among Barriers and Facilitators

The relationships among knowledge, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity were also examined. Table 1 contains a full summary of all correlations. Confidence was significantly related to all of the other variables, with a moderate positive correlation observed between role perception and confidence ($r(1058) = .597$, $p < .001$).

Table 1

Relationships among Knowledge, Promotion, Role Perception, Confidence, Barriers, Feasibility, Caseload Perception, and Personal Physical Activity

	Knowledge	Role Perception	Confidence	Barriers	Feasibility	Caseload Perception	Personal PA
Knowledge							
Role Perception	.040						
Confidence	.065*	.597**					
Barriers	-.041	-.147**	-.269**				
Feasibility	.040	.175**	.231**	-.217**			
Caseload Perception	.005	.088**	.161**	-.130**	.226**		
Personal PA	.048	.111**	.174**	-.162*	.161**	.118**	

Note. * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Open-ended Responses

Accessibility of resources (n = 103) was found to be the greatest facilitator of physical activity promotion among high promoters. This category included specific responses such as "access to local pool/gyms, parks, recreation facilities," "we have a community gym located near our clinic; therefore, I always recommend they transition," and "brochures focused on physical activity guidelines." General responses in this category included access and proximity to community physical activity resources (walking trails, facilities, etc.), educational resources (brochures, flyers, patient education handouts, etc.), on-site facility programs (health and wellness programs, walking programs, pool access, etc.), and utilization of referral sources (fitness facility, wellness programs, personal trainer, etc.). Additionally, patient education (n = 55), which included general responses such as discussing physical activity and physical activity-related goals with patients, as well as available time to spend with patients (n = 40), were contributors to facilitating physical activity promotion among high promoters with their current patients. Table 5 in Appendix B provides the frequency of all responses for perceived facilitators.

Discussion

The purpose of this study was to determine the extent of physical activity promotion as well as identify perceived barriers and facilitators affecting physical activity promotion in physical therapy practice within North Carolina.

The first objective of this study examined the extent of self-reported physical activity promotion in physical therapy practice within North Carolina by looking at various levels of physical activity promotion according to the second edition of the Physical Activity Guidelines for Americans (Powell et al., 2018). Previous literature considered promotion of physical activity in a variety of ways such as promoting any physical activity (beyond therapeutic exercise/home exercise program), meeting the guidelines of physical activity including doing the equivalent of

150 minutes to 300 minutes of moderate-intensity physical activity per week, or rate of counseling patients in physical activity (APTA, 2018; Benzer, 2015; Powell et al., 2018). Overall, the frequency of physical activity promotion reported in previous literature was around 50% for various practice settings across multiple patient populations (Fruth, Ryan, & Gahimer, 1998; Goodgold, 2005; Rea et al., 2004). In this investigation, nearly all participants reported that they promote some form of physical activity which is significantly higher than previous studies. However, only about one-fourth promote physical activity at the highest extent (participants who selected *often* and *very often)* at or above the current physical activity guidelines with their patients as part of a management plan. This investigation uncovered a significant gap in knowledge on the amount of physical activity promotion occurring in physical therapy practice. Although any promotion of physical activity is better than none, substantial health benefits are achieved when meeting or exceeding the physical activity guidelines established by the second edition of the Physical Activity Guidelines for Americans (Powell et al., 2018). Increasing consistent physical activity promotion at the highest extent should be considered, thus barriers and facilitators to physical activity promotion are important to address.

The second objective of this study determined the difference in knowledge, role perception, barriers, confidence, feasibility, caseload perception, and personal physical activity between the highest promoters and other physical therapists. Previous literature has acknowledged several barriers and facilitators of physical activity promotion within physical therapy practice (Morris & Jenkins, 2018; Goodgold, 2005; Shirley et al., 2010). However, previous literature found limited differences between physical therapists who are high promoters versus low promoters (Shirley et al., 2010). Within this investigation, high promoters were significantly different in every area investigated. High promoters were more knowledgeable, believed promoting physical activity is more within their role as physical therapists, and were

more confident in promoting physical activity with their patients. In addition, high promoters perceived fewer barriers, perceived it is more feasible, perceived their current patients are able to perform physical activity, and are more physically active than low promoters of physical activity. Discrepancy between previous literature may likely be due to the differences in determining high promoters versus low promoters. Previous literature utilized an arbitrary number of greater than or less than 10 patients counseled regarding physical activity per month without regard to the level of physical activity promotion (Shirley et al., 2010) whereas the current study took into account various levels of physical activity promotion levels determine high promoters verse low promoters.

Among high promoters versus low promoters, differences were relatively small in personal physical activity (d = .48), role perception (d = .32), and knowledge (d = .18). Notably, among all participants, only 63.9% of the 1044 responses answered all questions correctly as a measure of objective knowledge. In addition, only 29.3% are *extremely familiar/ very familiar* with the current physical activity guidelines. Consistent with previous literature, knowledge may be a barrier among some physical therapists (Benzer, 2015; Shirley et al., 2010). A paradigm shift in physical therapy education may be warranted to include curriculum on physical activity promotion within all entry level programs. More research is needed to determine the extent to which knowledge and previous physical activity education impact physical activity promotion.

Moderate differences were observed for confidence (d = .55), caseload perception (d = .54), and perceived barriers (d = .50). This may suggest that improving caseload perception, confidence, and perceived barriers would improve physical activity promotion, however they should be viewed carefully due to their effect size. The strongest significant difference was feasibility (d = .70). Feasibility survey questions addressed the ability to promote physical

activity including brief counseling, one-on-one consultations, group sessions, distribution of resources, and utilization of referral sources. This indicates the potential to impact promotion by providing targeted education to physical therapists on patient education, physical activity promotion resources, and referral source utilization. Since this is the first study of this kind, any differences may be potentially important to provide preliminary direction to future investigations as well as targeted education to create a meaningful change in health-related quality of life.

Further exploration with the open-ended responses to the question, "what facilitates (or would facilitate) promoting physical activity with your patients?" provides a robust picture of specific actions low promoters can take to improve physical activity promotion that is in concert with the other findings. The most common response was the availability of additional resources being the main factor that facilitated physical therapists' promoting physical activity among their patients. These resources included access and proximity to community physical activity resources (walking trails, facilities, etc.), educational resources (brochures, flyers, patient education handouts, etc.), on-site facility programs (health and wellness programs, walking programs, pool access, etc.), and utilization of referral sources (fitness facility, wellness programs, personal trainer, etc.).

Therefore, it is recommended that physical therapists take advantage of recent initiatives from the American Physical Therapy Association establishment of the Council on Prevention, Health Promotion, and Wellness in Physical Therapy (APTA, 2018). The council provides a community for physical therapists who are interested in incorporating prevention, health promotion, and wellness within physical therapy practice. Limited resources exist within the community at this time, but they include communication platforms, supporting policies, and information to promote health behavior change within individuals (APTA, 2018). Due to the lack of resources, global health initiatives such as Exercise is Medicine® may be bridged as resources

to facilitate the promotion of physical activity among physical therapists (Exercises is Medicine, 2019).

Several limitations exist in this study. First, nonprobability sampling was utilized, as it is useful in creating new ideas to be systematically tested later using probability sampling techniques (Creswell, 2015). While there is no agreed-upon standard for what constitutes an acceptable response rate (Fowler, 2009), given the exploratory nature of this study, the response rate achieved in this study (13.8%) was deemed acceptable and similar to response rates to previous studies surveying physical therapists on health- related topics (Page et al., 2006; Shirley et al., 2010; Siengsukon et al., 2015). However, findings from the current sample may not be generalized to the entire population of practicing physical therapists within North Carolina and further research is needed to confirm these findings. Additionally, survey responses may have been biased by those interested in physical activity. Physical therapists less interested in physical activity may not have consented to complete the study.

Physical therapists have a unique opportunity as movement experts to play a primary role in the treatment and prevention of chronic disease and disability. The APTA has firmly established the role of physical therapist in the prevention, wellness, fitness, health promotion, and management of disease and disability. Currently, there are limited resources available to physical therapists to shift their role from an illness- to wellness-centered focus. Targeted policy and education addressing extrinsic and intrinsic factors by providing accessible resources, education on patient counseling, and actions to implement physical activity promotion should be initiated.

CHAPTER II

DISSEMINATION

As this project centers on Physical Therapists within North Carolina, an ideal outlet to disseminate findings would be at the North Carolina Physical Therapy Association (NCPTA) Annual Conference in October 2020. The NCPTA has a total of 2895 members (1800 Physical Therapy members, 156 Physical Therapy Assistant members, and 939 Student members). The mission of the NCPTA is to protect, promote, and progress the profession and best practices of physical therapy. With over 700 members attending the conference annually, an educational presentation would be an opportunity to share and discuss physical activity promotion with physical therapy professionals from across North Carolina to improve best practice. In addition, many of these attendees would be the very same participants in the exploratory study and would have a vested interest in the findings and education.

The presentation will share findings described in Chapter I with a focus on educating physical therapists on barriers and facilitators affecting physical activity promotion as well as provide accessible resources, education on patient counseling, and actions to take to implement physical activity promotion. The following is an overview of the presentation that will be submitted to the 2020 North Carolina Physical Therapy Association Annual Conference for a 90-min Educational Session. The presentation slides can be found in Appendix C. An infographic for social media posting and handout can be found in Appendix D.

Presentation Overview

Description

With physical activity, an opportunity awaits physical therapists to transform society and create a shift from a health care system based on illness to one based on health and wellness. Physical inactivity-related chronic diseases place a significant financial and societal burden on the lives of Americans and the health care system. In contrast, regular physical activity has been shown to reduce the risk of a wide variety of diseases. It is one of the most effective interventions physical therapists can incorporate into a patient's management plan to improve health-related quality of life. Physical therapists have the opportunity to effectively modify behaviors such as lack of physical activity. However, physical therapists may not routinely promote physical activity within their management plan due to intrinsic and extrinsic barriers. The purpose of this session is to build upon foundational knowledge of physical activity and assess the barriers and facilitators to physical activity promotion. Attendees will have the ability to develop specific methodologies to increase the frequency of physical activity promotion, potentially mitigating chronic and debilitating diseases in the United States.

Objectives

Upon completion of the educational presentation, attendees will be able to:

1. Understand the implication of the physical inactivity on health-related quality of life
2. Compare the extent of physical activity promotion among physical therapists within North Carolina
3. Discuss and analyze the barriers and facilitators affecting the promotion of physical activity in physical therapy practice within North Carolina
4. Apply Exercise is Medicine® to increase physical activity promotion potentially to mitigate chronic and debilitating diseases

Script

Slides 1 and 2. Welcome, I am Randall Lazicki, a Doctor of Education in Kinesiology Candidate at the University of North Carolina Greensboro. This presentation will share some of my research findings as well as introduce approaches to improve physical activity promotion in physical therapy practice. First, just a little about me. I completed my Fellowship in Sports Physical Therapy at Duke University, Doctor of Physical Therapy at Elon University, and a Bachelor's of Science in Athletic Training at Wingate University. I hold a Board Certifications as both a Sports and Orthopaedic Clinical Specialist, Certified Athletic Trainer, and Certified Strength and Conditioning Specialist. My interest in physical activity promotion stems from my work with entry-level physical therapy students and the application of the Exercise is Medicine® initiative in clinical practice.

Slide 3. Upon completion of this educational presentation you will be able to meet the following objectives: Understand the implication of the physical inactivity on health-related quality of life; Compare the extent of physical activity promotion among physical therapists within North Carolina; Discuss and analyze the barriers and facilitators affecting the promotion of physical activity in physical therapy practice within North Carolina; and Apply Exercise is Medicine® to increase physical activity promotion potentially to mitigate chronic and debilitating diseases.

Slide 4. According to the Centers for Disease Control and Prevention, physical inactivity has been universally established as one of the most important issues affecting health-related quality of life. Research demonstrates, 77.1% of U.S. adults don't meet the current recommendations for both aerobic and muscle-strengthening activities which leads to nearly 50% of the population having one or more chronic health conditions related to physical inactivity. This equates to an astonishing 117 billion dollars lost due to annual health care costs that are

associated with inadequate physical activity. Unfortunately, recent reports suggest physical activity has not significantly improved over the past 10 years.

Slide 5. There is a potential solution to this epidemic. The most recent Physical Activity Guidelines Advisory Committee Scientific Report summarizes evidence on physical activity as a primary source of disease prevention in addition to abundant physical, emotional, and psychological health benefits. The means moving from a health care system based on illness to one based on wellness. Physical therapists can achieve this, as the promotion of physical activity meets the American Physical Therapy Association's vision of "Transforming society by optimizing movement to improve the human experience." Physical therapists are well-positioned to promote physical activity because of their education, expertise, opportunity, and trusting relationships with their patients.

Slide 6. There is a problem with this potential solution. Currently, it is not routine for physical therapists to address physical activity habits with their patients. Among all health care providers there are barriers to promoting physical activity. Both extrinsic and intrinsic factors, such as pay or reimbursement for physical activity promotion, available resources, personal physical activity habits, practice setting, counseling skills, available time, and knowledge about the amount of physical activity required for health benefits have been implicated in affecting physical activity promotion. However, a critical gap exists in understanding barriers and facilitators to physical activity promotion among physical therapists in the United States, as previous studies that have investigated physical activity promotion are primarily with physicians, European medical models, and/or the pediatric physical therapy setting.

Slide 7. Therefore, the purpose of my work was two-fold. The first was to determine the extent of self-reported physical activity promotion in physical therapy practice within North Carolina. The second purpose was to determine the difference in knowledge, role perception,

barriers, confidence, feasibility, caseload perception, and personal physical activity between the highest promoters and other physical therapists. By determining perceived barriers and facilitators to physical activity promotion, specific approaches can be shared to increase the frequency of physical activity promotion in physical therapy practice.

Slide 8. The design of this study was exploratory, with the target population being licensed physical therapists practicing within North Carolina. At the time of this study, there were 9,021 licensed physical therapists within North Carolina. According to the North Carolina Board of Physical Therapy Examiners, 7,709 of the 9,021 physical therapists were practicing in North Carolina. The survey questionnaire was adapted from a previous survey questionnaire used in a study of physical therapists within New South Wales, which included both closed and open-ended questions. Adaptations were made to make the questionnaire relevant to the current physical activity aerobic recommendations from the second edition of the Physical Activity Guidelines for Americans. Before the recruitment of participants, approval was obtained by the Institutional Review Board at the University of North Carolina at Greensboro. Participants were contacted via email to solicit their participation. A follow-up email was sent two weeks after the initial email to remind participants of the survey questionnaire. The survey remained open for 4 weeks from the initial recruitment. Data Analysis utilized SPSS Statistics Version 26 and included descriptive statistics including frequencies and percentages, independent-samples *t*-tests, and Pearson correlations

Slide 9. A total of $n = 1187$ of those recruited (15.4%) consented to participate. After exclusion, data analysis included $n = 1067$ (13.8%). Participants were excluded from analysis if they did not complete the promotion section of the survey questionnaire, as this was the desired outcome of this investigation.

Slide 10. In order to determine the extent of physical activity promotion occurring in physical therapy practice, descriptive statistics were utilized for four items. These included the left column: Promote doing basic movements from daily life activities, Promote doing some moderate-intensity (i.e., patient able to talk, but not sing, during the activity) physical activity per week, Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week, and Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week). Participants who selected never for all four items, highlighted in red, were analyzed to determine if any physical activity promotion occurred at any level. Participants who selected rarely, sometimes, often, and very often for two of the items, highlighted in yellow, were analyzed to determine the extent of physical activity promotion occurring at or above the current physical activity recommendations for Americans. Participants who selected often and very often for two of the items, highlighted in green, were analyzed to determine the highest extent of physical activity promotion occurring at or above the current physical activity recommendations for Americans.

Slide 11. Nearly all participants (*n*=1059; 99.3%) promoted some level of physical activity with their current patients, while *n* = 949 (88.9%) promoted some level physical activity at or above the current physical activity recommendations. Only *n* = 289 (27.1%) promoted physical activity at the highest level with their current patients as part of the management plan. This investigation uncovered a significant gap in knowledge on the level of physical activity promotion occurring in physical therapy practice. With only one-fourth of physical therapists promoting physical activity often or very often, substantial health benefits may not be achieved by patients meeting or exceeding the physical activity guidelines established by the second edition of the Physical Activity Guidelines for Americans.

Slide 12. In order to meet Objective 2, independent-samples *t*-tests and Cohen's *d* were utilized to determine the differences among physical therapists in North Carolina with the highest self-reported physical activity promotion in knowledge, promotion, role perception, confidence, barriers, feasibility, caseload perception, and personal physical activity noted on the left side of this table. Within this investigation, high promoters were significantly different in every area investigated. High promoters were more knowledgeable, believe it is more within their role, are more confident, perceive fewer barriers, perceive it is more feasible, perceive their current caseload are able to perform any level of physical activity, and are more physically active than low promoters of physical activity. There was low to moderate practical significance, highlighted in yellow, for role perception and personal physical activity levels. Moderate practical significance, highlighted in green, for improving confidence, barriers, feasibility, and caseload perception. This may suggest that improving caseload perception, confidence, and perceived barriers would improve physical activity promotion. However, this should be viewed carefully due to their effect size. The strongest significant difference was feasibility (d = .70). Feasibility survey questions addressed the ability to promote physical activity, including brief counseling, one-on-one consultations, group sessions, distribution of resources, and utilization of referral sources. This indicates the potential to impact promotion by providing targeted education to physical therapists on patient education, physical activity promotion resources, and referral source utilization. Since this is the first study of this kind, any differences may be potentially important to provide preliminary direction to future investigations.

Slide 13. To further guide dissemination, open-ended responses of those with the highest self-reported physical activity promotion to the question "what facilitates (or would facilitate) promoting physical activity with your patients?" were coded. Similar responses were grouped to provide context. The most common response was accessibility of resources which included

access and proximity to community physical activity resources (walking trails, facilities, etc.), educational resources (brochures, flyers, patient education handouts, etc.), on-site facility programs (health and wellness programs, walking programs, pool access, etc.), and utilization of referral sources (fitness facility, wellness programs, personal trainer, etc.). Both patient education, which included discussing physical activity and physical activity-related goals with patients, and available time to spend with patients were additional contributors among high promoters to facilitating physical activity promotion with their current patients.

Slide 14. The views of the high promoters on what facilitates promoting physical activity provide a more robust picture of physical activity promotion. The high frequency of responses for additional resources, patient education, and available time as major facilitators to improving physical activity promotion was apparent. As a result, initiatives such as Exercise is Medicine® may be the best current resource to facilitate the promotion of physical activity among physical therapists. The vision of Exercise is Medicine®, a global health initiative managed by the American College of Sports Medicine (ACSM), is to make physical activity assessment and promotion a standard in clinical care, connecting health care with evidence-based physical activity resources for people everywhere and of all abilities.

Slide 15. Exercise is Medicine® recognizes there is a brief window of time for physical activity counseling and addresses ways to facilitate patient education and provides resources that are free to customize. The SBIRT format, which stands for screening, brief intervention, and referral to treatment, has three steps: Step 1 – Assess the patient's level of physical activity; Step 2 – Provide brief advice or counseling regarding the importance of regular physical activity based on patient's readiness to change; and Step 3 – Write a prescription for physical activity, depending on the health, fitness level, and preferences of your patient; and/or refer the patient to physical activity resources (programs, facilities, certified exercise professionals).

Slide 16. To assess the physical activity level of patients, physical therapists can utilize the Physical Activity Vital Sign, or PAVS, where one simply ask these two questions: On average, how many days per week do you engage in moderate to vigorous physical activity like brisk walking?; and On average, how many minutes do you engage in physical activity at this level? This number can determine if the patient is meeting the physical activity guidelines. Using this as a screen, you can flag those needing more assistance from you or your staff and track physical activity over time as part of the patient's management plan.

Slide 17. The promotion of physical activity also requires an understanding of effective approaches to facilitate behavior change. One of the most widely used models to explain health behavior and to facilitate changes in individuals is the Transtheoretical Model. The Transtheoretical Model is an integrative, biopsychosocial model to conceptualize the process of intentional behavioral change. Within the Transtheoretical Model, stages include precontemplation, where the patient has no intention to be physically active; contemplation, where the patient knows they should exercise and is thinking about becoming physically active; preparation, where the patient is soon planning to become physically active; action, where the patient is meeting the physical activity guidelines but for less than 6 months; and maintenance, where the patient is meeting the physical activity guidelines for the last 6 months or more. It is important to identify these stages within our patients to provide the necessary intervention within our visits.

Slide 18. Exercise is Medicine® provides a framework for the targeted intervention you see here. Those patients in precontemplation are effectively saying "no" to change. It is still important to provide these patients with information on physical activity. One of the best strategies to use at this stage is analogies that can relate to and are unique to their health concerns and situations. Remember, any physical activity is better than no physical activity. Small changes

can make a difference in health-related quality of life. Those in contemplation are saying, "maybe." Patients are more receptive in this stage, so more time can be spent on patient education on the pros of physical activity. We need to win these patients over with our personal interaction. Once you identify a patient in this setting, spending a little time on the benefits of physical activity would be appropriate, and over several sessions may move them towards the next stage.

Slide 19. Those in the preparation stage may already be in our clinics seeking to get better. We have the opportunity then to move these patients from preparation to action. Providing resources on physical activity and ways patients can be physically active while working on their limitations with physical therapy is appropriate. Also, referral to other exercise professionals and creating an interdisciplinary system to return to full activity is a potential solution. If we move patients to the action stage, we need to support and applaud their efforts. We can continue to provide resources and work physical activity into their management plan and lifestyle, and then maintain these improvements. It seems simple, but getting to this stage is the hardest part.

Slide 20. What we want to go through are three steps when we prescribe physical activity. Step 1 is a safety screening, such as the ACSM preparticipation screening, or PAR-Q. We need to make sure they are ready for physical activity; next, we need to offer advice and support to participate in 150 minutes of moderate-intensity physical activity each week. Handouts from the Exercise is Medicine® website, such as "Sit Less. Move More." or "Being Active for a Better Life" are great resources at your fingertips. As physical therapists, we have the opportunity to offer exercise prescription while understanding health conditions affecting physical activity. Additional resources such as the "Rx for Health Series" provide exercise prescriptions specifically developed for individuals with a variety of health conditions

Slide 21. Additionally, we can provide referrals to community programs or qualified exercise professionals. It is our responsibility to gather local resources and information on

community centers, parks, trails, and local programs. Try them out for yourself; then you can specifically talk to your patients about each of them. By understanding the needs of your patients, you can offer targeted solutions with this increased knowledge. Furthermore, seeking out local exercise professionals and vetting background and experience such as those with accredited fitness certifications would provide an additional resource for the continuation of physical activity during and beyond discharge from physical therapy.

Slide 22. Let's take some time now and role-play this with each other. With a partner in the audience, one of you play the role of the patient and the other play the role of the physical therapist. Use a recent patient you worked with that you thought would benefit from increased physical activity to have some context to act as the patient. What I want you to do is go through the SBIRT steps: Step 1 - Assess the patient's level of physical activity; Step 2 - Provide brief advice or counseling regarding the importance of regular physical activity based on patient's readiness to change, let's say we are all in the contemplation stage; and Step 3 - Write a prescription for physical activity. The first person will go for 10 minutes, and then I will give you a cue to switch. Try to ask questions as if you were the patient to help check your partner's ability to discuss physical activity. This will build confidence and improve your feasibility in promoting physical activity next week with your patients.

Slide 23. Let's discuss! There are many modes of exercise to choose from, but largely it depends upon what the patient will likely be able to perform given their current situation. What are some prescriptions for physical activity you provided to your patient in this scenario? What are some barriers you can think of that may limit your ability to promote physical activity?

Slide 24. Now it's time to share and connect! All of you are on the ground level working with patients every day, and sharing ways you individually tackled barriers will help all of us. What can be done to address these barriers you identified? Beyond individual efforts, we need to

think broadly to address what we can do on an association level. What are the current local, regional, or organizational level efforts that you have prior experience working with to promote physical activity?

Slide 25. The APTA has established the Council on Prevention, Health Promotion, and Wellness in Physical Therapy provides a community for physical therapists who are interested in incorporating prevention, health promotion, and wellness within physical therapy practice. Join the council! By joining the council, you will be automatically subscribed to receive email alerts from the council's online community. Committee chairs and members are needed for the development and dissemination of the council's resources. Resources include communication platforms, supporting policies, and information to promote health behavior change within individuals with more in development from your input!

Slide 26. Physical therapists have a unique opportunity as movement experts to play a primary role in the treatment and prevention of chronic disease and disability. The APTA has firmly established physical therapist roles in the prevention, wellness, fitness, health promotion, and management of disease and disability. Facilitators affecting the promotion of physical activity in physical therapy practice include time, the ability to educate patients, and available resources. With that understanding, Exercise is Medicine® provides approaches to address time, ability to educate patients, and resources to increase physical activity promotion to potentially mitigate chronic and debilitating diseases. Lastly, the APTA's Council on Prevention, Health Promotion, and Wellness in Physical Therapy provides a direct resource to connect and share!

Slide 27. It is also humbling to take the most valuable aspect of your life—time. I am thankful for your attention, and I trust this presentation has provided an understanding of physical activity promotion in physical therapy practice and an action plan to address identified barriers and facilitators to physical activity promotion. I find this quote from Anton Checkhov's the most

fitting in education, “Knowledge is of no value unless you put it into practice.” Now that you have this knowledge, I urge you to transform your practice from one based on illness to one based on wellness in order to transform society by optimizing movement to improve the human experience.

CHAPTER III

ACTION PLAN

There is significant interest in the impact of this investigation within the American Physical Therapy Association. To mitigate the impact of physical inactivity, the American Physical Therapy Association has created, implemented, and continues to develop the Council on Prevention, Health Promotion, and Wellness in Physical Therapy. The Council on Prevention, Health Promotion, and Wellness in Physical Therapy was established in January 2018 and is a community for physical therapists, physical therapist assistants, and students who are interested in incorporating prevention, health promotion, and wellness as an integral aspect of physical therapist practice. Also, promoting and advocating for healthy lifestyles to reduce the burden of disease and disability on individuals and society is a prime focus. The purpose of the Council on Prevention, Health Promotion, and Wellness in Physical Therapy is to facilitate the profession's role in transforming society and physical therapist practice by connecting people and knowledge to develop and disseminate best practices in prevention, health promotion, and wellness for all individuals and populations. With these efforts by the American Physical Therapy Association, significant attention has been placed on improving health and wellness, and the impact physical therapists make on transforming society.

Short-term Goals

Even with significant attention from the American Physical Therapy Association, limited data exists on the promotion of physical activity in physical therapy practice and barriers and facilitators affecting best practice, specifically in North Carolina. As such, initial presentation of results to the North Carolina physical therapy community at the North Carolina Physical Therapy

Association Annual Conference, is an excellent avenue to disseminate the initial findings of this investigation to the local physical therapy community. However, with less than 10% of physical therapists attending the conference each year, a broader dissemination is also warranted within North Carolina. This presentation may be recorded and offered for free continuing education credits. A presentation link can be emailed to all practicing physical therapists within North Carolina and Qualtrics utilized for required post presentation assessment. Continuing education is required for physical therapists within North Carolina and by offering a web-based platform the information will be able to reach a broader audience that can't attend a specific conference due to time or financial burden.

The impact of this project will bring awareness of the extent of physical activity promotion within physical therapy practice and an opportunity to transform society and create a shift from a health care system based on illness to one based on health and wellness. By understanding barriers and facilitators to physical activity promotion, strategies can be developed to integrate physical activity promotion into practice. Ideally, this will impact physical inactivity-related disease while returning patients to their prior level of functioning and meet the physical activity guidelines for Americans.

Intermediate Goals

Potentially, the information found in this project can have a broader impact and be adapted and applied to other regions of the country within multiple patient populations. Presentation of results at several meetings such as the APTA Combined Sections Meeting and the APTA NEXT Conference and Exposition will allow broad and immediate dissemination of results to individuals working in different environments. These conferences are the largest in the country and draw thousands of physical therapy professionals for interactive educational sessions, forward-thinking discussions, and networking opportunities.

Additionally, the results are well-suited for publication in several physical therapy journals like the *Physical Therapy Journal* and *Journal of Physical Therapy Education*. The *Physical Therapy Journal* is the official scientific journal of the American Physical Therapy Association and is the leading international journal for research in physical therapy and related fields. The *Physical Therapy Journal* publishes highly relevant content for both clinicians and scientists with the expressed purpose of improving patient care. However, not only practicing clinicians, but educators would be a target audience for project findings. The Academy of Physical Therapy Education's mission is to inspire all Physical Therapists and Physical Therapist Assistants in their roles as educators and to enhance the development and implementation of evidence-based educational practices. The leading journal for the Academy of Physical Therapy Education is the *Journal of Physical Therapy Education*. The *Journal of Physical Therapy Education* advances the scholarship of physical therapy education in all its dimensions by disseminating scholarly works of discovery, application, and integration and enriches physical therapy academic and clinical education environments by using evidence in the educational decision-making process to effectively prepare students, support faculty and clinicians, and inform administrators.

With any one of these potential exposures to the broader community, conclusions can serve as a springboard to develop programs, strategies, and policies to increase the promotion of physical activity within physical therapy practice.

Long-term Goals

The impact of this project can be broad and far-reaching. I will seek to develop future research and grant funding to expand the understanding of physical activity promotion across multiple locations and practice settings. As this initial work was exploratory in nature, future research will look to target specific physical therapy settings. Additionally, an understanding of

physical activity promotion across all patient populations should be investigated. Seeking to understand which specific resources may be utilized to increase physical activity promotion would be beneficial. This project will act as a catalyst to my long-term research goal of developing effective approaches to increase physical therapists' physical activity promotion with their patients in North Carolina as part of an interdisciplinary health care team to enhance the health, physical activity, physical performance, and well-being of individuals and populations.

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APPENDIX A

SURVEY QUESTIONNAIRE

1. What is your age?

2. What is your sex?
   - Male
   - Female
   - Other (please specify)

3. What is your race/ethnic origin?
   - White (Not of Hispanic origin)
   - Hispanic/Latino
   - Black or African American (Not of Hispanic origin)
   - American Indian or Alaska Native
   - Asian
   - Native Hawaiian or Pacific Islander
   - Other (please specify)

4. What is your ZIP code?

5. How many years of experience do you have as a licensed Physical Therapist?

6. What is your primary work setting?
   - Acute care hospital
   - Health system or hospital-based outpatient facility or clinic
   - Private outpatient office or group practice
   - Skilled nursing facility (SNF)/Long-term care
   - Patient's home/home care
   - School system (preschool/primary/secondary)
   - Academic institution (postsecondary)
   - Health and wellness facility
   - Research center
   - Industry
   - Inpatient rehab facility
   - Other (please specify)

7. What is your current employment status at your primary work setting?
   - Full-time (35 or more hours per week)
   - Part-time
   - Retired
   - Unemployed
   - Other

8. What is your primary clinical focus in which you practice most often?
    - Acute Care Physical Therapy
    - Aquatic Physical Therapy
    - Cardiovascular Pulmonary
    - Clinical Electrophysiology
    - Geriatrics
    - Hand Rehabilitation
    - Lymphedema Management
    - Neurology
    - Oncology
    - Orthopaedics
    - Pediatrics
    - Sports
    - Women's Health
    - Wound Management
    - Other (please specify)

9. What is your entry-level physical therapy degree?
    - Baccalaureate
    - Post Baccalaureate Certificate
    - Master's
    - Doctoral
    - Other (please specify)

10. What is your highest earned academic degree?
    - Baccalaureate
    - Master's
    - DPT
    - tDPT
    - PhD (or equivalent)
    - PhD (or equivalent) and DPT
    - PhD (or equivalent) and tDPT
    - Other (please specify)

11. Please list your undergraduate degree(s) and major(s).

12. Please list any other degree(s) and major(s) if applicable.

13. Please select any current APTA board certifications.
    - Cardiovascular and Pulmonary
    - Clinical Electrophysiology
    - Geriatrics
    - Neurology
    - Oncology
    - Orthopaedics
    - Pediatrics
    - Sports
    - Women's Health

14. Please list any other residency/fellowship training, or certifications in physical therapy/strength and conditioning/physical fitness.

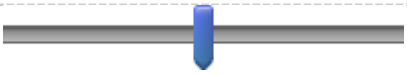
15. How familiar are you with the current Physical Activity Guidelines for Americans?
    Extremely familiar
    Very familiar
    Moderately familiar
    Slightly familiar
    Not familiar at all

16. Which of the following statements are true about the current Physical Activity Guidelines for Americans?

	False	True
Even the smallest increase in physical activity can benefit health in adults	○	○
Siting less and doing any amount of moderate to vigorous physical activity is enough to benefit health in adults	○	○
Half an hour of brisk walking on most days achieves the recommended aerobic activity in adults	○	○
A key guideline for adults is to achieve 150 minutes to 300 minutes a week of moderate-intensity, or 75 minutes to 150 minutes per week of vigorous-intensity aerobic physical activity or an equivalent combination of moderate- and vigorous-intensity aerobic activity to benefits health	○	○

17. What percent of your current patients are able to do any level of physical activity (beyond therapeutic exercise/home exercise program)?

    Please utilize this definition when answering this question:
    Physical Activity = any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level.

	0 10 20 30 40 50 60 70 80 90 100
Percent ()	

18. How often do you perform the following with your current patients as part of the management plan?

	Never	Rarely	Sometimes	Often	Very Often
Document physical activity goals	○	○	○	○	○
Promote doing basic movements from daily life activities	○	○	○	○	○
Promote doing some moderate-intensity (i.e., patient able to talk, but not sing, during the activity) physical activity per week	○	○	○	○	○
Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week	○	○	○	○	○
Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week	○	○	○	○	○

19. To what extent do you agree or disagree with the following statements:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Discussing the benefits of a physically active lifestyle with patients is part of the physical therapist's role	○	○	○	○	○
Suggesting to patients ways to increase daily physical activity is part of the physical therapist's role	○	○	○	○	○
Physical therapists should be physically active to act as a role model for their patients	○	○	○	○	○

20. To what extent do you agree or disagree with the following statements:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I feel confident in giving general advice to patients on a physically active lifestyle	○	○	○	○	○
I feel confident in suggesting specific physical activity programs for my patients	○	○	○	○	○

21. How often does the following prevent you from promoting a physically active lifestyle in your patients (beyond therapeutic exercise/home exercise program)?

	Never	Rarely	Sometimes	Often	Very Often
Lack of time	○	○	○	○	○
Lack of counseling skills	○	○	○	○	○
Lack of reimbursement for promoting physical activity	○	○	○	○	○
Lack of personal interest in promoting physical activity	○	○	○	○	○
Feeling it would not change the patient's behavior	○	○	○	○	○
Feeling it would not be beneficial for the patient	○	○	○	○	○

22. What kinds of physical activity promotion (beyond therapeutic exercise/home exercise program) would be feasible for you to deliver to your current patients?

	Totally unfeasible	Not really feasible	Not sure	Somewhat feasible	Highly feasible
Brief counseling integrated into your regular consultations	○	○	○	○	○
Separate one-on-one consultations	○	○	○	○	○
Group sessions	○	○	○	○	○
Distribution of resources (i.e., brochures)	○	○	○	○	○
Utilize referral sources (personal trainer, fitness personnel, etc.)	○	○	○	○	○

23. Please select your own level of physical activity.

    Not getting any moderate- or vigorous-intensity physical activity beyond basic movement from daily life activities

    Doing some physical activity per week but less than the recommended 150 minutes of moderate-intensity, or 75 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week

    Doing the recommended 150 minutes to 300 minutes of moderate-intensity, or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week

    Doing the equivalent of more than the recommended physical activity per week

24. What strategies do you currently use to promote physical activity (beyond therapeutic exercise) with your current patients?

25. What prevents you from promoting physical activity with your patients?

26. What facilitates (or would facilitate) promoting physical activity with your patients?

APPENDIX B

TABLES

Table 2

Participant Demographics

Age (*n* = 1061), *M* (*SD*)	41.32 years (11.655)
Sex (*n* = 1064), *n* (%)	
Female	809 (76)
Male	255 (24)
Race/ethnic origin (1064), *n* (%)	
White (Not of Hispanic origin)	934 (87.8)
Hispanic/Latino	12 (1.1)
Black or African American (Not of Hispanic origin)	45 (4.2)
American Indian or Alaska Native	3 (0.3)
Asian	50 (4.7)
Native Hawaiian or Pacific Islander	0 (0.0)
Biracial or Multiracial	15 (1.4)
Other (not specified)	5 (0.5)
Years of experience (*n* = 1060), *M* (*SD*)	15.05 (11.853)
Primary work setting (*n* = 1063), *n* (%)	
Acute care hospital	89 (8.4)
Health system or hospital-based outpatient facility or clinic	226 (21.3)
Private outpatient office or group practice	320 (30.1)
Skilled nursing facility (SNF)/Long-term care	65 (6.1)
Patient's home/home care	134 (12.6)
School system (preschool/primary/secondary)	21 (2.0)
Academic institution (postsecondary)	49 (4.6)
Health and wellness facility	12 (1.1)
Research center	5 (0.5)
Industry	6 (0.6)
Inpatient rehab facility	40 (3.8)
Other	96 (9.0)
Current employment status (*n* = 1063), *n* (%)	
Full-time (35 or more hours per week)	792 (74.5)
Part-time	244 (23)
Retired	12 (1.1)
Unemployed	8 (0.8)
Other	7 (0.7)
Primary clinical focus (*n* = 1063), *n* (%)	
Acute Care Physical Therapy	
Aquatic Physical Therapy	
Cardiovascular Pulmonary	
Clinical Electrophysiology	
Geriatrics	

Table 2

Cont.

Primary clinical focus (*n* = 1063), *n* (%)	
Hand Rehabilitation	0 (0.0)
Lymphedema Management	11 (1.0)
Neurology	70 (6.6)
Oncology	5 (0.5)
Orthopaedics	445 (41.9)
Pediatrics	92 (8.7)
Sports	34 (3.2)
Women's Health	25 (2.4)
Wound Management	3 (0.3)
Other (please specify)	65 (6.2)
Entry Level physical therapy degree (*n* = 1060), *n* (%)	
Baccalaureate	235 (22.2)
Post Baccalaureate Certificate	16 (1.5)
Master's	284 (26.8)
Doctoral	525 (49.5)
Highest academic degree (*n* = 1060), *n* (%)	
Baccalaureate	138 (13.0)
Master's	255 (24.1)
DPT	525 (49.5)
tDPT	111 (10.5)
PhD (or equivalent)	20 (1.9)
PhD (or equivalent) and DPT	8 (.8)
PhD (or equivalent) and tDPT	3 (.3)
APTA Board Certifications (*n* = 1067), *n* (%)	
Cardiovascular and Pulmonary	7 (0.7)
Clinical Electrophysiology	3 (0.3)
Geriatrics	43 (4.0)
Neurology	24 (2.2)
Oncology	2 (0.2)
Orthopaedics	114 (10.7)
Pediatrics	16 (1.5)
Sports	34 (3.2)
Women's Health	10 (0.9)

Table 3

Survey Item Descriptives for Low and High Promoters

	Low Promoters		High Promoters		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*
Promote doing basic movements from daily life activities	4.34	.809	4.77	.524	4.46	.767
Promote doing some moderate-intensity (i.e. patient able to talk, but not sing, during the activity) physical activity per week	3.35	1.002	4.47	.741	3.65	1.064
Promote doing 150 minutes to 300 minutes of moderate-intensity or 75 minutes to 150 minutes of vigorous-intensity aerobic physical activity or the equivalent combination per week	2.26	.727	4.34	.543	2.82	1.150
Promote doing the equivalent of more than 300 minutes of moderate-intensity physical activity per week	1.87	.712	3.38	1.071	2.28	1.064
Discussing the benefits of a physically active lifestyle with patients is part of the physical therapist's role	4.65	.837	4.88	.577	4.71	.782
Suggesting to patients ways to increase daily physical activity is part of the physical therapist's role	4.66	.823	4.86	.602	4.71	.775
Physical therapists should be physically active to act as a role model for their patients	4.55	.857	4.74	.701	4.60	.822
I feel confident in giving general advice to patients on a physically active lifestyle	4.57	.756	4.85	.516	4.65	.709
I feel confident in suggesting specific physical activity programs for my patients	4.36	.858	4.78	.593	4.47	.817
Lack of time	2.71	1.070	2.34	1.000	2.61	1.063
Lack of counseling skills	2.07	.896	1.76	.802	1.99	.882
Lack of reimbursement for promoting physical activity	2.01	1.149	1.82	1.075	1.95	1.132
Lack of personal interest in promoting physical activity	1.46	.691	1.33	.689	1.42	.692
Feeling it would not change the patient's behavior	2.75	1.082	2.14	.954	2.59	1.083
Feeling it would not be beneficial for the patient	1.68	.785	1.55	.773	1.65	.784
Brief counseling integrated into your regular consultations	4.29	.859	4.65	.708	4.39	.836
Separate one-on-one consultations	2.92	1.233	3.56	1.268	3.09	1.274
Group sessions	2.37	1.192	2.92	1.312	2.52	1.249
Distribution of resources (i.e., brochures)	3.99	1.060	4.31	.939	4.08	1.038
Utilize referral sources (personal trainer, fitness personnel, etc.)	3.52	1.257	3.93	1.133	3.63	1.238

Table 4

Differences in Barrier and Facilitator Scores Between High Promoters Versus Low Promoters

Barrier/Facilitator	Groups	*n*	*M*	*SD*	*t*	*p-value*
Knowledge	High Promoters	285	3.6281	.67285	2.683	<.01*
	Low Promoters	759	3.5007	.71152		
Role Perception	High Promoters	288	14.4861	1.65273	5.036	<.001*
	Low Promoters	774	13.8501	2.23711		
Confidence	High Promoters	289	9.6332	1.03937	8.635	<.001*
	Low Promoters	774	8.9289	1.50166		
Barriers	High Promoters	284	9.3697	3.23091	-7.183	<.001*
	Low Promoters	766	10.9843	3.24749		
Feasibility	High Promoters	286	19.3776	3.26771	10.084	<.001*
	Low Promoters	768	17.0846	3.32183		
Caseload Perception	High Promoters	289	76.87	22.397	8.329	<.001*
	Low Promoters	774	63.03	28.140		
Personal PA	High Promoters	285	3.14	.759	7.041	<.001*
	Low Promoters	768	2.76	.811		

Note. *significant difference

Table 5

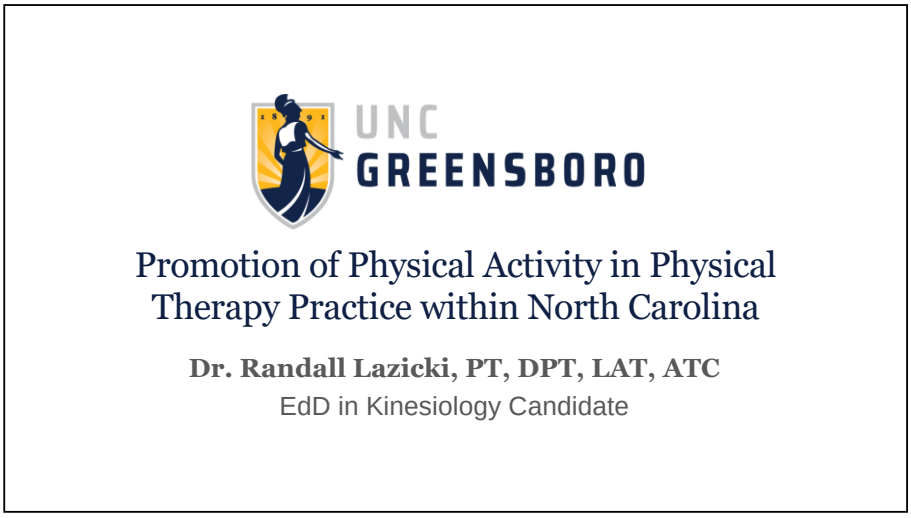
What Facilitates (or Would Facilitate) Promoting Physical Activity with Your Patients?

Facilitator	Frequency
Confidence	3
Family Support	7
Personal PA Level	10
Role Perception	11
Knowledge	16
PA Level of Caseload	19
Patient Interest	26
Available Time	40
Patient Education	55
Accessible Resources	103
Blank/No Response	44

Note. Some participants gave multiple responses. Thus, the total number of responses is greater than the sample number (n = 289). PA = physical activity.

APPENDIX C

PRESENTATION SLIDES



1

2

Objectives

- Upon completion of the educational presentation attendees will be able to:
  - Understand the implication of the physical inactivity on health-related quality of life
  - Compare the extent of physical activity promotion among physical therapists within North Carolina
  - Discuss and analyze the barriers and facilitators affecting the promotion of physical activity in physical therapy practice within North Carolina
  - Apply Exercise is Medicine® to increase physical activity promotion to potentially mitigate chronic and debilitating diseases

3

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Background – The Context

(CDCP, 2019; Blackwell & Clarke, 2018)

4

Background – The Potential Solution

Healthcare System

Illness → Wellness

APTA Vision Statement

"Transforming society by optimizing movement to improve the human experience"

(Benzer, 2015; Dean, 2009; Morris & Jenkins 2018; APTA 2013)

5

Background – The Problem

(Benzer, 2015; Cabana et al., 1999; Shirley et al., 2010)

6

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Purpose & Objectives

- **Purpose**: The purpose of this study was to determine the extent physical activity promotion is occurring as well as identify perceived barriers and facilitators affecting physical activity promotion in physical therapy practice within North Carolina.
- **Objective #1:** Determine the extent of self-reported physical activity promotion in physical therapy practice within North Carolina.
- **Objective #2:** Determine the difference in knowledge, role perception, barriers, confidence, feasibility, caseload perception, and personal physical activity between the highest promoters and other physical therapists.

7

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Approach

- **Design**
  - Exploratory research design describing the extent of PA promotion and perceived barriers and facilitators
- **Subjects**
  - All physical therapists practicing within North Carolina (7,709)
- **Data Collection**
  - Qualtrics survey adapted from Shirley et al., 2010
  - Initial email contact, 2 week email follow-up, open for 4 weeks
- **Data Analysis**
  - SPSS Statistics Version 26
  - Descriptive statistics including frequencies and percentages, independent-samples *t*-tests, Pearson correlation

(Arney, 2019)

8

Find your way here

Results - Promotion

- **99.3%** (n=1059) promoted some level of physical activity with their current patients
- **88.9%** (n = 949) promoted some level of physical activity at or above the current physical activity recommendations for Americans with their current patients
- **27.1%** (n = 289) promoted physical activity at the highest level (often/very often) with their current patients

11

Find your way here

Results - Independent-Samples T-Tests

Barrier/Facilitator	Groups	n	M	SD	t	p-value
Knowledge	High Promoters	285	3.6281	.67285	1042	<.01*
	Low Promoters	759	3.5007	.71152		
Role Perception	High Promoters	288	14.4861	1.65273	1060	<.001*
	Low Promoters	774	13.8501	2.23711		
Confidence	High Promoters	289	9.6332	1.03937	1061	<.001*
	Low Promoters	774	8.9289	1.50166		
Barriers	High Promoters	284	9.3697	3.23091	1048	<.001*
	Low Promoters	766	10.9843	3.24749		
Feasibility	High Promoters	286	19.3776	3.26771	1052	<.001*
	Low Promoters	768	17.0846	3.32183		
Caseload Perception	High Promoters	289	76.87	22.397	1061	<.001*
	Low Promoters	774	63.03	28.140		
Personal PA	High Promoters	285	3.14	.759	1053	<.001*
	Low Promoters	768	2.76	.811		

moderate to large practical significance

low to moderate practical significance

12

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Results – Open-ended Responses

"What facilitates (or would facilitate) promoting physical activity with your patients?"

• Confidence	3	• PA Level of Caseload	19
• Family Support	7	• Patient Interest	26
• Personal PA Level	10	• Available Time	40
• Role Perception	11	• Patient Education	55
• Knowledge	16	• Accessible Resources	103

13

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Action – Exercise is Medicine®

ExeRcise is Medicine® | AMERICAN COLLEGE of SPORTS MEDICINE

- The vision of Exercise is Medicine® (EIM), a global health initiative managed by the American College of Sports Medicine (ACSM), is to make physical activity assessment and promotion a standard in clinical care, connecting health care with evidence-based physical activity resources for people everywhere and of all abilities

https://www.exerciseismedicine.org

(Exercise is Medicine, 2019)

14

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Actions - Health Care Providers' Action Guide

EIM recognizes there is a brief window of time for physical activity counseling and addresses ways to facilitate patient education and provide resources that are free to customize

SBIRT (Screening, Brief Intervention and Referral to Treatment)

- Step 1 - Assess the patient's level of physical activity
- Step 2 - Provide brief advice or counseling regarding the importance of regular physical activity based on patient's readiness to change
- Step 3 - Write a prescription for physical activity, depending on the health, fitness level, and preferences of your patient; and/or refer the patient to physical activity resources (programs, facilities, certified exercise professionals)

(Exercise is Medicine, 2019)

15

UNCG Find your way here

Action - Health Care Providers' Action Guide

- Assess the Physical Activity Levels of Your Patients

Physical Activity Vital Sign (PAVS)

1. On average, how many days/week do you engage in moderate to vigorous PA (like brisk walking)? _____ days
2. On average, how many minutes do you engage in PA at this level? _____ minutes

Total Activity (days/week x minutes/day) = ____ minutes/week

(Exercise is Medicine, 2019)

16

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Action - Health Care Providers' Action Guide

- Determine Patient's Readiness to Change
  - Precontemplation = Patient has no intention to be physically active
  - Contemplation = Patient knows they should exercise and is thinking about becoming physically active
  - Preparation = Patient is planning to become physically active in the near future
  - Action = Patient is meeting the physical activity guidelines but for less than 6 months
  - Maintenance = Patient is meeting the physical activity guidelines for the last 6 months or more

(Exercise is Medicine, 2019)

17

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Precontemplation
(Patient has no intention to be physically active)

- Discuss the health benefits of regular physical activity particularly related to that patient's unique health concerns and needs.
- The individual is likely not ready to receive a physical activity prescription at this point.

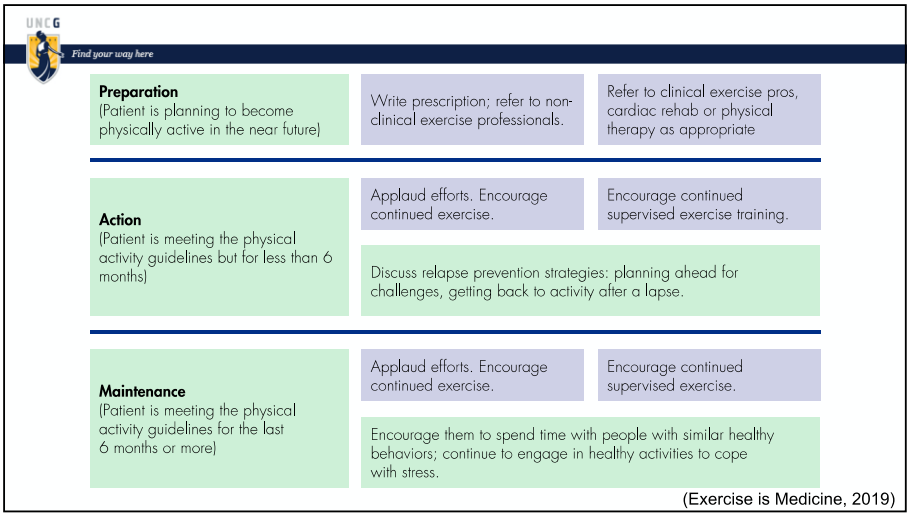
Contemplation
(Patient knows they should exercise and is thinking about becoming physically active)

Independent	*Supervision Necessary*
Write prescription. Provide info. Refer to exercise professional.	Refer to clinical exercise pro, cardiac rehab or physical therapy as appropriate.

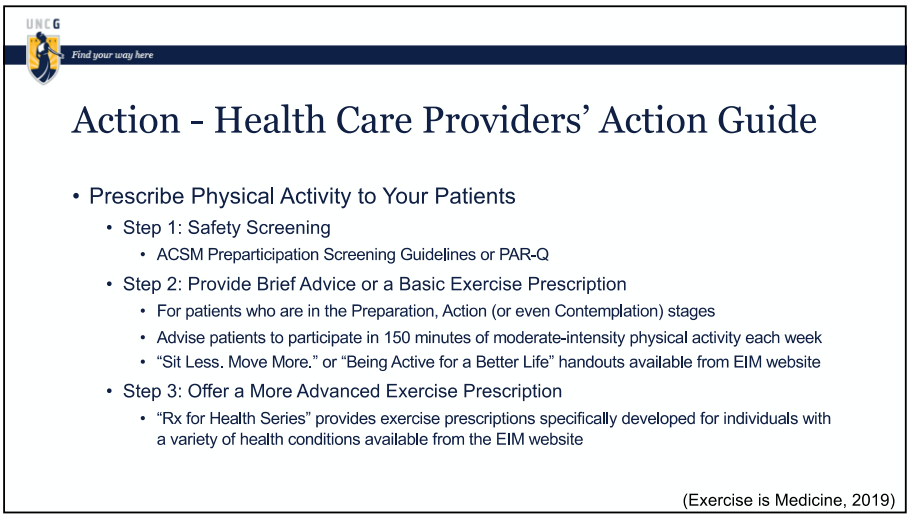
- Emphasize the pros and reducing the cons of being more physically active that are particularly relevant to the patient.
- The individual may be receptive to receiving basic guidance on becoming more physically active.

(Exercise is Medicine, 2019)

18


UNCG
Find your way here
Preparation
(Patient is planning to become physically active in the near future)
Write prescription; refer to non-clinical exercise professionals.
Refer to clinical exercise pros, cardiac rehab or physical therapy as appropriate
Action
(Patient is meeting the physical activity guidelines but for less than 6 months)
Applaud efforts. Encourage continued exercise.
Encourage continued supervised exercise training.
Discuss relapse prevention strategies: planning ahead for challenges, getting back to activity after a lapse.
Maintenance
(Patient is meeting the physical activity guidelines for the last 6 months or more)
Applaud efforts. Encourage continued exercise.
Encourage continued supervised exercise.
Encourage them to spend time with people with similar healthy behaviors; continue to engage in healthy activities to cope with stress.
(Exercise is Medicine, 2019)

19


UNCG
Find your way here
Action - Health Care Providers' Action Guide
• Prescribe Physical Activity to Your Patients
• Step 1: Safety Screening
• ACSM Preparticipation Screening Guidelines or PAR-Q
• Step 2: Provide Brief Advice or a Basic Exercise Prescription
• For patients who are in the Preparation, Action (or even Contemplation) stages
• Advise patients to participate in 150 minutes of moderate-intensity physical activity each week
• "Sit Less. Move More." or "Being Active for a Better Life" handouts available from EIM website
• Step 3: Offer a More Advanced Exercise Prescription
• "Rx for Health Series" provides exercise prescriptions specifically developed for individuals with a variety of health conditions available from the EIM website
(Exercise is Medicine, 2019)

20

UNCG Find your way here

Action - Health Care Providers' Action Guide

- Provide Your Patients with a Physical Activity Referral
  - Identify Community Programs
    - Community centers, parks, trails, activity clubs
    - Local programs from American Heart Association, Arthritis Foundation, the Diabetes Prevention Program or American Cancer Society
  - Find Qualified Exercise Professionals
    - Recognized NCCA-accredited fitness certifications are:
      - American College of Sports Medicine (ACSM)
      - American Council on Exercise (ACE)
      - The Cooper Clinic
      - National Strength and Conditioning Association (NSCA)
      - National Academy of Sports Medicine (NASM)

(Exercise is Medicine, 2019)

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UNCG Find your way here

Action - Health Care Providers' Action Guide

- Learning Lab
  - 2 per group (1 patient, 1 physical therapist)
  - Practice SBIRT Steps

  - SBIRT Steps:
    - Step 1 - Assess the patient's level of physical activity
    - Step 2 - Provide brief advice or counseling regarding the importance of regular physical activity based on patient's readiness to change,let's say we are all in the contemplation stage
    - Step 3 - Write a prescription for physical activity.

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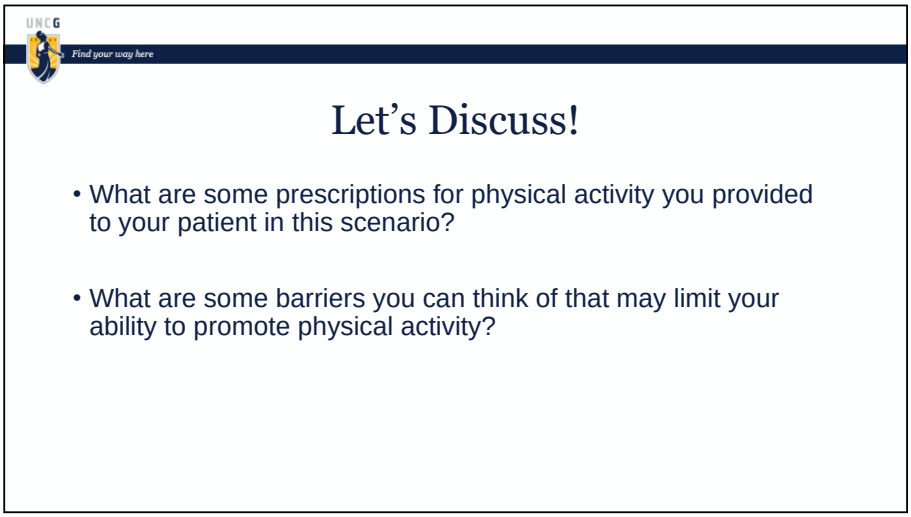
UNCG
Find your way here
Let's Discuss!
• What are some prescriptions for physical activity you provided to your patient in this scenario?
• What are some barriers you can think of that may limit your ability to promote physical activity?

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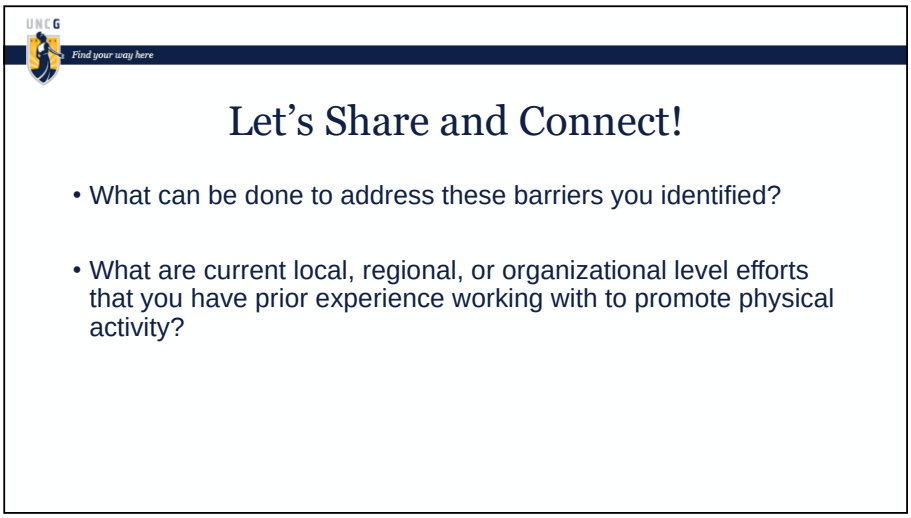
UNCG
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Let's Share and Connect!
• What can be done to address these barriers you identified?
• What are current local, regional, or organizational level efforts that you have prior experience working with to promote physical activity?

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Council on Prevention, Health Promotion, and Wellness in Physical Therapy

APTA Resources

- Prevention, Health Promotion, and Wellness Council Community on the Hub
- APTA Policies on Prevention, Health Promotion, and Wellness
- Annual Checkup by a Physical Therapist
- *Guide to Physical Therapist Practice* (Section on Prevention)
- State Practice Acts: Information on Health, Wellness, and Fitness
- Nutrition and Physical Therapy
- Vital Signs and Other Patient Screenings
- Health Behavior Change
- Well To Do Column Collection (*PT in Motion* magazine)

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Summary

- Physical therapists have a unique opportunity as movement experts to play a primary role in the treatment and prevention of chronic disease and disability by improving physical activity
- Facilitators affecting the promotion of physical activity in physical therapy practice include time, the ability to educate patients, and available resources
- Exercise is Medicine® provides approaches to address time, ability to educate patients, and resources to increase physical activity promotion to potentially mitigate chronic and debilitating diseases
- APTA's Council on Prevention, Health Promotion, and Wellness in Physical Therapy provides a direct resource to connect and share!

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Thank You

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"Knowledge is of no value unless you put it into practice"
– Anton Chekhov

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APPENDIX D

INFOGRAPHIC