COMMUNITY SETTING USE FOR PHYSICAL ACTIVITY

IN TEXAS RURAL ADULTS

A Dissertation

by

MICHAEL LOUIS LOPEZ

Submitted to the Graduate and Professional School of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PUBLIC HEALTH

Chair of Committee,	James N. Burdine
Co-Chair of Committee,	Mark D. Faries
Committee Members,	Jay E. Maddock
	Megan S. Patterson
Head of Department,	Adam E. Barry

December 2022

Major Subject: Public Health Sciences

ABSTRACT

Despite the existing evidence to support physical activity promotion, there has been minimal improvement in the overall trends of meeting the recommended guidelines on a population level. Physical activity adoption in rural communities remains low and disparities exist with respect to availability and accessibility of community settings that provide opportunities for physical activity engagement.

While it is necessary to have supportive environments to use for physical activity, the simple provision of these areas is not sufficient to change behavior. This underscores the need to understand the unique factors that limit community setting use for physical activity. Also, it is important to learn how to leverage existing unused or underutilized resources.

This exploratory study was guided by a conceptual model and ecological framework. Using qualitative methodology, the factors that contribute to the *use* and *re-use* of community settings for physical activity were investigated. Six focus groups (3-9 participants each) were conducted with rural adults in various regions across Texas. Using convenience sampling techniques, N = 33 participants were recruited. The data was transcribed, analyzed, and coded. Themes were then identified using a systematic approach.

This study had two main research questions:

1. What are the factors of community setting use for physical activity in Texas rural adults?
2. What are the factors of community setting re-use for physical activity in Texas rural adults?

Participants self-reported primarily as female, non-Hispanic, White, and older with higher education and income. Generally, these participants were physically active, but did not use community settings for their physical activity. Neighborhoods and outdoor areas were the most utilized settings, while church facilities and school grounds were the least utilized. The perceptions of the study participants were examined across three components of the conceptual model: *community*, *setting*, and *user*. In total, 24 themes emerged, which included *pleasant experiences*, *competition for use at the community setting*, *restrooms*, *nature and shade*, and *convenience*. Together, these identified themes, along with existing knowledge about physical activity, will inform the development of future research and educational efforts to promote the purposeful use and re-use of community settings for physical activity in rural adults.

DEDICATION

This dissertation is dedicated to Alice Kirk, a colleague, mentor, and friend. There are people you meet that completely change the trajectory of your journey through life. You are one of those people in mine. Without you, I would have never been introduced to AgriLife Extension and have the chance to impact the lives and health of Texans each and every day. You truly set the standard of excellence in the Extension profession that I strive for each day. My sincere gratitude to you for all that you have done for me, which I will never forget.

A simple thank you is not enough.

ACKNOWLEDGEMENTS

Thank you to my committee members – Co-Chairs: Drs. Burdine and Faries and Members: Drs. Maddock and Patterson. Dr. Burdine, thank you for sharing your unparalleled knowledge of public health and for your endless support throughout this experience. Dr. Faries, thank you for always taking the time to share your personal and professional wisdom. I feel like I've learned something new from every conversation we've had. You are an excellent mentor and I hope that one day I will be able to offer the same level of service to others. Dr. Maddock, thank you for motivating me to be the best researcher that I can be and for contributing your expertise in public health practice and evaluation. Dr. Patterson, thank you for your kind words, encouragement, and comprehensive feedback that I needed to complete this study.

Thank you to the County Extension Agents who kindly shared their networks to help organize the focus groups. It was an honor to visit with the community members you serve. Speaking of, I sincerely appreciate the focus group participants for sharing your perspectives to help shape this study. I hope that I did your words justice!

Thank you to numerous people within the Texas A&M University Aggie Network that I have had the pleasure to work with during my student experiences. Thank you to Paria Tajallipour for your assistance with the systematic review process. I would like to thank the faculty and staff within the School of Public Health and beyond that have created an amazing learning and supportive environment across three degrees and a total of 9.5 years as a student here. Thank you to the School of Public Health Administrative and Coordination team that helped me with all the logistics to successfully finish this program.

Thank you to Texas A&M AgriLife Extension, particularly Dr. Green, Assistant Director for Texas A&M AgriLife Extension Service's Family and Community Health unit. Dr. Green, the completion of this doctoral degree would not have been possible without your support and leadership throughout the years. Thank you for always encouraging me in my personal and professional pursuits. Drs. Kellstedt and McClendon, thank you so much for lending your collective qualitative expertise to this study. I appreciate your graciousness and willingness to share resources, insights, and feedback. Garrett Gonzalez, thank you for stepping up and helping organize and conduct the focus groups. This dissertation would not have been completed without your assistance. I would like to thank my former supervisors Drs. Rice and Warren for their leadership early in my AgriLife Extension career. Finally, a sincere thank you to the AgriLife Extension Executive Leadership for promoting educational advancement in our organization.

Thank you to the Landscape Architecture and Urban Planning Department within the School of Architecture, especially Drs. Newman and Van Zandt. The opportunity to teach not only financially supported the ability to achieve my doctorate degree but sparked a passion for teaching that I did not know I had.

Thank you to my friends from Texas, New York, and beyond that texted or called me "Dr." way before it was earned, genuinely asked how I was doing, and shared endless words of encouragement over the years.

To my mother, Judie, father, Louis, and sister, Kristen. Your support means the world to me, and I am so thankful to have such an amazing family. Thank you for all your sacrifices to help make this possible. To my future wife, Frances, thank you for your love and patience with the long nights and weekends required to make this dream a reality. Thank you for sharing your life with me and for always being my biggest supporter!

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by a dissertation committee that consisted of Regents Professor James Burdine [advisor] of the Department of Health Behavior, Professor Mark Faries [co-advisor] of the Family & Community Health Unit of the Texas A&M AgriLife Extension, Professor Jay Maddock of the Department of Environmental and Occupational Health, and Professor Megan Patterson of the Department of Health Behavior.

Texas A&M AgriLife Extension and the Family & Community Health unit provided support for this project through the integration of study activities into current programming efforts.

All other work conducted for this dissertation was completed by the student independently.

Funding Sources

Graduate study was supported in part by the Helen Cowan Huggins Scholarship and the Doctoral Education Assistance Program.

NOMENCLATURE

AgriLife Extension	Texas A&M AgriLife Extension
BRFSS	Behavioral Risk Factor Surveillance System
IPAQ – SF	International Physical Activity Questionnaire – Short Form
IRB	Institutional Review Board
PICOS	Problem, Intervention, Comparison, Outcomes, and Setting
PRISMA	Preferred Reporting Items for Systematic Reviews & Meta-Analysis
SOPARC	System for Observing Play and Recreation in Communities

TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION

Statement of the Problem

Chronic diseases have significant impact to an individual's quality and length of life (University of Wisconsin Population Health Institute, 2022). Nearly half of Americans suffer from at least one chronic condition, while others may have two or more clinical diagnoses (Raghupathi & Raghupathi, 2018). Seven of the ten leading causes of death in the United States are attributed to chronic diseases (Johnson, Hayes, Brown, Hoo, & Ethier, 2014). As a direct result, chronic diseases contribute to an estimated economic burden of $3.8 trillion dollars annually or 90% of all health care expenditures (National Center for Chronic Disease Prevention and Health Promotion, 2022).

Chronic diseases can be prevented through policies and programs that address various health factors (University of Wisconsin Population Health Institute, 2022), and health promotion efforts may reduce the risk of chronic disease by approximately 80% (Ford et al., 2009). One such health behavior that can help to address six of the leading causes of death is the maintenance of regular physical activity (Cleland et al., 2017).

Physical inactivity alone attributes to 10% of premature mortality and is estimated to have an economic yearly cost of $117 billion dollars (Piercy et al., 2018). Efforts to address physical inactivity have been widespread, often initiated by calls for action that serve as a catalyst for investment into promotion efforts (Tuso, 2015). Despite previous work and the existing evidence to support physical activity promotion, there has been minimal improvement in the overall trends of meeting the recommended guidelines on a population level (Cleland et al.,

2017). Currently, only 24% of adults meet the combined aerobic and muscle-strengthening guidelines (Whitfield et al., 2019).

These trends present an opportunity for public health and extension practitioners to intervene with targeted efforts that will help to address physical inactivity and impact health outcomes. There is strong empirical evidence to support the over 20 health benefits of physical activity (Piercy et al., 2018), and these effects can benefit population groups across socio-demographics (US Department of Health and Human Services, 2018).

It is important to note that certain populations have inequities related to health based on a variety of factors inherent to their community (Braveman et al., 2011; Braveman & Gruskin, 2003). One such area of inequity is defined as the rural gap in resources and opportunities (Camarero & Oliva, 2019). In fact, the National Institutes of Health designate rural populations, as a population that faces health disparities (Matthews et al., 2017). Therefore, it is necessary to understand the unique factors that limit physical activity in the 21% of the United States population that live in a rural community (Roemmich, Johnson, Oberg, Beeler, & Ufholz, 2018).

Rurality is often discussed as a barrier to physical activity (Cacari Stone, Sanchez, Bruna, Muhammad, & Zamora, 2022; Martin, Schoster, Shreffler, Meier, & Callahan, 2007). Rural communities experience unique barriers that limit the ability for community members to engage in health-related lifestyle behaviors, like physical activity (Hansen & Hartley, 2015). Examples include demographic shifts (Hansen & Hartley, 2015), safety concerns with the built environment (Hansen & Hartley, 2015), and the distance to physical activity resources (Hansen & Hartley, 2015; Tester & Baker, 2009). Social factors like stigma (Seguin, Connor, Nelson, LaCroix, & Eldridge, 2014) and isolation (Hansen & Hartley, 2015) limit positive physical activity decision making. Additional disparities exist with respect to availability and accessibility

of community resources that support physical activity engagement (Walsh, Meyer, Gamble, Patterson, & Moore, 2017). As a direct result, rural community members experience higher rates of disease, obesity, poverty, unemployment, and ultimately premature death (Hansen & Hartley, 2015; Lutfiyya, Lipsky, Wisdom-Behounek, & Inpanbutr-Martinkus, 2007; Matthews et al., 2017; Parks, Housemann, & Brownson, 2003; Tester & Baker, 2009).

Significance of the Study

Only 19% of adults in rural communities meet physical activity recommendations when compared to the overall United States (Whitfield et al., 2019). Further, certain subgroups have lower rates, which include those living in the Southeast and Hispanic populations (Whitfield et al., 2019). Also, given the limited resources that rural communities face, it is important to determine ways to leverage existing or underused settings (Whitfield et al., 2019). Previous work has explored the individual (Trost, Owen, Bauman, Sallis, & Brown, 2002) and environmental (Duncan, Spence, & Mummery, 2005; Humpel, Owen, & Leslie, 2002; Wendel-Vos, Droomers, Kremers, Brug, & Van Lenthe, 2007) correlates or determinants related to physical activity behavior. Others have looked exclusively within rural populations (Seguin, Connor, Nelson, LaCroix, & Eldridge, 2014) suggesting strategies to impact physical activity (Meyer et al., 2016).

Despite substantial evidence to support physical activity promotion with rural adult populations, these efforts are limited in scope. Specifically, efforts could be expanded to include the exploration of factors that may impact the decision to use various locations for physical activity. The examination into the *use* of a community setting for physical activity is an often-overlooked behavior or outcome that is historically not investigated by researchers (Scott & Jackson, 1996). While presumed important to increase availability and accessibility of locations to promote physical activity, such efforts do not guarantee the use of those locations, especially

with intended audiences (Kaczynski & Henderson, 2008). If we build a park, will people come? If we open church facilities or school grounds, will people utilize? If we enhance a sidewalk, will people use it? The understanding of the use of these locations transcends the current knowledge of physical activity behavior and provides another opportunity to learn how to best encourage the purposeful use of community settings for physical activity. Most often, however, research has focused on the correlates or determinants related to physical activity, in general, and as a result, there has been limited exploration into the factors that influence an individual's decision to use a community setting for physical activity.

Purpose of the Study

The purpose of this study was to explore community setting use for physical activity in Texas rural adults, and provide an overview of key correlates, determinants, and factors to such use. To this end, the primary aims of this research were to: (1) better review the existing literature regarding the use of community settings for physical activity, and (2) further elucidate factors related to both *use* and *re-use* of community settings utilizing a focus group methodology in a sample of Texas rural adults. More specifically, the central research questions of the study were:

1. What are the factors of community setting use for physical activity in Texas rural adults?
2. What are the factors of community setting re-use for physical activity in Texas rural adults?

By answering these questions, this study intended to add to the existing knowledge base, of which has not been the focus of qualitative nor quantitative research and inform future research and educational efforts related to increasing community setting use for physical activity.

Key Terms

Some of the terms used throughout this manuscript have discipline-specific meanings and/or tend to be used ambiguously in the literature. For clarity, these terms will be operationalized and used as described herein:

Community: *Community* is a broad term that can be defined by geographic location, such as a pre-determined distance boundary. For example, a rural community has been defined, as a 10-mile radius or 20-minute drive from the participant's home (Reed, Ainsworth, Wilson, Mixon, & Cook, 2004). Community can also be defined based on the population size, rather than distance (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019), or based on individual perception of the community area (White et al., 2021). For this study, *community* was defined as the general geographic location or the description of a connection through interests or relationships, like exercise groups or work.

Setting: A *setting* is a location where people can meet and gather, and has been described as a "micro-environment" (Wendel-Vos, Droomers, Kremers, Brug, & Van Lenthe, 2007). For this study, a *setting* was defined as any environment where physical activity might occur and supports the engagement in physical activity (Meyer et al., 2016). However, since numerous settings comprise the rural environment, the present study followed previous recommendations to break down rural environments into seven distinct resource areas (i.e., settings) – church facilities, town center connectivity, indoor areas, around the home/neighborhood, town center physical activity resources, school grounds, and outdoor areas (Umstattd et al., 2012). Since this study did not focus on the home setting, only neighborhood was discussed. Otherwise, a *setting* in this study included all locations where people can be physically active.

Use: *Use* is often described as a single visit to a community setting, or when there is an extended time-period that occurs in between uses (i.e., no routine or consistent engagement is present). An example would be the use of a walking trail at some point, but not often (Park, Eyler, Tabak, Valko, & Brownson, 2017). For this study, *use* was defined the single visit to a community setting with no routine or consistency.

Re-Use: While the term re-use is not specifically used in the literature, it was selected for this study to differentiate from *use*. Various examples of re-use exist, including the regular use of trails (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019), or as a categorical response like often/very often (Park, Eyler, Tabak, Valko, & Brownson, 2017). For this study, *re-use* was defined as the action of using a community setting again or more than once (i.e., continued, and regular use of a community setting).

User: A *user* or constituent participates within the community setting and contributes to the social environment (Cohen et al., 2009). In the literature, *users* are typically self-identified by reporting regular use (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019). For this study, a *user* was defined as someone that went to, and engaged with, a community setting for the purpose of physical activity.

Physical Activity: Current recommendations for adults are found in the Physical Activity Guidelines for Americans 2nd Edition, published in 2018 (US Department of Health and Human Services, 2018). Key guidelines remained unchanged from a previous iteration, with evidence that adults should participate in at least 150 minutes of moderate intensity, or 75 minutes of vigorous intensity aerobic physical activity each week to maximize substantial health benefits (US Department of Health and Human Services, 2018). Meeting suggested recommendations are important, however there are pronounced benefits to move from inactive to insufficiently active.

Essentially, the reduction of sedentary time can yield both acute and long-term effects (US Department of Health and Human Services, 2018).

This study focused on leisure-time physical activity, which is most affected and perhaps amenable to efforts to promote community setting use (Brownson, Hoehner, Day, Forsyth, & Sallis, 2009). Leisure-time physical activity alone contributes to $24 billion dollars of physical inactivity costs (Heath et al., 2006). Activities within leisure-time physical activity include walking, running, sports, fitness, and other recreational activities. These activities are typically influenced by community settings, both private and public (Bedimo-Rung, Mowen, & Cohen, 2005; Brownson, Hoehner, Day, Forsyth, & Sallis, 2009). In rural communities, physical activity within other active living domains may be less likely to occur, such as utilitarian walking or active transportation (Wiggs, Brownson, & Baker, 2008). For this study, *physical activity* focused on the purposeful effort to engage in leisure-time physical activity within a community setting.

Rural: Various definitions of rural are found throughout the literature, with no clear nor consistent description (Meyer et al., 2016). For the purpose of this study, *rural* was defined as having a Rural-Urban Continuum Code of 4 or higher (Parker, 2013).

Adults: The Physical Activity Guidelines for Americans define an adult as being aged 18 – 64 years (US Department of Health and Human Services, 2018). Older adults are defined as any adult aged 65 or older (US Department of Health and Human Services, 2018). The recommendations are similar for both age groups, with key differences in the language for older adults, such as, “as are able” or “who are able” with some of the activity intensities described (US Department of Health and Human Services, 2018). For this study, *adult* included age groups (≥ 18 years of age), while remaining considerate that certain studies targeted different age groups

within these ranges, and are defined, respectively. Also, there can be special considerations to physical activity promotion for some adult populations, which unless specified, was not the intended focus of this study (i.e., those diagnosed with select chronic health conditions, healthy women who are pregnant or postpartum) (US Department of Health and Human Services, 2018).

Awareness: *Awareness* was defined as the user's knowledge and identification of a setting in the community to be physically active.

Availability: *Availability* describes the presence of community settings for use and does not consider the user's perception of the location (Lo et al., 2017) or other potential individual barriers, like distance (Lo et al., 2017), prioritization of other activities (Kegler et al., 2012), or cost (Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008).

Access/Accessibility: *Accessibility* was defined as the ability for a potential user to overcome barriers (distance, cost, etc.) to access a community setting (Shores, West, Theriault, & Davison, 2009). It also helps to understand the ease of the user to use the resource (Carter-Edwards et al., 2015). *Access* is often used as the terminology for a recommended strategy or measurable goal for interventions, such as a performance measure to create or enhance access to places for physical activity (Kahn et al., 2002).

CHAPTER II

REVIEW OF THE LITERATURE

Overview of Theoretical Framework

A traditional model to encourage physical activity would be to focus on individuals or targeted groups, and create knowledge and awareness about current recommendations to positively influence behavior. In turn, interventions, such as a physical activity program, often promote awareness of and encouragement for individual effort to meet such recommendations, in expectation that behavior would change enough for participants to experience the subsequent health benefits. While individual efforts can be important to initiate physical activity behavior, often the interventions do not target the policies, systems, or environments that would further support the intended behaviors to take place (Bauman et al., 2012). In response, ecological models have been developed to explain and guide behavioral interventions, each with their own unique categories or hierarches that influence behavior and reinforce the message that the simple provision of resources does not assure the use of them (Sallis, Owen, & Fisher, 2015).

One example of an ecological model that is designed to understand behavior is the Ecological Model of Health Behavior (McLeroy, Bibeau, Steckler, & Glanz, 1988). The model proposed that behavior is determined by various levels of influence, including intrapersonal, interpersonal, primary groups, institutional, community, environmental, and public policy. This ecological model has been applied to *active living*, a broader definition that expands exercise and physical activity to include four domains: recreation, transport, occupation, and household (Sallis et al., 2006). In this model, behavior settings include any location where physical activity might occur. Various other environments (Information, Social-Cultural, and Natural) impact behavior

and perceptions within each domain further influence the individual. This model was chosen as a theoretical framework for this study because it helps to describe the user's interactions with various active living settings and the broader community, particularly the physical characteristics and social-cultural environments that may encourage or discourage their use. Interventions are most effective when they incorporate efforts across these various levels. So, this model also provides a useful framework for the future development of educational programs to positively influence use and re-use of community settings for physical activity.

The Centers for Disease Control and Prevention have supported various socio-ecological strategies for local communities to implement (Meyer et al., 2016). Twelve of these strategies specifically focus on physical activity, with eight focused on the creation of safe communities (Meyer et al., 2016). However, while it is necessary to have supportive community settings to engage in positive physical activity behavior, the simple provision of these areas is not enough to increase physical activity levels in populations (Humpel, Owen, & Leslie, 2002). For example, even with significant investments into upgrades to amenities, these enhancements were unsuccessful at increasing park use and were unable to improve physical activity outcomes (Cohen et al., 2009). This presents an opportunity to intervene with efforts that could demonstrate how to successfully use these community settings for purposeful physical activity. In addition, coordinated outreach and education could be an effective strategy to increase awareness, accessibility, and subsequent use of community settings.

Systematic Review of the Literature

A systematic process was used to conduct the literature search for this study. The first step included a search within four databases (Medline, CINAHL, PsycInfo, and Cochrane) using Boolean operators. Titles, abstracts, and keywords were also searched within the databases. The

search used the following subject headings (MeSH) terms: Rural Population; Exercise; Leisure Activities; Community Resources; Neighborhood Characteristics; Built Environment; Facilities and Services Utilization; and Adult. In total, the search resulted in 1,626 articles related to community setting use for physical activity in rural adults.

Retrieved articles were imported and organized within *Covidence*, a systematic review software (Covidence, 2022). After duplicates were removed, the remaining articles were screened following direction from the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Moher, Liberati, Tetzlaff, Altman, & PRISMA Group, 2009). PRISMA's Problem, Intervention, Comparison, Outcomes, and Setting (PICOS) guided the inclusion and exclusion criteria.

Inclusion Criteria

Studies met the inclusion criteria if they were a primary research article; English speaking or written in the English language; based in the United States; set in a rural area and targeted an adult audience; examined factors that related to the use of community settings, directly assessed use of community settings for physical activity, or compared use versus non-use.

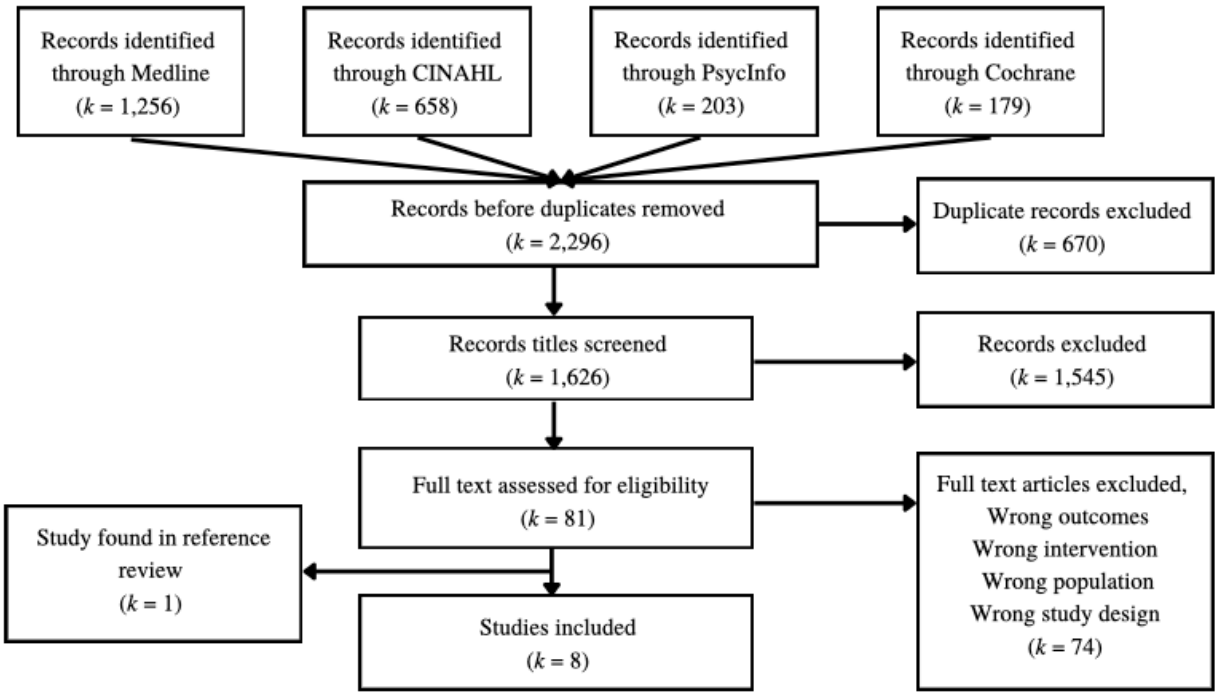
Exclusion Criteria

Studies were excluded if they did not have an outcome related to use or described factors related to use, were not written in English, included a study design that conducted an intervention, or focused on the wrong population. Finally, systematic reviews, meta-analysis, and dissertations were excluded, but were reviewed for primary research articles.

Procedures

Based on this inclusion / exclusion criteria, titles and abstracts were first reviewed and subsequentially assessed for eligibility using full text. See Figure 1 for the entire flow diagram of the PRISMA process. Seven (7) articles remained after the screening process with one additional article found in a reference list. In total, eight (8) articles were extracted for further analysis. A review matrix was created within Microsoft Excel 2016 version (Microsoft Corporation, 2016). The following information was included into the matrix: study title, reference (authors and publication year), location of study, and study design.

Figure 1: PRISMA flow diagram



Results

Of the 1,626 articles screened, $k = 8$ publications made the final sample for review (Figure 1). There was wide-ranging representation from rural locations across the United States with the most coming from Missouri ($k = 4$) and South Carolina, Tennessee, Arkansas, Iowa, North Carolina, and West Virginia each included once. Quantitative and qualitative study designs assessed individuals using surveys ($k = 7$) and interviews ($k = 1$), with one study that included a systematic assessment (observation) approach. For an overview of each study, please see Table 1.

Table 1: Overview of studies

Study title	Reference	Location of Study	Study design	Study Participants (Users)	Settings	Rural Community Definition
A Qualitative Study Identifying Barriers and Facilitators of Physical Activity in Rural Communities	Gilbert et al., 2019	Missouri, USA	Key Informant Interviews	*n* = 62 Adults 18+ Able to be physically active Residence	Outdoor areas	US classification system - population at community level
Awareness and use of community walking trails	Reed et al., 2004	South Carolina, USA	Telephone Survey	*n* = 1,112 Adults 18+	Outdoor areas	Not defined
Environmental Correlates of Physical Activity Among Individuals With Diabetes in the Rural Midwest	Deshpande et al., 2005	Missouri, Tennessee, and Arkansas, USA	Telephone Survey	*n* = 278 Answered "yes" to the question, "Have you ever been told by a physician that you have diabetes?" 2-mile radius around walking trail in 12 communities	Indoor areas Neighborhood School grounds Outdoor areas	US classification system - population at community level
Opportunities for Promoting Physical Activity in Rural Communities by Understanding the Interests and Values of Community Members	Park et al., 2017	Missouri, USA	Telephone Survey	*n* = 524 Adults 18+	Outdoor areas	2013 Rural-Urban Continuum Codes

Table 1: Overview of studies, cont.

Study title	Reference	Location of Study	Study design	Study Participants (Users)	Settings	Rural Community Definition
Perceived Resources and Environmental Correlates of Domain-Specific Physical Activity in Rural Midwestern Adults	Chrisman et al., 2015	Iowa, USA	Mailed Survey	*n* = 143 Adults 18+ Residence 1+	Indoor areas Neighborhood Outdoor areas	Not defined
Promoting Physical Activity in Rural Communities Walking Trail Access, Use, and Effects	Brownson et al., 2000	Missouri, USA	Telephone Survey	*n* = 1,269 Adults 18+	Indoor areas Outdoor areas	Not defined
Shared use agreements and leisure time physical activity in North Carolina public schools	Carlton et al., 2017	North Carolina, USA	Key Informant Survey Systematic Assessment (observations)	*n* = 20 Public middle and high schools	School grounds	National Center for Education Statistics classification system (Schools)
Use of a Community Trail Among New and Habitual Exercisers: A Preliminary Assessment	Gordon et al., 2004	West Virginia, USA	In-Person Survey	*n* = 414 Adults 18+ Trail users	Outdoor areas	Not defined

The following is an in-depth review of each selected study and the reported outcomes related to the use of community settings for physical activity in rural adults.

Study 1

A Qualitative Study Identifying Barriers and Facilitators of Physical Activity in Rural Communities – Gilbert, Duncan, Beck, Eyler, & Brownson, 2019

Overview: this study used key informant interviews across three groups: stakeholders, walking trail users, and walking trail non-users. Interview questions were tailored for each group. Questions for walking trail users focused on reasons for use, while the non-trail users were asked about barriers.

Use: the setting for the study was walking trails and users were identified based on a self-report of use. Non-users of the trails lived within 2km of a trail but reported not using it. Barriers and facilitators were reported and compared between users and non-users. Similar barriers were identified, with environmental barriers being the largest obstacle. There were differences with facilitators for physical activity through motivation and social support. Trail users were more likely to participate with others and were motivated by mental and social well-being. Non-users were more likely to be physically active alone and motivated by physical health.

Study 2

Awareness and use of community walking trails – Reed, Ainsworth, Wilson, Mixon, & Cook, 2004

Overview: this study used telephone surveys to compare the differences in trail use patterns between users and non-users.

Use: the setting for the study was walking trails and users were identified on a 3-point scale that the participant self-reported use, did not use, or did not have the environmental support

for physical activity. There were low responses to availability, as only 56% of respondents reported having trails in their community. Of those who reported having trails, subsequent use of those trails was 33%. People who used the trails were younger, had a higher educational attainment, and typically more active. No other significant differences were found across other demographics, income, race, or gender.

Study 3

Environmental Correlates of Physical Activity Among Individuals With Diabetes in the Rural Midwest – Deshpande, Baker, Lovegreen, & Brownson, 2005

Overview: this study used a telephone survey with those that had a clinical diabetes diagnosis to explore the association of use with physical activity.

Use: the target community setting for this study included multiple physical activity resources. A scaled question that was developed for the study to assess community facility use in the last 30 days was dichotomized into two categories, use vs. no use. Based on the responses, the number of facilities used was determined. Parks were the most used community setting (38.2%), followed by trails (31.6%), and recreation centers (25%). The number of facilities used were categorized by 0 (33.8%), 1 or 2 (47.1%), and 3 – 6 (19.1%). Use was significantly associated with physical activity and more active participants were 14.3 times more likely to use multiple facilities (3+) compared to those without physical activity.

Study 4

Opportunities for Promoting Physical Activity in Rural Communities by Understanding the Interests and Values of Community Members – Park, Eyler, Tabak, Valko, & Brownson, 2017

Overview: the study used a telephone survey to identify strategies for improving physical activity, particularly among those that walked, but did not meet physical activity recommendations.

Use: The community setting of focus was walking trails that were developed as part of a previous project within the target communities. Participants were asked about availability, access, and use. Use was associated with physical activity across three categories used to measure use variation, which included very often / often, sometimes, or rarely. Sixty-five percent (65%) of survey respondents were aware of the trail, but 32% have never used it. Of those that were aware, nearly 40% discovered the trail fortuitously. Related to physical activity outcomes, users of the trail were nearly 3 times more likely to meet physical activity recommendations. Users that reported use of very often / often were more likely to be above 55, female, and Caucasian, representative of the overall sample.

Study 5

Perceived Resources and Environmental Correlates of Domain-Specific Physical Activity in Rural Midwestern Adults – Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015

Overview: this study used a mailed survey to determine the associations between physical activity and correlates from ecological domains of active living.

Use: the target community setting for this study explored various physical activity resources. The measurement for use was not explicitly defined, however, was found in the reference section and citation search (Brownson et al., 2004). Use was reported based on a variety of community settings as yes, no, or not available. A large majority of respondents reported having access to indoor and outdoor places to be active (84%). Participants were also aware of physical activity resources and were able to identify an average of 19 places and used

almost 3. Greater awareness was associated with greater use. Also, vigorous physical activity, moderate physical activity, and walking were all positively associated with use.

Study 6

Promoting Physical Activity in Rural Communities Walking Trail Access, Use, and Effects – Brownson et al., 2000

Overview: this study used a telephone survey to explore association of access with use and differences in use patterns for users.

Use: the target community setting for this study was walking trails and how the author's defined use was not clearly stated in the article. Participants reported access to community settings for physical activity, which included walking trails (36.5%) and indoor facilities (50.3%). Of those who had access to the walking trails, nearly 40% reported use and almost 87% felt safe. Groups more likely to have access included women, higher education and income, walked regularly, were from mid-sized communities, and used trails that were asphalt. Aesthetics was the feature most liked about the trail and it was typically located by happenstance (35.3%).

Study 7

Shared use agreements and leisure time physical activity in North Carolina public schools – Carlton et al., 2017

Overview: this study used a mixed methods approach that included a survey and a systematic observational assessment. The purpose was to determine use and the association with physical activity and the differences in use and physical activity patterns.

Use: the target community setting for this study was school grounds and the authors took a time sampling of users through The System for Observing Play and Recreation in Communities (SOPARC). Informed by the survey assessment, nearly 90% of schools opened their facilities to

the public. However, the study found that the facilities were not used 87.7% of the time. Time periods for the SOPARC assessments included after the school day, on weekends, and during the summer. Males were more likely to use the facilities and the age breakdown was nearly even between children and adults. About 45% of the users were sedentary at the schools, with most participants at the baseball or softball fields.

Study 8

Use of a Community Trail Among New and Habitual Exercisers: A Preliminary Assessment – Gordon, Zizzi, & Pauline, 2004

Overview: the final study in this review used an in-person survey approach with trail users. An intercept survey was conducted to explore use associated with physical activity and factors related to use. Trail users were categorized as new exercisers or habitually active exercisers. There were questions related to use discussed, but not reported.

Use: the setting within the community for this study were rail trails and it is particularly novel because it focuses on the barriers and facilitators that new exercisers experience, which was compared with the self-reported more active group. Users were classified into these groups as either new exercisers (22.5%) or habitually active exercisers (77.5%). New exercisers were over twice as likely to report trail use as their only form of physical activity and 98% of those reported their exercise had increased from using the trail. Encouragingly, approximately 25% of users self-reported becoming more active, which supports the development of rail trails as a community setting to promote physical activity adoption and maintenance. This study presented the same barrier and facilitator categories to participants, and they were asked to rank them by order.

Discussion

A total of eight (8) studies were reviewed in this chapter that were related to use, with k = 5 focused on trails (walking trails; rail trails) for the setting, k = 2 exploring general physical activity resources, and k = 1 study on school grounds. Across these studies, different definitions of use were described, comparisons were conducted between users versus non-users, and a variety of specified use outcomes were investigated (see Table 2).

Across all studies, various community settings were described as physical activity opportunities. One study reported that participants, on average, had 19 physical activity resources that they were aware of (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). These resources included settings, such as schools, churches, community centers, senior centers, etc. (Ely, Befort, Banitt, Gibson, & Sullivan, 2009). In two studies on trails, reported awareness ranged from 56% to 65% (Park, Eyler, Tabak, Valko, & Brownson, 2017; Reed, Ainsworth, Wilson, Mixon, & Cook, 2004). Awareness and availability of these community settings have been found to improve physical activity outcomes in other studies (Ely, Befort, Banitt, Gibson, & Sullivan, 2009; Gustafson et al., 2018; Lo et al., 2017; Shores, West, Theriault, & Davison, 2009). Another study concluded that those who met physical activity recommendations were able to describe more places to be active but did not give specifics on use (Kegler et al., 2013).

Related to accessibility, one study found that approximately 85% of participants had access to places to be active (Chrisman, Nothwehr, Yang, & Oleson, 2014), with the same author in a subsequent study included in this review reported that 84% of study participants had access to community settings for physical activity (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). Another study included in this review reported lower access to walking trails (36.5%) and indoor facilities (50.3%) (Brownson et al., 2000).

Table 2: Studies that targeted use of a community setting

Study title	Reference	Use Setting	Use Definition	Users vs. Non-Users	Use Outcomes
A Qualitative Study Identifying Barriers and Facilitators of Physical Activity in Rural Communities	Gilbert et al., 2019	Walking Trails	Regular use of available trails	✓	Barriers and facilitators to physical activity
Awareness and use of community walking trails	Reed et al., 2004	Walking Trails	3-point scale: use, did not use, or did not have the environmental support for physical activity	✓	Differences in trail use patterns
Environmental Correlates of Physical Activity Among Individuals With Diabetes in the Rural Midwest	Deshpande et al., 2005	Physical Activity Resources	Scale dichotomized into use vs. no use		Use associated with physical activity
Opportunities for Promoting Physical Activity in Rural Communities by Understanding the Interests and Values of Community Members	Park et al., 2017	Walking Trails	3 categories of use: very often / often, sometimes, or rarely		Use associated with physical activity

Table 2: Studies that targeted use of a community setting, cont.

Study title	Reference	Use Setting	Use Definition	Users vs. Non-Users	Use Outcomes
Perceived Resources and Environmental Correlates of Domain-Specific Physical Activity in Rural Midwestern Adults	Chrisman et al., 2015	Physical Activity Resources	Reported use of various community settings: yes, no, not available		Awareness associated with use Use associated with physical activity
Promoting Physical Activity in Rural Communities Walking Trail Access, Use, and Effects	Brownson et al., 2000	Walking Trails	Not defined		Access associated with use Differences in trail use patterns
Shared use agreements and leisure time physical activity in North Carolina public schools	Carlton et al., 2017	Schools	Time sampling of users		Use associated with physical activity Differences in use and physical activity patterns
Use of a Community Trail Among New and Habitual Exercisers: A Preliminary Assessment	Gordon et al., 2004	Rail Trail	Intercept survey with trail users. Various questions related to use (not reported)		Use associated with physical activity Barriers and facilitators to trail use *Both use outcomes within two user categories

While reported availability and accessibility may be in the majority for participants in these examples, the use of various resources was not. For example, despite the 19 available resources, participants self-reported only using approximately three of them (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). Reported use in other studies included 33% (Reed, Ainsworth, Wilson, Mixon, & Cook, 2004), 33.8% (Deshpande, Baker, Lovegreen, & Brownson, 2005), and 38.8% (Brownson et al., 2000). A common barrier described that limits the use of community settings was *safety*, however, multiple studies have found that most users reported feeling safe (Brownson et al., 2000; Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). *Distance* may also be a concern, but one study found that rural populations seem to be content with this necessary travel requirement to use community settings (Chrisman, Nothwehr, Yang, & Oleson, 2015), with 43% of respondents in another study reported having to travel 15 miles or more to a trail (Brownson et al., 2000).

When examining use, one study found there was a moderate, but significant correlation between increased awareness of community settings and the subsequent use (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). Other studies found that the use of community settings increased physical activity. For example, a larger percentage of people who used one or two facilities were more physically active (47%), compared to those who did not (24%) (Deshpande, Baker, Lovegreen, & Brownson, 2005). The same study found that increased facility use was significantly associated with physical activity outcomes, with the strongest associations in recreation centers and health clubs (Deshpande, Baker, Lovegreen, & Brownson, 2005). In a separate study focused on trails, individuals who used trails were significantly more likely to be physically active (OR 2.7) (Park, Eyler, Tabak, Valko, & Brownson, 2017). This finding was reinforced in another study with trails, which reported that trail users were significantly more

active compared to the county population (Reed, Ainsworth, Wilson, Mixon, & Cook, 2004). Despite this evidence, community settings often remain unused (Carlton et al., 2017). These findings underscore the need to target potential users with intervention components that can influence the decision-making process and promote the use of these settings for physical activity behavior (Wende, Kaczynski, Bernhart, Dunn, & Wilcox, 2020). Suggestions from this review include personalized education based on the intended audience (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019) and strategic partnerships with community groups to expand outreach efforts (Carlton et al., 2017). However, this review also highlighted the lack of studies that have examined specific correlates, determinants, and factors related to the use of a community setting for physical activity.

Supplemental Literature Review

During the systematic review process, there were a multitude of relevant articles identified during the full text review for eligibility that did not meet the full inclusion criteria for the systematic review, but contained relevant information related to physical activity in rural adult audiences. It should be mentioned that these supplemental primary studies do not necessarily apply to all populations due to most being cross-sectional and correlational. However, these articles were reviewed, in combination with those identified in the systematic review, to provide additional foundation and to inform the development of the qualitative study conducted as part of this dissertation.

Types of Physical Activity

In addition to the low adherence to physical activity recommendations, there is a discrepancy to the knowledge of current recommendations (Atkinson, Billing, Desmond, Gold, & Tournas-Hardt, 2007). One strategy to promote physical activity is through walking, which

can occur in a variety of settings and is inexpensive (Doescher et al., 2014). Walking is commonly self-reported as one of the most common types of physical activity (Kegler et al., 2013), particularly in men (Kaiser, Brown, & Baumann, 2010). Other forms of physical activity often described include gardening (Kegler et al., 2013) and yard work (Kegler et al., 2015). Work was also mentioned (Kegler et al., 2013) and housework, especially from women (Kaiser, Brown, & Baumann, 2010).

Locations of Physical Activity

Participants have been able to identify locations that would support physical activity (Lo et al., 2017; White et al., 2021). Common locations included streets or sidewalks, malls, and recreational facilities (Li et al., 2017). Other studies described each of the community settings previously mentioned, which included neighborhoods (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015), churches (White et al., 2021), town centers (Seguin et al., 2015), indoor areas (Lo et al., 2017), outdoor areas (Kaiser & Baumann, 2010), and schools (Sanderson, Littleton, & Pulley, 2002).

Physical Activity Barriers

A myriad of factors exist that prevent or make it harder to be physically active. These barriers have been previously explored with rural adults across various ecological levels, and could be considered, at least conceptually, as correlates or determinants for the use of community settings for physical activity.

In one study, an average of seven barriers were reported with time, tiredness, no motivation, and energy being the most common individual barriers (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). *Time* can be conceptualized as not having time due to work obligations (Eyler & Vest, 2002), the amount of time available within the day (DeGuzman, Chu, & Keim-

Malpass, 2019), the travel time required to access places to be physically active (Baturka, Hornsby, & Schorling, 2000), or the time to be active (Kruger et al., 2012). Another study in rural women reported similar barriers, with tiredness and time being the most common (Jahns, McDonald, Wadsworth, Morin, & Liu, 2014). Other priorities, especially family and the guilt for taking time to be physically active, reinforced these intrapersonal barriers (Eyler & Vest, 2002).

Other interpersonal barriers include the lack of social support by not having someone to exercise with (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015), or being around others who do not prioritize physical activity (Sanderson, Littleton, & Pulley, 2002). Negative social experiences while engaging in physical activity could also prevent someone from being active in the future, which include verbal insults (Sanderson, Littleton, & Pulley, 2002) and fear of personal safety (Pedersen et al., 2021)

Environment-related barriers included weather and road surfaces (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). Physical safety of the setting and community was discussed, often with regards to maintenance (Lo et al., 2017; Sanderson, Littleton, & Pulley, 2002; White, Perrin, Caren, & Perrin, 2020). In addition, various wildlife was discussed as barriers, which included dogs (Jahns, McDonald, Wadsworth, Morin, & Liu, 2014; Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008; Pedersen et al., 2021; Sanderson, Littleton, & Pulley, 2002), snakes, and insects (DeGuzman, Chu, & Keim-Malpass, 2019).

Physical Activity Enablers

Despite the various reasons that exist for the lack of physical activity engagement, especially during the initiation phase of the behavior, people can and do overcome these barriers. Often, enablers or facilitators help make physical activity easier, and like barriers, could also be

conceptualized as correlates or determinants to the use of community settings for physical activity.

On the individual level, a common enabler of physical activity is for personal health reasons (Kruger et al., 2012), not only the physical aspects of health, but to promote mental health and social well-being (Pedersen et al., 2021). The prioritization and scheduling of physical activity may alleviate the concerns with time (Morgan, Graham, Folta, & Seguin, 2016). Additional social support from friends and family can help motivate the individual (Dharod, Drewette-Card, & Crawford, 2011; Eyler & Vest, 2002; Sanderson, Littleton, & Pulley, 2002).

On the environmental side, one consistent enabler is the natural beauty of the outdoors (DeGuzman, Chu, & Keim-Malpass, 2019; Lo et al., 2017) and most described safe (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015) and aesthetically pleasing settings (Kegler et al., 2015) in their rural communities. Other community setting enablers included space (Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008), minimal traffic (Sanderson, Littleton, & Pulley, 2002), and a variety of activities or equipment for all ages (Yankeelov, Faul, D'Ambrosio, Collins, & Gordon, 2015).

Awareness

One study found that parks were not used unless there was knowledge of its existence (Mowen, Orsega-Smith, Payne, Ainsworth, & Godbey, 2007). Therefore, awareness of a community setting may be the first step on the pathway to promote increased use. Those who can identify community settings for physical activity were more likely to meet physical activity recommendations (Kegler et al., 2013). However, as reported in one study found in this systematic review, participants were able to identify 19 community settings, but only reported using 2.9 of those resources (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015). So, even

though greater awareness was found to be correlated with use (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015), this emphasizes the need to provide awareness of a variety of different community settings.

Availability

Studies have found that participants believe there are physical activity options available in their rural communities (Martin, Schoster, Shreffler, Meier, & Callahan, 2007), more so when compared to nutrition related resources (Ely, Befort, Banitt, Gibson, & Sullivan, 2009). Quantitative results have indicated between 67% (Martin, Schoster, Shreffler, Meier, & Callahan, 2007) and 71% (Thompson, Wolfe, Wilson, Pardilla, & Perez, 2003) of study participants believe they have available community settings for physical activity. However, there were some limitations found, which included unfavorable conditions (Morgan, Graham, Folta, & Seguin, 2016) and the setting not being perceived as a supportive environment for adults to participate in physical activity (Lo et al., 2017). There were also disparities discussed related to availability, like in Latino (Kaiser & Baumann, 2010) and African American (Kegler et al., 2012) populations.

Accessibility

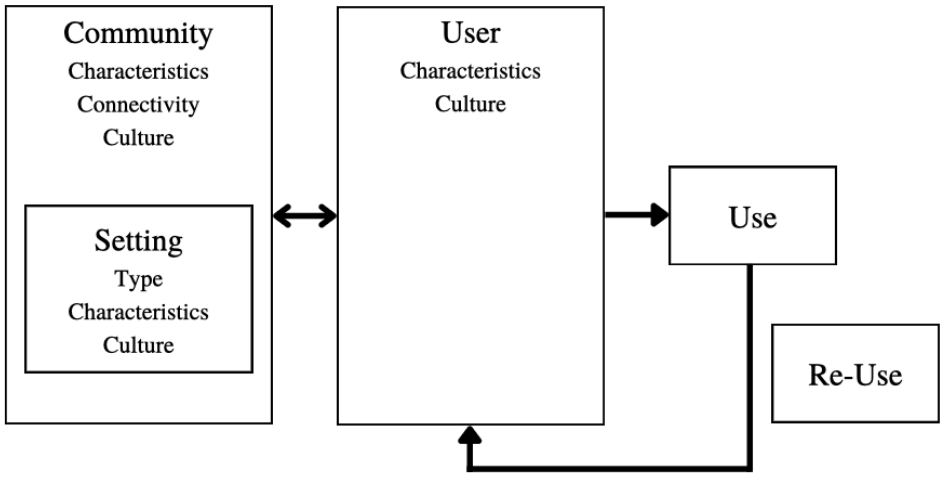
Accessibility is the ability to reach a community setting (Wang, Brown, Liu, & Mateo-Babiano, 2015). Rural residents tend to have less objective access when comparing the number of outlets, however distance does not seem to impact physical activity levels (Hill, Waters, Kolivras, Estabrooks, & Zoellner, 2016). Some studies have reported high levels of access above 80% (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015; Roberts et al., 2016). However, there are certain disparities related to access, including unequal access (Stasi, Spengler, Maddock, McKyer, & Clark, 2019), cost (Martin, Schoster, Shreffler, Meier, & Callahan, 2007), and

activities not intended for adults (Kegler et al., 2012). So, while these community settings may be accessible for some (Zimmermann, Carnahan, & Peacock, 2016), they may not be for others.

Proposed Conceptual Model

Informed by the social ecological model framework, and the systematic and literature review process, a conceptual model was developed to: (1) visually represent and describe the theorized process for how a user determines to use and re-use a community setting for physical activity, and (2) as a guide for the qualitative study to follow (see Figure 2).

Figure 2: Conceptual model



The conceptual model (Figure 2) contains three major components: community, setting, and user, with each component has various concepts that are embedded within.

Community

The model begins with the community, and is comprised of factors that include characteristics, connectivity, and culture. Community *characteristics* includes the overall terrain

and aesthetics, not tied to a specific setting, and weather, of which was found to be a barrier in multiple studies on use (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015; Gilbert, Duncan, Beck, Eyler, & Brownson, 2019). Community *connectivity* includes accessibility of certain locations for physical activity, and has been found to be both a barrier (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019) and facilitator (Brownson et al., 2000; Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015) for use of a community setting for physical activity. Community *culture* includes social support, physical activity planning efforts, and social safety, which was found to be a facilitator in the use of a walking trail (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015).

Setting

Within the community are various *settings* for where physical activity might occur. Despite the rural disparities that inherently reduce the number of locations for physical activity (Hansen & Hartley, 2015), there were numerous examples of settings recognized to support these efforts. Examples include churches, schools, community centers, senior centers, public spaces, and similar. Each of these settings also have their own unique characteristics and culture contained within them. Setting *characteristics* include the cost, distance, and amenities that the setting offers. The setting *culture* includes the activities, programs, or events that might be available or the physical or social safety of that setting, which may be a barrier or facilitator to being active.

User

Users interact with a setting that is located within the community. The double horizontal arrow represents that the setting influences the user and the user in turn influences the setting within the community. Users can engage with each of the settings listed previously, each with their own characteristics and culture. Users also have their own unique factors, which include

characteristics and culture. User *characteristics* include the demographic and socioeconomic factors of the individual. Often, these characteristics will not be amenable to individual intervention components. User *culture* is the perceived social support, norms, or stigma related to the use of the community setting for physical activity. A *positive* user culture example is the perception of social support that the user interprets based on others presence at the community setting, especially coming from people that are known to the user. A *negative* user culture example is perceived stigma (i.e., judgement from others), or that physical activity in the setting might go against existing social norms. Together, User *characteristics* and *culture* are theorized to influence the user, and his or her decision to use a community setting for physical activity.

Use

Once the community setting is used, the experiences of that use are theorized to promote re-assessment of the user level characteristics and culture perceptions. For example, if a user experienced embarrassment in his first visit, he will re-evaluate the decision to return. Likewise, if a user experienced a pleasant experience in her first visit, she will be more inclined to return to the community setting. The decision-making process will begin once again, as the user evaluates his or her experiences from the first use to decide whether to use the community setting again, and perhaps move toward regular or continued use (i.e., re-use).

Re-Use

To help inform future study, it is hypothesized that re-use will alleviate the model paths, and it will become easier to initiate and use the community setting. However, this will evolve as triggers like job or life changes, could disrupt the flow of the model and reduce the chance of successful completion of the targeted behavior. It is important to note that these triggers could

also positively impact the model, with the example of increased social support by a spouse/partner that could encourage the re-use of a community setting.

Evaluating the Model

To develop a successful effort that promotes the use and re-use of community settings, attention should first be given to understand potential factors within the model. These systematic and supplemental literature reviews identified potential factors; however, important questions remain on the direct assessment or measurement of the various correlates, determinants, and factors that influence the use of a community setting for physical activity. Therefore, to help enhance this model so that the phenomena of use can be further explained, a qualitative study using a focus group methodology was chosen to investigate what other factors might influence the use and re-use of community settings for physical activity in rural adults.

CHAPTER III

METHODOLOGY

Purpose

The purpose of this research was to elucidate factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults. This data collection and analysis provided an understanding of how these factors influenced the decision to use a community setting and which factors induced the re-use of community settings for physical activity.

Research Design

A qualitative descriptive research design and methodology was utilized to guide the study (Sandelowski, 2000). These procedures were selected because it offers the participants the opportunity to discuss the various factors that influence the decision to use and re-use a community setting, a topic which has been understudied and not previously described in the literature. It will provide a better understanding of barriers and facilitators to community setting use and inform the development of future intervention efforts. These efforts will be designed with the intent to address the disparities and limited resources that rural communities face with physical activity promotion.

Focus groups were chosen to discuss the factors of community setting use and re-use for physical activity. Six Extension Agents initially agreed to assist with the study, however, one had to cancel during the recruitment process. Local factors caused the cancellation of the scheduled focus group, and it was decided between the researcher and the Extension Agent to not reschedule a future focus group discussion. Therefore, this county is included in the study

materials in the Appendices but is not listed moving forward. To replace the cancelled focus group, another county was added to the study. Additional details can be found below. In total, six focus groups were held between August – September 2022 in rural counties located in the Central, East, Southeast, and South regions of Texas. See Figure 3.

Figure 3: Texas map

There was a total of 33 participants recruited (Range: 3-9 participants; Average: 5.5). Focus groups lasted for approximately 1 hour and were held at a local Texas A&M AgriLife Extension (AgriLife Extension) office, except for one focus group that was held at a well-known community building. The study was finished once the researcher completed the planned focus groups. The proposed sample size was successfully recruited, and the initial transcripts were

reviewed for major topic areas. It was determined that no new information would be uncovered through additional focus groups that followed these study procedures. This chapter discusses the methodology used for the study. The Texas A&M University Institutional Review Board (IRB) reviewed the study procedures and approval was given before beginning the study (See Appendix A).

Sample and Setting

A convenience sampling technique was used to recruit participants for this study. Participants were eligible to participate in the focus group if they met the following criteria: English-speaking, adult (≥ 18 years of age), male/female, all races/ethnicities, and live or work in the rural county selected. For this study, 33 people participated in the focus groups.

The setting for the study was rural counties in Texas. Rural was defined using the 2013 Rural-Urban Continuum Codes to classify Metropolitan from Nonmetropolitan counties (Parker, 2013). Each of the selected counties have a code of 6 or greater and county population ranged from approximately 14,000 – 60,000. See Table 3 for more information.

Table 3: Focus group county breakdown

	Anderson	Comanche	Gillespie	Houston	Milam	Washington
Geographic Location in Texas	East	Central	South	East	Central	Southeast
Rural-Urban Continuum Codes[1]	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area (7)	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area (7)	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area (7)	Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area (7)	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area (6)	Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area (6)
Population Estimate 2010[1]	58,458	13,974	24,837	23,732	24,757	33,718
Health Outcomes Ranking[2]	Lowest 0%-25%	Higher 50%-75%	Highest 75%-100%	Lowest 0%-25%	Higher 50%-75%	Highest 75%-100%
Health Factors Ranking[2]	Lowest 0%-25%	Higher 50%-75%	Highest 75%-100%	Lowest 0%-25%	Lower 25%-50%	Highest 75%-100%
Physical Inactivity[2]	34%	30%	27%	36%	34%	30%
Access to Exercise Opportunities[2]	26%	N/A	66%	54%	55%	60%

[1]Parker, 2013
[2]University of Wisconsin Population Health Institute, 2022

Recruitment

Study participants were recruited by personal contacts within the AgriLife Extension network. Extension Agents serve as a respected entity within these Texas counties. The researcher contacted the Extension Agents via email and described the purpose of the study, procedures, expected outcomes, and the potential benefits and risks of the study. These Extension Agents were selected based on the previously described rural classifications and the researcher's experience with the Extension Agent and their AgriLife Extension programmatic efforts. At the time of the study, the researcher had a well-established relationship with the selected Extension Agents based on over 11 years of professional practice with AgriLife Extension.

The Extension Agents were asked if they would agree to assist with the organization of the focus groups and if they would be willing to help recruit participants. Each Extension Agent had the flexibility to determine the date, time, and location for their unique focus group, based on a series of proposed dates by the researcher. Once the date, time, and location were selected, the Extension Agent initiated the recruitment of study participants through a recruitment email with a template provided by the researcher (See Appendix B). Extension Agents used their available networks to distribute the recruitment email and had the autonomy to decide who the email would be disseminated to. Some Extension Agents sent the email to an existing local advisory board or coalition. Others used a selective sampling approach and sent the email directly to potential participants that they felt would engage in the focus group discussion. Regardless of the distribution method, the recruitment email was sent via the *Blind Carbon Copy* section to ensure confidentiality of the potential participants and so that the researcher could then coordinate directly with the potential participant. There was one exception to this study procedure in

Comanche county. Participants in this county's focus group were recruited from direct contact with the researcher during a community event. An amendment to the IRB was requested and approved for the researcher to use a recruitment script during an existing opportunity to visit with community members (See Appendix C).

Instrumentation

The data for this study was obtained by two primary sources: A Focus Group Short Survey and Focus Group Guide.

Focus Group Short Survey

The Focus Group Short Survey was developed by the researcher to describe the recruited sample. A unique participant code was used to keep the confidentiality of each study participant. The short survey included sections on demographics, physical activity, and community setting use. In total, the Focus Group Short Survey consisted of 19 items that measured each of the sections described. It took approximately 10 to 15 minutes to complete (See Appendix D).

Demographics

The following demographic characteristics were included in the Focus Group Short Survey: sex, age, race / ethnicity, marital status, household size, educational attainment, income, and current county of residence.

Physical Activity

Physical Activity was assessed using two widely used measures. First, the International Physical Activity Questionnaire – Short Form (IPAQ – SF) was used to measure overall physical activity (Craig et al., 2003). Overall physical activity is estimated across vigorous, moderate, and walking categories over the past 7 days. Time spent sitting was also assessed. Second, exercise was assessed using the 2021 Behavioral Risk Factor Surveillance System (BRFSS)

Questionnaire single item, which asked "During the **past month**, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?". Responses were either "Yes" or "No" (Centers for Disease Control and Prevention, 2021).

Community Setting Use

A question was created by the researcher to determine the use of community settings for physical activity outside of the home. Based on a 5-point scale (Never – Always), participants were asked "**During the past month**, other than your regular job, were you physically active outside the home at any of the following locations:". The locations were the rural community settings previously discussed, which included: church facilities, town center or main street, indoor areas, around your neighborhood, school grounds, and outdoor areas. The development of this question was based off a study that explored community facility use (Deshpande, Baker, Lovegreen, & Brownson, 2005).

Focus Group Guide

The Focus Group Guide (See Appendix E) was developed by the researcher. The Focus Group Guide was used to learn about the various factors that influence the participant's use or re-use of community settings for physical activity. The questions contained in the Focus Group Guide were guided by the conceptual model previously discussed.

Each question directed the focus group discussion and included prompts to probe on use or re-use specifically. There were four main questions that were asked, along with the prompts, when deemed appropriate. The Focus Group Guide took approximately 30 minutes to complete. Prior to use, the Focus Group Guide was reviewed by four subject matter experts and one

qualitative expert for content validity. It was tested with a small sample and no major updates were made to the Focus Group Guide during this process.

Data Collection

Each focus group was conducted by the same researcher and research assistant. The researcher brought previous academic and professional experience with focus group facilitation. The research assistant brought previous experience with providing support for AgriLife Extension projects. Both were supported by the entire research study team. Prior to the start of the study, the researcher and research assistant were trained by a qualitative expert with extensive experience in focus group methodology. This training provided an overview of best practices with suggestions relevant to the present study. Then, the researcher directed the research assistant on meaningful note taking and tested the functionality of the recording equipment.

Each focus group was held during the day at the time selected by the Extension Agent. The research team arrived and prepared the room with a table layout supportive of the focus group discussion. Study participants were welcomed by the research team and directed to the space, which was held in a private area. Snacks were provided before and during the focus group discussions.

The focus group began with an introduction by the researcher and a brief overview of the study. The research assistant was introduced, as well as the role of the research assistant during the focus group. Each study participant had a packet of materials in front of them upon being seated. There were two copies of the informed consent document, the Focus Group Short Survey, and a Focus Group Handout. Each of these documents were briefly described. A name tabletop

was provided to help the study personnel and participants remember names. The backside of the tabletop contained the unique participant code to use for the Focus Group Short Survey.

Next, the informed consent document was reviewed in full (see Appendix F). Ample time was provided for participants to read through the informed consent document. Key points were read aloud and elaborated on by the researcher and participants were provided the chance to ask any questions. Two copies of the informed consent document were provided, one to be signed and returned to the researcher and one for the participant to keep. Afterwards, the Focus Group Short Survey was introduced and conducted while the researcher signed the Investigator's Affidavit on the informed consent documents. Together, the informed consent and Focus Group Short Survey took about 25 minutes to complete.

Once the signatures on the informed consent documents were confirmed, the focus group discussion began. The Focus Group Guide was used, and an introduction script reminded participants the purpose of the study. Participants were asked to be honest with their responses to the proposed questions and to respect what others said in the group. Participants were asked to confirm their participation and were reminded that the session would be audio recorded using three digital voice recorders. To get started, participants were asked if they use or have used a community setting for physical activity. This prompted the review of the Focus Group Handout (see Appendix G), which included definitions and examples of community, setting, use, and physical activity vs. exercise. Time was given to review the handout and participants were asked if they had any questions. If not, the focus group began.

The focus groups were held in a comfortable format, while still following the formal guidance as outlined in the Focus Group Guide. Each of the questions were asked and participants were given time to reflect and respond with their answers. Participants were

encouraged to build off each other's responses and the researcher did not move forward with a new question until all comments were completed. Once all the questions were proposed, the researcher reviewed the discussion and asked if participants had anything else to add. Upon completion of the focus group, participants were thanked for their time and insight. They were reminded that the information provided would help shape the project and guide future interventions related to the use of community settings for physical activity in Texas rural adults. As a token of appreciation, each study participant received a t-shirt for their engagement with the focus group.

Data Analysis

Responses from the study participants related to the factors of community setting use and re-use were analyzed using thematic analysis (Braun & Clarke, 2006). Thematic analysis is a systematic approach to identify and analyze certain themes using qualitative data (Braun & Clarke, 2006). A theme is defined as something important, relevant to the research question(s), that are represented in a pattern. Various themes for this study emerged through an inductive process driven by the data (Thomas, 2006). This approach is commonly used in health and social science research (Thomas, 2006). A six-phase guide was used for the framework of the data analysis (Braun & Clarke, 2006), in conjunction with an applied paper used to inform the data analysis process (Maguire & Delahunt, 2017). The following describes the first five phases of the process with the present study:

Step 1: Familiarizing yourself with your data

The recorded audio data was uploaded, and transcription was automated within NVivo (QSR International Pty Ltd., 2020). The researcher reviewed the transcriptions alongside the audio files and cleaned any inconsistencies or errors found in the transcripts. The researcher

conducted both the focus groups and cleaned the data, which helped to immerse into the data sources. Afterwards, the researcher read and re-read each transcript to search for patterns and took relevant notes.

Step 2: Generating initial codes

From the initial review and notes of the transcripts, preliminary codes and definitions were created based on the data. A short training was conducted by the researcher to review the preliminary codes and definitions with two research assistants that helped support the coding process. This research team independently coded one transcript using a line-by-line coding process (Maguire & Delahunt, 2017). Through this inductive approach to code development, the existing codes were revised, and sub-codes were generated to help with the identification of relevant data. Once consistency with the code application was determined, all transcripts were then coded collaboratively by the researcher and two research assistants using the final codebook (see Appendix H).

Step 3: Searching for themes

During this step, the goal was to organize codes into potential themes. Theme-piles were created, which organized similar codes across the transcripts together. There were certain codes that did not fit within the preliminary themes and were placed into a miscellaneous pile for future evaluation.

Step 4: Reviewing the themes

In this step, the preliminary themes were refined. Each theme pile was reviewed to confirm that the codes fit within the proposed theme. There were some piles that were collapsed into one theme and others that were removed. For example, one overarching theme (safety) was

created from subthemes of social safety and physical safety. The full transcripts were then reviewed again to confirm the codes, based on the context of the focus group discussion.

Step 5: Defining and naming themes

The created piles were then reviewed by two other experts on the full research study team to confirm that they were indeed relevant to the proposed research questions. Adjustments were made with the nomenclature and categorization of the codes. The themes and codes were reviewed once again and prepared for analysis. Informed by the conceptual model, a deductive approach was then used to embed themes and codes into the units of analysis (Elo & Kyngäs, 2008).

Data Validity

For the findings of a qualitative study to be valid, various aspects of trustworthiness should be described (Graneheim & Lundman, 2004). Trustworthiness includes the concepts of credibility, dependability, and transferability (Graneheim & Lundman, 2004). Credibility is enhanced in this study with the use of illustrative quotes to represent the themes from the transcribed text as shown in the subsequent chapter (Graneheim & Lundman, 2004). In addition, agreement occurred between the researcher and two additional research assistants that reviewed the transcripts. Taking it a step further in relation to credibility, the researcher confirmed agreement from two other experts on the research team. Dependability was addressed with strict adherence to the Focus Group Guide. The short timeframe of the study collection allowed for consistency across the focus groups and comprehensive notes were taken to audit the data collection and analysis processes. After each focus group, the researcher and the research assistant debriefed to ensure uniformity with future focus groups. Finally, the culmination of this

dissertation will provide the information necessary for the reader to determine the transferability of the study (Graneheim & Lundman, 2004).

CHAPTER IV

RESULTS

Introduction

The purpose of this qualitative research study was to elucidate factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults. Guided by the six-phases of the qualitative data analysis process, the following results are shared as the sixth phase, *Step 6: Producing the report* (Braun & Clarke, 2006). The results intend to answer the following central research questions:

1. What are the factors of community setting use for physical activity in Texas rural adults?
2. What are the factors of community setting re-use for physical activity in Texas rural adults?

Descriptive Data Summary

Thirty-three participants from rural counties in Texas engaged in the study. Participants tended to be female, non-Hispanic, White, and married. Average participant age was 44.5 years (SD = 15.6). In terms of household size, two people (42.4%) and four or more people (36.4%) had the most representation. More than half of the participants have a four-year college degree (54.5%) and total household income exceeded $50,000 for the majority (60.6%). See Table 4.

Table 4: Focus group participant demographic data

Characteristic	Value
Sex	
Male	6 (18.2%)
Female	27 (81.8%)
Age	
Years (SD)	44.5 (15.6)
Ethnicity (Hispanic, Latino or Spanish Origin)	
Yes	5 (15.2%)
No	28 (84.8%)
Race	
Asian	1 (3.0%)
Black or African American	2 (6.1%)
White	28 (84.8%)
Missing	2 (6.1%)
Marital Status	
Married	19 (57.6%)
Partner/Significant other	2 (6.1%)
Single	7 (21.2%)
Divorced/Separated	3 (9.1%)
Widowed	1 (3.0%)
Missing	1 (3.0%)

Table 4: Focus group participant demographic data, cont.

Characteristic	Value
Household Size	
One	3 (9.1%)
Two	14 (42.4%)
Three	3 (9.1%)
Four or more	12 (36.4%)
Missing	1 (3.0%)
Education Level	
High school or GED	3 (9.1%)
Some college, but have not graduated	7 (21.2%)
Two-year college degree	5 (15.2%)
Four-year college degree	18 (54.5%)
Household Income	
<$25,000	3 (9.1%)
$25,001 - $50,000	7 (21.2%)
$50,001 - $74,999	8 (24.2%)
$75,000+	12 (36.4%)
Missing	3 (9.1%)

Overall physical activity, sitting, and community setting use descriptive results can be found in Table 5. First, the International Physical Activity Questionnaire – Short Form (IPAQ – SF) was used to measure overall physical activity. Following the recommended guidelines for data processing (IPAQ Research Committee, 2005), the participants physical activity was categorized into three groups. Participants were classified as low (18.2%), moderate (24.2%), or high (42.4%). Five (5) participants were removed due to age or missing data. The IPAQ – SF also collects sedentary behavior based on the time spent sitting. Participants had a median of 7 hours, with a range of 2 – 11 hours. Next, a large majority of participants (84.8%) have participated in physical activity or exercise outside of their job in the last month. With regards to community setting use, few community settings were "Always" used. Around the neighborhood had the most use with 75.8% of participants using it "Very Often" and "Sometimes" (36.4% Very Often). Outdoor areas were also used "Very Often" (27.3%) and "Sometimes" (33.3%) for a total in those response categories of 60.6%. The community settings with the highest "Never" responses were church facilities (63.6%), school grounds (57.6%), and indoor areas (45.5%).

Table 5: Focus group participant physical activity and community setting use

Physical Activity	Value
IPAQ - SF Category	
Low	6 (18.2%)
Moderate	8 (24.2%)
High	14 (42.4%)
Missing	5 (15.2%)
Sitting	
Hours (Range)	7 (2 - 11)
BRFSS Exercise	
Yes	28 (84.8%)
No	5 (15.2%)

Table 5: Focus group participant physical activity and community setting use, cont.

Community Setting Use	Value
Church facilities	
Always	0 (0.0%)
Very Often	1 (3.0%)
Sometimes	4 (12.1%)
Rarely	6 (18.2%)
Never	21 (63.6%)
Missing	1 (3.0%)
Town center or main street	
Always	0 (0.0%)
Very Often	3 (9.1%)
Sometimes	8 (24.2%)
Rarely	10 (30.3%)
Never	12 (36.4%)
Indoor areas	
Always	3 (9.1%)
Very Often	4 (12.1%)
Sometimes	9 (27.3%)
Rarely	2 (6.1%)
Never	15 (45.5%)

Table 5: Focus group participant physical activity and community setting use, cont.

Community Setting Use	Value
Around your neighborhood	
Always	3 (9.1%)
Very Often	12 (36.4%)
Sometimes	13 (39.4%)
Rarely	0 (0.0%)
Never	5 (15.2%)
School grounds	
Always	2 (6.1%)
Very Often	1 (3.0%)
Sometimes	6 (18.2%)
Rarely	5 (15.2%)
Never	19 (57.6%)
Outdoor areas	
Always	1 (3.0%)
Very Often	9 (27.3%)
Sometimes	11 (33.3%)
Rarely	7 (21.2%)
Never	5 (15.2%)

Focus Group Summary

A deductive approach was used to embed the themes and codes into the conceptual model (Elo & Kyngäs, 2008). Guided by an ecological framework, the three major components included the community, setting, and user. Themes and codes were relevant to each of these unit of analysis with the major components serving as overarching categories for the themes and codes. Five overarching codes were identified, which are defined as the following:

Community Setting Use – Experience: a description about the use of a community setting that the user experienced. Subcodes included a description of a unique use or one-time decision to use the community setting, a use that was not a planned experience, or when the user described something that prevented a decision to re-use the community setting.

Community Setting Re-Use – Experience: a description about the re-use of a community setting that the user experienced. Subcodes included a description of a positive experience that brought the user back to the community setting or discussed an adjustment that was made to re-use the community setting.

Community Setting Use – Vicarious / Non-Experience: a description about the community setting that the user had not experienced themselves. Subcodes included a description about something that the user had not experienced, for example, described a family member or colleague's community setting use experience.

Physical Activity: a factor that was related to physical activity and not related to the use of the community setting. Subcodes included a description of a type of physical activity i.e., walking, but no location was described or a discussion about a factor related to physical activity and not use, i.e., the enjoyment of physical activity.

Location: a community setting for physical activity, which includes the subcode that described the physical activity location.

The focus of this qualitative analysis is to help better understand the factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults. Therefore, the themes that will be highlighted in this summary will be in response to that overall objective.

User

Community Setting Use – Experience: The user experiences different factors regarding the use of community settings. Themes from study participants' included time and priority; distance and proximity; and family or work obligations. Each of these are illustrated below:

Time and Priority:

> *I consider convenience, like if I have time for this or if I don't have time for this, or can I make it to this location?*

> *...if I have to shower after [physical activity] and then start to work and having to time manage that is a hassle. So, then I just skip the workout because I don't want to shower.*

Distance and Proximity:

> *I'm not driving back to town to do anything besides work.*

Family or Work Obligations:

> *You know, like after work, I want to go home. Of course, I don't. I've got kids and work [and] were going...all over the place.*

Family or Work Obligations – not a planned experience:

...sometimes if we go to baseball tournaments on the weekends...a lot of times there will be walking paths around those areas...[I] slip off and like, go walk a little bit...if something like that is there and available, then I definitely throw my shoes in and use it.

Community Setting Re-Use – Experience: The user experiences other factors related to the re-use of community settings. Themes included time and priority; cost; and people. Time and priority related to re-use was focused on schedule and how important the prioritization of time is to use a community setting. The cost from the user perspective is being more likely to use the community setting if it is paid for. Finally, people were described as encouraging the use of the community setting. This included both bringing people to the community setting or seeing people there.

Time and Priority:

...making it as part of the schedule, like I have this amount of time in my day [that] is scheduled and this is what I'm doing...

Cost:

...if I'm putting my money towards something, then I'm going to go follow up on it versus if it's free, then I'm like, it'll always be there. I'll get to it. And then I don't get to it.

People:

When I take my grandkids with me, it's a lot more fun and so we do a lot more activity than I would normally.

Community Setting Use – Vicarious / Non-Experience: participants often mentioned an experience that they did not have themselves but would help them to use various community settings or is a strategy that has helped someone they know. Comments included having a positive experience and walking sticks.

Positive experience:

If I had a good time, the first time, I'm more likely to come back.

Walking stick:

...there's plenty of community members that carry a stick.

Setting

Community Setting Use – Experience: with the variety of settings that exist within a community, each have their own unique characteristics and culture. Participants described various aspects of the setting that influenced their decision to use it. Themes for the setting included cost; maintenance; access; amenities; and safety. Cost of the setting influenced the initial decision to use a community setting. Maintenance of the setting was often described as a negative experience that prevented a decision to re-use. The ability to access the community setting was described as not only to gain entry, but also not being able to use the setting due to another competing activity. The amenities' theme included a subtheme of programs and equipment. The type of programs offered influenced the use, along with certain types of equipment available. Also under amenities, a subtheme emerged of bathrooms. In this sample, public restrooms were commonly discussed as a barrier to using certain settings. Safety had two subthemes: social safety and physical safety. Social safety included people at the setting and physical safety included lighting, dogs, and the terrain.

Cost:

I would say the cost, how much you have to pay to go there.

Maintenance:

I like to take my dog walking and in a lot of those parks you can't. People don't pick up after their dogs.

Access – others prevent use:

We actually have some high school kids that go in there at night and they just take over the whole place. And actually, you know, it's like a hangout place for them more than to utilize the items in that facility.

Sometimes there's events at the park...they go, so then you can't walk.

Amenities – programs:

A variety of activities. So you're not necessarily doing the same thing every day.

Amenities – restrooms:

Again, I'll stress restrooms...we don't visit the city park because we can't have an ice cream and our drinks and then the kids need to go and find a restroom. Then, we've got to pack up and by the time we pack up, I'm not unpacking it again to go play.

Safety – social:

I also look for people, I want to see other people there. I mean, I want to be around people. And so, if it's just sitting there empty, I'm like, eh, I might do a drop by.

Safety – physical:

My neighbors have about 20 dogs that just keep reproducing, so we don't walk either out there.

Community Setting Re-Use – Experience: Participants described various factors that also supported their re-use of the setting. Themes for re-use of a setting included amenities; safety; aesthetics; and convenience. Amenities included a subtheme of activities, equipment, and programs. Space was an additional subtheme specifically for re-use. Safety once again had two subthemes for the setting: social safety and physical safety. Aesthetics described factors like

nature and trees. Positive aspects of trees were described, like shade. Finally, convenience included subthemes like being close to the setting or location. Another subtheme described leveraging other activities or responsibilities to use the setting for physical activity.

Amenities – space:

> *...we use this park because during softball / baseball season, the majority of everybody else is at the school. It's completely crowded, and you can't find a place to park to practice. No one goes to [park name]. So, we go there because there's nobody else there and you have literally the whole area.*

Amenities – program:

> *Well, in the wellness center, it provides a variety of classes because I get bored with one thing...so there's a good variety...*

Safety – social:

> *So, if I walk it, I do like to generally go [when] there's somebody else walking...so I'm not walking by myself because I work late.*

> *My sister has a neighborhood that I like to walk in. And so, it's really hilly and nice and different things...and I guess lots of people. You know, it's just not secluded...*

Safety – physical:

> *...the ones I go to, I feel safe when I go there. You know...I don't feel like I'm fixing to get bit by a dog running down the street.*

> *[There] super wide and I feel safe, I don't feel like I am going to hit something or fall into a hole.*

Aesthetics:

...it is nice that the roads are paved...there's shade trees all over the road, and so that's pleasant. Some of its hills, but we were okay with that, especially my son.

The reason I like going back to [park name] is it's pretty out there, there's people, and you see a lot of plants and animals, and it's just a pleasant environment...and there's some elevation change and then watch the planes take off.

Convenience:

That's primarily why I walk around the road outside my house...it's right there. It's free. And I mean, I don't have to drive anywhere to go do it.

When I go to the park, it's conveniently located for me...it's just like right there...when I go in my sister's neighborhood most of the time I'm over there visiting her...I'm like, come on, let me go take the dog for a walk.

I walk at the school actually in the morning after I drop the kids off from school and I walk on the school track before I come in.

Community Setting Use – Vicarious / Non-Experience: participants often mentioned factors about the setting that would help them choose to use it. They discussed ideas or strategies that would bring potential users to the setting. Comments included programs; instruction; safety; and access.

Programs:

And then having people to walk with me, can we walk every day at noon? Could you meet me there [community setting]?...Maybe there is a walking club in town?

I think that they [referring to parents] and many others in town would be interested in doing some group exercise activities if there was a setting that was preferably free to do an organized class.

Instruction:

...I'm more likely to go to a class where they're going to tell me what I'm going to do versus me having to...think of it on my own...I need leadership.

Safety:

...thinking of outdoor park spaces, if it's not well lit, you know, if it's overgrown or what not, not kept up, well then I'm just going to steer clear.

Access:

Well, like we were [talking about] the pools and then also the church facilities where you can only go there when someone's there...to have the door open.

Community

Community Setting Use – Experience: only one community theme was described as a factor related to community setting use. The theme was weather and is illustrated with the examples below.

Weather:

I consider the weather if it's going to be raining or too hot or too cold.

We have a gym with a walking trail at church...but it's just too hot right now. It's not air conditioned all the time...

Community Setting Re-Use – Experience: community level factors that influenced re-use focused on access to safe settings for physical activity, which again, was the only theme.

Access:

I will say being the fact that we are a small town. We don't have really and truly a high crime rate. So, even just walking around town...it's pretty safe.

Community Setting Use – Vicarious / Non-Experience: only one main theme was identified related to the community level, which was access. Participants wanted additional settings available in their community to use, like sidewalks or trails. Access to certain existing settings was also discussed.

Access:

I wish that some of the places that do have facilities would let us, as a community, use them...there's several churches here that have large gyms and they don't make those things available to the community...

CHAPTER V

DISCUSSION AND CONCLUSION

Discussion

This study examined the factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults. Their perceptions were examined across three components of a conceptual model: community, setting, and user. Major findings across each component are discussed in this chapter. Study strengths and limitations are presented, along with recommendations for future research.

User

With regards to the user, various individual characteristics have influence on the decision to use community settings. In fact, previous research highlights that there are minimal community or environmental level influences that keep people from being active (Martin, Schoster, Shreffler, Meier, & Callahan, 2007; Thompson, Wolfe, Wilson, Pardilla, & Perez, 2003). In this study, participants were able to identify various community settings that would support physical activity and walking was the most common activity discussed. A factor that limited the use of these settings is the time that it takes to get to the location and how it fit within their schedule. Participants emphasized that they would not drive back into town to use community settings for physical activity but would drive to other services. For example, being willing to travel to community settings for family obligations, which further limited the decision to use community settings for their personal physical activity. However, there were examples of inconsistent use of a community setting for physical activity when another family activity was happening, like a baseball tournament or park visit. Children and families have been found to be

both a barrier and facilitator and this study confirms that in this audience (Atkinson, Billing, Desmond, Gold, & Tournas-Hardt, 2007). Together, this supports efforts related to time management that could perhaps assist the user with the individual level factors on use (Jahns, McDonald, Wadsworth, Morin, & Liu, 2014). When re-use was discussed, it seemed like those participants had the skills or opportunity to plan and schedule either personal or family time to use a community setting. Cost was a theme identified in re-use where people felt motivated to use a place if there was a cost associated. However, this may be due to the study sample of mainly older women who might have flexible schedules and the access to such options, like the study by Zimmermann, et al. (Zimmermann, Carnahan, & Peacock, 2016). This study found that if people had a pleasant experience at the community setting, they would likely come back.

Setting

As mentioned, various settings within the communities were discussed as physical activity options. Outdoor areas, specifically parks and trails, were discussed the most. Indoor areas, like recreation centers and gyms, were often mentioned, as well as neighborhoods, particularly county roads. Like another study, each county in this study had a town center or square that was mentioned in 5 out of 6 focus groups as a supportive community setting for physical activity (Lo et al., 2017). The cost of a setting was discussed, particularly in reference to the use of a recreational facility. Maintenance was mentioned in community settings that it seemed the participant did not use. A negative experience may have prevented these participants from wanting to go back and therefore left the potential places unused (White, Perrin, Caren, & Perrin, 2020). Participants reported not being able to access certain locations because of locks or hours of operation, but some could if they knew someone at the site. Also, in these rural communities, competition for the use of community settings was often described, through

organized sports, community events, or informal gatherings. These were similar findings compared to focus groups in Montana (Lo et al., 2017). One unique finding in this study related to the setting was regarding restrooms. This often was discussed in relation to parks, a feature not often found or well-maintained (Cohen et al., 2020). Given the time and distance to these rural destinations, use might be increased with the investment in these features or education around closer publicly available restrooms. Safety, both social and physical, were discussed in each focus group. Generally, participants did feel safe at the community settings they used, which is confirmed in other studies (Brownson et al., 2000; Cleland et al., 2015**;** Thompson, Wolfe, Wilson, Pardilla, & Perez, 2003). If a safety concern was discussed, it was typically related to a single non-experience or vicarious experience that prevented their decision to use or re-use the setting (Kegler et al., 2015; White et al., 2021). Dogs (Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008; Seguin, Connor, Nelson, LaCroix, & Eldridge, 2014; Walsh, Meyer, Gamble, Patterson, & Moore, 2017) and terrain (Kaiser & Baumann, 2010; Trost, Owen, Bauman, Sallis, & Brown, 2002) were two of the most common examples of safety concerns, consistent with the existing literature. Although one review did find positive associations with physical activity and unattended dogs (Duncan, Spence, & Mummery, 2005). This could be due to more active people that re-use locations know where dogs are and either avoid those settings or are more careful, as was found in this study. Aesthetics of the setting was another key feature that promoted the use and re-use of the location. Trees and shade were commonly mentioned as factors that supported re-use yet have not been extensively reported in the literature. Other nature elements were discussed, like various plants or animals, which could be emphasized in promotion efforts (Beck et al., 2019). This presents an opportunity to highlight nature within community settings and promote the benefits associated (Frumkin et al., 2017). Intertwined with other themes,

convenience was the most recognized theme that supported the use and re-use of community settings. Convenient settings for physical activity are supported by the literature (Cleland et al., 2015; Kahn et al., 2002; Wendel-Vos, Droomers, Kremers, Brug, & Van Lenthe, 2007). Even in these rural settings, participants described convenient places either near the home, work or places that were visited. These community settings could be leveraged (Shaw, Gallant, Riley-Jacome, & Spokane, 2006) and efforts should emphasize the convenience of available and accessible locations to use.

Community

Community factors that influenced the use of settings for physical activity were weather and access. Weather, both temperatures and acute inclement (i.e., rain), impacted participants ability to use a community setting. This mainly included outdoor facilities, as described in other studies (Morgan, Graham, Folta, & Seguin, 2016; Seguin, Connor, Nelson, LaCroix, & Eldridge, 2014). Accessibility has been associated with not only physical activity, but also use (Humpel, Owen, & Leslie, 2002). Participants in the study described being able to access places, but also wanted and described additional opportunities.

Various strategies were discussed as opportunities to introduce the users to the community setting and efforts could be developed to purposefully mitigate negative experiences. Example strategies include the provision of low cost or free community settings (Kegler, Escoffery, Alcantara, Ballard, & Glanz, 2008) with transportation options for those who need it (Kruger et al., 2012). The potential to offer social support opportunities was well-described with participants, reinforced by other studies (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015; Ely, Befort, Banitt, Gibson, & Sullivan, 2009; Lo et al., 2017; White et al., 2021). Some examples that were shared that may help increase peer support or accountability included events or

programs. This is also well supported by the literature (Ely, Befort, Banitt, Gibson, & Sullivan, 2009; Gilbert, Duncan, Beck, Eyler, & Brownson, 2019; Park, Eyler, Tabak, Valko, & Brownson, 2017). Finally, education efforts (Gilbert, Duncan, Beck, Eyler, & Brownson, 2019; Kaiser & Baumann, 2010; Park, Eyler, Tabak, Valko, & Brownson, 2017; Yeary et al., 2019) can target the individual factors that were identified as barriers and promote the motivators found to increase use and physical activity (Jahns, McDonald, Wadsworth, Morin, & Liu, 2014). Education, along with other ongoing efforts, can help to maximize the limited resources that community settings have (Chrisman, Nothwehr, Janz, Yang, & Oleson, 2015; Lo et al., 2017). If practitioners can promote these strategies to initiate and sustain the use of community settings, there is evidence to support that maintained use can lead to improved physical activity behavior (Gordon, Zizzi, & Pauline, 2004). In fact, in one study that focused on walking trails, those who used the trails were nearly three times as likely to meet physical activity recommendations (Park, Eyler, Tabak, Valko, & Brownson, 2017).

Strengths and Limitations

There are certain limitations regarding this study that should be taken into consideration when interpreting the results. First, the convenience sample of participants in the study were recruited from the Extension Agent's local network and self-selected to participate. Social desirability bias may have occurred since the participants have great trust and partnership with these Extension Agents and that may have influenced their responses. The smaller sample size limits the generalizability of the results, although previous qualitative research does support that multiple focus groups (Chrisman, Nothwehr, Yang, & Oleson, 2015) and a total sample size over 30 is sufficient to generate relevant themes (Martin, Schoster, Shreffler, Meier, & Callahan, 2007). It should be mentioned that the goal of this study was not to generalize the results either,

but rather identify the factors of community setting use for physical activity in this sample. Another limitation is that the study population were mainly female, non-Hispanic, White, and older. This limits the results, especially as it relates to demographics. The sample had higher levels of education and income, which further limits the results of those who may not have the resources necessary to use the community settings described. Another limitation is the geographical representation of focus group participants and the seasonal weather patterns of Texas, compared to other parts of the United States. Recruitment did not occur from the North and West regions of Texas, which may have resulted in different outcomes. Also, these focus groups were conducted in August and September, which are hotter months during the year. Even though both summer and winter were described, seasonality and the warmer temperatures may have influenced the results. Finally, although the term *re-use* was selected for the terminology in this study, it might have been interpreted as only a second visit to the community setting. Although the researcher did emphasize the definition of the term with study participants, future research should focus on the *continued* or *regular* use of community settings to avoid potential confusion.

The study does have numerous strengths. First, the aim of the study was to explore factors related to use and re-use of community settings and they were appropriately addressed through a qualitative approach that followed a systematic procedure. The same facilitator and research assistant conducted all the focus groups and coding procedures, which helped with consistency and enhanced the methodological strength of the study. Based on the author's knowledge, this study is one of the first in Texas that specifically explored the factors that influence use and re-use. While there were similarities between the factors that influence use and

physical activity, there were novel factors that were discussed. This formative research could support future efforts to promote the use of community settings with rural adults.

Conclusion

This work adds to the existing knowledge and research base related to the use and re-use of community settings for physical activity in rural adults. The purpose was to understand the factors that may influence the decision to use and re-use community settings. Also, the researcher wanted to determine whether the factors were similar or different when compared to physical activity.

To answer, first, a comprehensive examination of community setting use through a systematic and literature review process was conducted to explore the current studies where use has been investigated, highlight the different definitions of use, and compare various outcomes related to use. Together, this informed the development of a conceptual model based on ecological frameworks that will help guide future study. The main components of the conceptual model included the community, setting, and user levels.

Then, a qualitative study was conducted to elucidate the factors related to use and re-use of community settings in Texas rural adults. Focus group methodology was used to better understand the barriers and facilitators to the use and re-use of community settings with this audience. The results of the study highlight that while awareness, availability, and accessibility of community settings for physical activity in Texas rural adults is prevalent, the use of those resources is not. Given the disparities that rural communities already face related to physical activity opportunities, it is important to understand these factors that influence the initial and regular use of community settings for physical activity.

This research is a call for action in hopes that others will take purposive approaches to promote not only physical activity, but the use of community settings. Future research can use this work to develop intervention efforts that focus on these factors related to use, in addition to physical activity factors, to potentially have broader impact on physical activity promotion with rural adults.

REFERENCES

Atkinson, N. L., Billing, A. S., Desmond, S. M., Gold, R. S., & Tournas-Hardt, A. (2007). Assessment of the nutrition and physical activity education needs of low-income, rural mothers: can technology play a role?. Journal of Community Health, 32(4), 245-267.

Baturka, N., Hornsby, P. P., & Schorling, J. B. (2000). Clinical implications of body image among rural African-American women. Journal of general internal medicine, 15(4), 235-241.

Bauman, A. E., Reis, R. S., Sallis, J. F., Wells, J. C., Loos, R. J., Martin, B. W., & Lancet Physical Activity Series Working Group. (2012). Correlates of physical activity: why are some people physically active and others not?. The lancet, 380(9838), 258-271.

Beck, A. M., Eyler, A. A., Aaron Hipp, J., King, A. C., Tabak, R. G., Yan, Y., ... & Brownson, R. C. (2019). A multilevel approach for promoting physical activity in rural communities: a cluster randomized controlled trial. BMC Public Health, 19(1), 1-10.

Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005). The significance of parks to physical activity and public health: a conceptual model. American journal of preventive medicine, 28(2), 159-168.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77-101.

Braveman, P., & Gruskin, S. (2003). Defining equity in health. Journal of Epidemiology & Community Health, 57(4), 254-258.

Braveman, P. A., Kumanyika, S., Fielding, J., LaVeist, T., Borrell, L. N., Manderscheid, R., & Troutman, A. (2011). Health disparities and health equity: the issue is justice. American journal of public health, 101(S1), S149-S155.

Brownson, R. C., Housemann, R. A., Brown, D. R., Jackson-Thompson, J., King, A. C., Malone, B. R., & Sallis, J. F. (2000). Promoting physical activity in rural communities: walking trail access, use, and effects. American journal of preventive medicine, 18(3), 235-241.

Brownson, R. C., Chang, J. J., Eyler, A. A., Ainsworth, B. E., Kirtland, K. A., Saelens, B. E., & Sallis, J. F. (2004). Measuring the environment for friendliness toward physical activity: a comparison of the reliability of 3 questionnaires. American Journal of Public Health, 94(3), 473-483.

Brownson, R. C., Hoehner, C. M., Day, K., Forsyth, A., & Sallis, J. F. (2009). Measuring the built environment for physical activity: state of the science. American journal of preventive medicine, 36(4), S99-S123.

Cacari Stone, L., Sanchez, V., Bruna, S. P., Muhammad, M., & Zamora, MPH, C. (2022). Social Ecology of Hypertension Management Among Latinos Living in the US–Mexico Border Region. Health promotion practice, 23(4), 650-661.

Camarero, L., & Oliva, J. (2019). Thinking in rural gap: mobility and social inequalities. Palgrave Communications, 5(1), 1-7.

Carlton, T. A., Kanters, M. A., Bocarro, J. N., Floyd, M. F., Edwards, M. B., & Suau, L. J. (2017). Shared use agreements and leisure time physical activity in North Carolina public schools. Preventive Medicine, 95, S10-S16.

Carter-Edwards, L., Lowe-Wilson, A., Mouw, M. S., Jeon, J. Y., Baber, C. R., Vu, M. B., & Bethell, M. (2015). Peer Reviewed: Community Member and Stakeholder Perspectives on a Healthy Environment Initiative in North Carolina. Preventing chronic disease, 12.

Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Questionnaire. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2021.

Chrisman, M., Nothwehr, F., Yang, J., & Oleson, J. (2014). Perceived correlates of domain-specific physical activity in Rural Adults in the Midwest. The Journal of Rural Health, 30(4), 352-358.

Chrisman, M., Nothwehr, F., Janz, K., Yang, J., & Oleson, J. (2015). Perceived resources and environmental correlates of domain-specific physical activity in rural Midwestern adults. Journal of Physical Activity and Health, 12(7), 962-967.

Chrisman, M., Nothwehr, F., Yang, G., & Oleson, J. (2015). Environmental influences on physical activity in rural Midwestern adults: a qualitative approach. Health promotion practice, 16(1), 142-148.

Covidence. (2022). Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org.

Cleland, V., Hughes, C., Thornton, L., Venn, A., Squibb, K., & Ball, K. (2015). A qualitative study of environmental factors important for physical activity in rural adults. PLoS One, 10(11), e0140659.

Cleland, V., Squibb, K., Stephens, L., Dalby, J., Timperio, A., Winzenberg, T., ... & Dollman, J. (2017). Effectiveness of interventions to promote physical activity and/or decrease sedentary behaviour among rural adults: a systematic review and meta-analysis. Obesity Reviews, 18(7), 727-741.

Cohen, D. A., Sehgal, A., Williamson, S., Marsh, T., Golinelli, D., & McKenzie, T. L. (2009). New recreational facilities for the young and the old in Los Angeles: policy and programming implications. Journal of Public Health Policy, 30(1), S248-S263.

Cohen, D. A., Han, B., Williamson, S., Nagel, C., McKenzie, T. L., Evenson, K. R., & Harnik, P. (2020). Playground features and physical activity in US neighborhood parks. Preventive Medicine, 131, 105945.

Craig, C. L., Marshall, A. L., Sjöström, M., Bauman, A. E., Booth, M. L., Ainsworth, B. E., ... & Oja, P. (2003). International physical activity questionnaire: 12-country reliability and validity. Medicine and science in sports and exercise, 35(8), 1381-1395.

DeGuzman, P. B., Chu, C., & Keim-Malpass, J. (2019). Built and Natural Environment Barriers and Facilitators to Physical Activity in Rural, Suburban, and Small Urban Neighborhoods. In Oncology Nursing Forum (Vol. 46, No. 5).

Deshpande, A. D., Baker, E. A., Lovegreen, S. L., & Brownson, R. C. (2005). Environmental correlates of physical activity among individuals with diabetes in the rural midwest. Diabetes Care, 28(5), 1012-1018.

Dharod, J. M., Drewette-Card, R., & Crawford, D. (2011). Development of the Oxford Hills Healthy Moms project using a social marketing process: a community-based physical activity and nutrition intervention for low-socioeconomic-status mothers in a rural area in Maine. Health Promotion Practice, 12(2), 312-321.

Doescher, M. P., Lee, C., Berke, E. M., Adachi-Mejia, A. M., Lee, C. K., Stewart, O., ... & Moudon, A. V. (2014). The built environment and utilitarian walking in small US towns. Preventive medicine, 69, 80-86.

Duncan, M. J., Spence, J. C., & Mummery, W. K. (2005). Perceived environment and physical activity: a meta-analysis of selected environmental characteristics. International journal of behavioral nutrition and physical activity, 2(1), 1-9.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. Journal of advanced nursing, 62(1), 107-115.

Ely, A. C., Befort, C., Banitt, A., Gibson, C., & Sullivan, D. (2009). A qualitative assessment of weight control among rural Kansas women. Journal of nutrition education and behavior, 41(3), 207-211.

Eyler, A. A., & Vest, J. R. (2002). Environmental and policy factors related to physical activity in rural white women. Women & Health, 36(2), 109-119.

Ford, E. S., Bergmann, M. M., Kröger, J., Schienkiewitz, A., Weikert, C., & Boeing, H. (2009). Healthy living is the best revenge: findings from the European Prospective Investigation Into Cancer and Nutrition-Potsdam study. Archives of internal medicine, 169(15), 1355-1362.

Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn Jr, P. H., Lawler, J. J., ... & Wood, S. A. (2017). Nature contact and human health: A research agenda. Environmental health perspectives, 125(7), 075001.

Gilbert, A. S., Duncan, D. D., Beck, A. M., Eyler, A. A., & Brownson, R. C. (2019). A qualitative study identifying barriers and facilitators of physical activity in rural communities. Journal of Environmental and Public Health, 2019.

Gordon, P. M., Zizzi, S. J., & Pauline, J. (2004). PEER REVIEWED: Use of a Community Trail Among New and Habitual Exercisers: A Preliminary Assessment. Preventing chronic disease, 1(4).

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse education today, 24(2), 105-112.

Gustafson, A., McGladrey, M., Liu, E., Peritore, N., Webber, K., Butterworth, B., & Vail, A. (2018). Examining key stakeholder and community residents' understanding of environmental influences to inform place-based interventions to reduce obesity in rural communities, Kentucky 2015. The Journal of Rural Health, 34(4), 388-395.

Hansen, A. Y., & Hartley, D. (2015). Promoting active living in rural communities. San Diego, CA: Active Living Research.

Heath, G. W., Brownson, R. C., Kruger, J., Miles, R., Powell, K. E., & Ramsey, L. T. (2006). The effectiveness of urban design and land use and transport policies and practices to increase physical activity: a systematic review. Journal of physical activity and health, 3(s1), S55-S76.

Hill, J. L., Waters, C. N., Kolivras, K. N., Estabrooks, P. A., & Zoellner, J. M. (2016). Do the features, amenities, and quality of physical activity resources differ between city and county areas of a large rural region?. Family & Community Health, 39(4), 273-282.

Humpel, N., Owen, N., & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity: a review. American journal of preventive medicine, 22(3), 188-199.

IPAQ Research Committee. (2005). Guidelines for data processing and analysis of the International Physical Activity Questionnaire (IPAQ)-short and long forms. http://www. ipaq. ki. se/scoring. pdf.

Jahns, L., McDonald, L. R., Wadsworth, A., Morin, C., & Liu, Y. (2014). Barriers and facilitators to being physically active on a rural US Northern Plains American Indian reservation. International journal of environmental research and public health, 11(11), 12053-12063.

Johnson, N. B., Hayes, L. D., Brown, K., Hoo, E. C., & Ethier, K. A. (2014). CDC National Health Report: leading causes of morbidity and mortality and associated behavioral risk and protective factors—United States, 2005–2013.

Kaczynski, A. T., & Henderson, K. A. (2008). Parks and recreation settings and active living: a review of associations with physical activity function and intensity. Journal of physical activity & health, 5(4).

Kahn, E. B., Ramsey, L. T., Brownson, R. C., Heath, G. W., Howze, E. H., Powell, K. E., ... & Corso, P. (2002). The effectiveness of interventions to increase physical activity: a systematic review. American journal of preventive medicine, 22(4), 73-107.

Kaiser, B. L., & Baumann, L. C. (2010). Perspectives on healthy behaviors among low-income Latino and non-Latino adults in two rural counties. Public Health Nursing, 27(6), 528-536.

Kaiser, B. L., Brown, R. L., & Baumann, L. C. (2010). Perceived influences on physical activity and diet in low-income adults from two rural counties. Nursing Research, 59(1), 67.

Kegler, M. C., Escoffery, C., Alcantara, I., Ballard, D., & Glanz, K. (2008). A qualitative examination of home and neighborhood environments for obesity prevention in rural adults. International Journal of Behavioral Nutrition and Physical Activity, 5(1), 1-10.

Kegler, M. C., Escoffery, C., Alcantara, I. C., Hinman, J., Addison, A., & Glanz, K. (2012). Perceptions of social and environmental support for healthy eating and physical activity in rural southern churches. Journal of Religion and Health, 51(3), 799-811.

Kegler, M. C., Alcantara, I., Dubruiel, N., Veluswamy, J. K., Appelbaum, H., & Handwerk, S. (2013). "Positive deviants": A qualitative study of physically active adults in rural environments. The Journal of primary prevention, 34(1), 5-15.

Kegler, M. C., Alcantara, I., Haardörfer, R., Gemma, A., Ballard, D., & Gazmararian, J. (2015). Rural neighborhood walkability: implications for assessment. Journal of Physical Activity and Health, 12(s1), S40-S45.

Kruger, T. M., Swanson, M., Davis, R. E., Wright, S., Dollarhide, K., & Schoenberg, N. E. (2012). Formative research conducted in rural Appalachia to inform a community physical activity intervention. American Journal of Health Promotion, 26(3), 143-151.

Li, W., Procter-Gray, E., Churchill, L., Crouter, S. E., Kane, K., Cheng, J., ... & Gurwitz, J. (2017). Gender and age differences in levels, types and locations of physical activity among older adults living in car-dependent neighborhoods. The Journal of frailty & aging, 6(3), 129.

Lo, B. K., Morgan, E. H., Folta, S. C., Graham, M. L., Paul, L. C., Nelson, M. E., ... & Seguin, R. A. (2017). Environmental influences on physical activity among rural adults in

Montana, United States: views from built environment audits, resident focus groups, and key informant interviews. International journal of environmental research and public health, 14(10), 1173.

Lutfiyya, M. N., Lipsky, M. S., Wisdom-Behounek, J., & Inpanbutr-Martinkus, M. (2007). Is rural residency a risk factor for overweight and obesity for US children?. Obesity, 15(9), 2348-2356.

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. All Ireland Journal of Higher Education, 9(3).

Martin, K. R., Schoster, B., Shreffler, J. H., Meier, A., & Callahan, L. F. (2007). Perceived barriers to physical activity among North Carolinians with arthritis: findings from a mixed-methodology approach. North Carolina medical journal, 68(6), 404-412.

Matthews, K. A., Croft, J. B., Liu, Y., Lu, H., Kanny, D., Wheaton, A. G., ... & Giles, W. H. (2017). Health-related behaviors by urban-rural county classification—United States, 2013. MMWR Surveillance Summaries, 66(5), 1.

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. Health education quarterly, 15(4), 351-377.

Meyer, M. R. U., Moore, J. B., Abildso, C., Edwards, M. B., Gamble, A., & Baskin, M. L. (2016). Rural active living: a call to action. Journal of public health management and practice: JPHMP, 22(5), E11.

Meyer, M. R. U., Perry, C. K., Sumrall, J. C., Patterson, M. S., Walsh, S. M., Clendennen, S. C., ... & Valko, C. (2016). Peer Reviewed: Physical Activity–Related Policy and Environmental Strategies to Prevent Obesity in Rural Communities: A Systematic Review of the Literature, 2002–2013. Preventing chronic disease, 13.

Microsoft Corporation. (2016). Microsoft Excel. Retrieved from https://office.microsoft.com/excel.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group*. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Annals of internal medicine, 151(4), 264-269.

Morgan, E. H., Graham, M. L., Folta, S. C., & Seguin, R. A. (2016). A qualitative study of factors related to cardiometabolic risk in rural men. BMC Public Health, 16(1), 1-10.

Mowen, A., Orsega-Smith, E., Payne, L., Ainsworth, B., & Godbey, G. (2007). The role of park proximity and social support in shaping park visitation, physical activity, and perceived health among older adults. Journal of Physical Activity and Health, 4(2), 167-179.

National Center for Chronic Disease Prevention and Health Promotion. Health and Economic Costs of Chronic Diseases 2022. https://www.cdc.gov/chronicdisease/about/costs/index.htm

Park, T., Eyler, A. A., Tabak, R. G., Valko, C., & Brownson, R. C. (2017). Opportunities for promoting physical activity in rural communities by understanding the interests and values of community members. Journal of Environmental and Public Health, 2017.

Parker, T. (2013). Rural-urban continuum codes.

Parks, S. E., Housemann, R. A., & Brownson, R. C. (2003). Differential correlates of physical activity in urban and rural adults of various socioeconomic backgrounds in the United States. Journal of Epidemiology & Community Health, 57(1), 29-35.

Pedersen, M., Harris, K. J., Lewis, J., Grant, M., Kleinmeyer, C., Glass, A., ... & King, D. (2021). Uplifting the voices of rural American Indian older adults to improve understanding of physical activity behavior. Translational behavioral medicine, 11(9), 1655-1664.

Piercy, K. L., Troiano, R. P., Ballard, R. M., Carlson, S. A., Fulton, J. E., Galuska, D. A., ... & Olson, R. D. (2018). The physical activity guidelines for Americans. Jama, 320(19), 2020-2028.

QSR International Pty Ltd. (2020) NVivo (released in March 2020), https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home

Raghupathi, W., & Raghupathi, V. (2018). An empirical study of chronic diseases in the United States: a visual analytics approach to public health. International journal of environmental research and public health, 15(3), 431.

Reed, J. A., Ainsworth, B. E., Wilson, D. K., Mixon, G., & Cook, A. (2004). Awareness and use of community walking trails. Preventive medicine, 39(5), 903-908.

Roberts, E. B., Fleischhacker, S., Pardilla, M., Treuth, M., Gadhoke, P., Christiansen, K., & Gittelsohn, J. (2016). Self-Reported Physical Activity Among American Indian Adults From Two Diverse Regions. The Journal of Rural Health, 32(2), 146-155.

Roemmich, J. N., Johnson, L., Oberg, G., Beeler, J. E., & Ufholz, K. E. (2018). Youth and adult visitation and physical activity intensity at rural and urban parks. International journal of environmental research and public health, 15(8), 1760.

Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K., & Kerr, J. (2006). An ecological approach to creating active living communities. Annu. Rev. Public Health, 27, 297-322.

Sallis, J. F., Owen, N., & Fisher, E. (2015). Ecological models of health behavior. Health behavior: Theory, research, and practice, 5(43-64).

Sandelowski, M. (2000). Whatever happened to qualitative description?. Research in nursing & health, 23(4), 334-340.

Sanderson, B., Littleton, M., & Pulley, L. V. (2002). Environmental, policy, and cultural factors related to physical activity among rural, African American women. Women & health, 36(2), 73-88.

Scott, D., & Jackson, E. L. (1996). Factors that limit and strategies that might encourage people's use of public parks. Journal of Park and Recreation Administration, 14(1), 1-17.

Seguin, R., Connor, L., Nelson, M., LaCroix, A., & Eldridge, G. (2014). Understanding barriers and facilitators to healthy eating and active living in rural communities. Journal of nutrition and metabolism, 2014.

Seguin, R. A., Morgan, E. H., Connor, L. M., Garner, J. A., King, A. C., Sheats, J. L., ... & Buman, M. P. (2015). Peer Reviewed: Rural Food and Physical Activity Assessment Using an Electronic Tablet-Based Application, New York, 2013–2014. Preventing chronic disease, 12.

Shaw, B. A., Gallant, M. P., Riley-Jacome, M., & Spokane, L. S. (2006). Assessing sources of support for diabetes self-care in urban and rural underserved communities. Journal of community health, 31(5), 393-412.

Shores, K. A., West, S. T., Theriault, D. S., & Davison, E. A. (2009). Extra-individual correlates of physical activity attainment in rural older adults. The Journal of Rural Health, 25(2), 211-218.

Stasi, S., Spengler, J., Maddock, J., McKyer, L., & Clark, H. (2019). Increasing access to physical activity within low income and diverse communities: a systematic review. American Journal of Health Promotion, 33(6), 933-940.

Tester, J., & Baker, R. (2009). Making the playfields even: evaluating the impact of an environmental intervention on park use and physical activity. Preventive medicine, 48(4), 316-320.

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. American journal of evaluation, 27(2), 237-246.

Thompson, J. L., Wolfe, V. K., Wilson, N., Pardilla, M. N., & Perez, G. (2003). Personal, social, and environmental correlates of physical activity in Native American women. American Journal of Preventive Medicine, 25(3), 53-60.

Trost, S. G., Owen, N., Bauman, A. E., Sallis, J. F., & Brown, W. (2002). Correlates of adults' participation in physical activity: review and update. Medicine & science in sports & exercise, 34(12), 1996-2001.

Tuso, P. (2015). Strategies to increase physical activity. The Permanente Journal, 19(4), 84.

Umstattd, M. R., Baller, S. L., Hennessy, E., Hartley, D., Economos, C. D., Hyatt, R. R., ... & Hallam, J. S. (2012). Development of the rural active living perceived environmental support scale (RALPESS). Journal of Physical Activity and Health, 9(5), 724-730.

University of Wisconsin Population Health Institute. County Health Rankings 2022. Available at www.countyhealthrankings.org. Accessed 06/16/2022.

US Department of Health and Human Services. Physical Activity Guidelines for Americans. 2nd ed. Washington, DC: US Dept of Health and Human Services; 2018.

Walsh, S. M., Meyer, M., Gamble, A., Patterson, M. S., & Moore, J. B. (2017). A systematic review of rural, theory-based physical activity interventions. American Journal of Health Behavior, 41(3), 248-258.

Wang, D., Brown, G., Liu, Y., & Mateo-Babiano, I. (2015). A comparison of perceived and geographic access to predict urban park use. Cities, 42, 85-96.

Wende, M. E., Kaczynski, A. T., Bernhart, J. A., Dunn, C. G., & Wilcox, S. (2020). Objective Church Environment Audits and Attendee Perceptions of Healthy Eating and Physical Activity Supports within the Church Setting. International Journal of Environmental Research and Public Health, 17(10), 3598.

Wendel-Vos, W. M. S. J. F., Droomers, M., Kremers, S., Brug, J., & Van Lenthe, F. (2007). Potential environmental determinants of physical activity in adults: a systematic review. Obesity reviews, 8(5), 425-440.

White, M. J., Perrin, A. J., Caren, N., & Perrin, E. M. (2020). Back in the day: nostalgia frames rural residents' perspectives on diet and physical activity. Journal of Nutrition Education and Behavior, 52(2), 126-133.

White, M. J., Holliday, K. M., Hoover, S., Robinson-Ezekwe, N., Corbie-Smith, G., Williams, A., ... & Frerichs, L. (2021). The significant places of African American adults and their perceived influence on cardiovascular disease risk behaviors. BMC public health, 21(1), 1-12.

Whitfield, G. P., Carlson, S. A., Ussery, E. N., Fulton, J. E., Galuska, D. A., & Petersen, R. (2019). Trends in meeting physical activity guidelines among urban and rural dwelling adults—United States, 2008–2017. Morbidity and Mortality Weekly Report, 68(23), 513.

Wiggs, I., Brownson, R. C., & Baker, E. A. (2008). If you build it, they will come: lessons from developing walking trails in rural Missouri. Health promotion practice, 9(4), 387-394.

Yankeelov, P. A., Faul, A. C., D'Ambrosio, J. G., Collins, W. L., & Gordon, B. (2015). "Another day in paradise" a photovoice journey of rural older adults living with diabetes. Journal of Applied Gerontology, 34(2), 199-218.

Yeary, K. H. K., Chi, X., Lensing, S., Baroni, H., Ferguson, A., Su, J., ... & Linnan, L. (2019). Peer Reviewed: Overweight and Obesity Among School Bus Drivers in Rural Arkansas. Preventing Chronic Disease, 16.

Zimmermann, K., Carnahan, L. R., & Peacock, N. R. (2016). Peer Reviewed: Age-Associated Perceptions of Physical Activity Facilitators and Barriers Among Women in Rural Southernmost Illinois. Preventing chronic disease, 13.

APPENDIX A

APPROVAL OF RESEARCH

DIVISION OF RESEARCH

APPROVAL OF RESEARCH
Using Expedited Procedures
(Common Rule – Effective January 2018)

August 02, 2022

Type of Review: Submission Response for Initial Review Submission Form
Title: Community Setting Use for Physical Activity in Texas Rural Adults Qualitative Study
Investigator: Mark Faries
IRB ID: IRB2022-0862D
Reference Number: 144802
Special Determinations: Written consent in accordance with 45 CFR 46.117/ 21 CFR 50.27

APPENDIX B

RECRUITMENT EMAIL

Community Setting Use Qualitative Study IRB | 2022
Michael L. Lopez, MUP | Co-Principal Investigator
IRB2022-0862

Email Text:

Subject Heading: Request for Participation in a Focus Group in ___ [county] County
Dear ___ [friends, committee name, etc.]

My name is ___ [name], and I am the ___ [position] with Texas A&M AgriLife Extension. I am emailing to request your participation in a focus group discussion that will examine the factors that contribute to your use and re-use of locations in our community for physical activity.

The study is being led by Michael Lopez, a doctoral candidate in the School of Public Health - Health Behavior Department and Extension Program Specialist with AgriLife Extension - Family and Community Health unit.

He is looking for adults that live in Anderson, Comanche, Gillespie, Houston, Milam, Leon, or Washington county who would like to talk about their experiences with using locations in our community for physical activity. There will be a discussion group from ___ [time] until ___ [time] on ___ [date]. Each group will have about 8 - 12 people, and you will answer questions about the places that you are physically active and what kind of things keep you from using other places.

This is not a required activity; it's just for those who want to volunteer to participate. As a token of appreciation, snacks and a small gift will be provided.

If you are interested in joining, please reply directly to Michael (CC'ed here). He will be able to answer any questions that you have if you email or call him at 979-321-5017.

Thank you, I hope that you will join him for this helpful study!

TAMU IRB Approval Number: IRB2022-0862
Approved Date: TBD

Sincerely,
___ [name]

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/09/2022

APPENDIX C

RECRUITMENT SCRIPT

My name is Michael Lopez, a doctoral candidate in the School of Public Health - Health Behavior Department and Extension Program Specialist with AgriLife Extension - Family and Community Health unit.

I would like to request your participation in a focus group discussion that will examine the factors that contribute to your use and re-use of locations in your community for physical activity.

I am looking for adults that live in Anderson, Comanche, Gillespie, Houston, Milam, Leon, or Washington county who would like to talk about their experiences with using locations in your community for physical activity.

Directly after this event, there will be a discussion group from ___ [time] until ___ [time]. I would like to have about 8 - 12 people, and you will answer questions about the places that you are physically active and what kind of things keep you from using other places.

This is not a required activity; it's just for those who want to volunteer to participate. As a token of appreciation, dinner and a small gift will be provided.

If you are interested in joining, please join us at ___ [location]. I would be happy to answer any questions too!

Thank you, I hope that you will join me for this helpful study!

TAMU IRB Approval Number: IRB2022-0862D
Approved Date: 08/02/2022

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/02/2022

APPENDIX D

FOCUS GROUP SHORT SURVEY

SCHOOL OF PUBLIC HEALTH

TEXAS A&M HEALTH

Health Behavior

Michael L. Lopez
DrPH Candidate

TEXAS A&M UNIVERSITY

Focus Group Short Survey

Please take 10 to 15 minutes to complete this survey. We are asking you fill out this information to help us better understand the rural residents that we are trying to serve. You are free to skip any questions you prefer not to answer. The data will be securely stored, and only key study team members will have access to it. There is no identifying information collected, so any data analysis or reports will not be tied to you.

Participant Code:

1. What is your focus group participant code: _____

Demographics:

2. Sex
   - ☐ Male
   - ☐ Female
   - ☐ Prefer not to answer

3. Age
   - Enter in years _____

4. Are you of Hispanic, Latino or Spanish origin?
   - ☐ Yes
   - ☐ No

5. Race(s) you identify with most. (Select all that apply)
   - ☐ American Indian or Alaska Native
   - ☐ Asian
   - ☐ Black or African American
   - ☐ Native Hawaiian or Other Pacific Islander
   - ☐ White

6. What is your marital status?
   - ☐ Married
   - ☐ Partner/Significant other
   - ☐ Single
   - ☐ Divorced/Separated
   - ☐ Widowed

7. How many people live in your household? _____
   - How many adults live in your household? _____
   - How many children (individuals less than 18 years of age) live in your household? _____

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/08/2022

ued on next page →

8. What is the highest level of education you have completed?
   - ☐ Less than high school
   - ☐ High school or GED
   - ☐ Some college, but have not graduated
   - ☐ Two-year college degree
   - ☐ Four-year college degree

9. Which of these categories best describe your household income for the past 12 months? This should include income (before taxes) from all sources, wages, veteran's benefits, help from relatives, rent from properties, etc.
   - ☐ Less than $5,000
   - ☐ $5,000 through $11,999
   - ☐ $12,000 through $15,999
   - ☐ $16,000 through $24,999
   - ☐ $25,000 through $34,999
   - ☐ $35,000 through $49,999
   - ☐ $50,000 through $74,999
   - ☐ $75,000 through $99,999
   - ☐ $100,000 and greater
   - ☐ Don't know

10. In what county do you currently live? _____

Physical Activity:

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise, or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

11. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

    _____ **days per week**

    ☐ No vigorous physical activities ***Skip to question 13***

12. How much time did you usually spend doing **vigorous** physical activities on one of those days?

    _____ **hours per day**
    _____ **minutes per day**

    ☐ Don't know/Not sure

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/08/2022

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

13. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

    _____ **days per week**

    ☐ No moderate physical activities ***Skip to question 15***

14. How much time did you usually spend doing **moderate** physical activities on one of those days?

    _____ **hours per day**

    _____ **minutes per day**

    ☐ Don't know/Not sure

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you have done solely for recreation, sport, exercise, or leisure.

15. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time?

    _____ **days per week**

    ☐ No walking ***Skip to question 17***

16. How much time did you usually spend **walking** on one of those days?

    _____ **hours per day**

    _____ **minutes per day**

    ☐ Don't know/Not sure

The last question is about the time you spent **sitting** on weekdays during the **last 7 days**. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.

17. During the **last 7 days**, how much time did you spend **sitting** on a **week day**?

    _____ **hours per day**

    _____ **minutes per day**

    ☐ Don't know/Not sure

ued on next page →

18. During the **past month**, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?
    - ☐ Yes
    - ☐ No

Community Setting Use:

19. **During the past month**, other than your regular job, were you physically active outside the home at any of the following locations:

Church facilities: areas at the churches in your community that could be used for exercise or physical activity

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

Town center or main street: places that support physical activity in the main part of your town. Examples include the library, town hall, town green, post office, courthouse, or the main meeting place in your town

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

Indoor areas: indoor places, such as indoor pools, recreation centers, YMCAs, gyms, fitness centers, exercise rooms, sports courts, skate areas, or areas with exercise gear (balls, treadmills, etc.) in your town

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

Around your neighborhood: this includes the sidewalks and streets around your home; and the homes close to your home

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

School grounds: areas at the schools in your community that could be used for exercise or physical activity

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

Outdoor areas: outdoor places designed for physical activity, such as outdoor pools, sports fields, sports courts, skate areas, tracks, trails, parks, lakes, rivers, or playgrounds

	Never	Rarely	Sometimes	Very Often	Always
How often did you use this community setting?	☐	☐	☐	☐	☐

Focus Group Survey Complete. Thank you!

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/08/2022

APPENDIX E

FOCUS GROUP GUIDE

SCHOOL OF PUBLIC HEALTH

TEXAS A&M HEALTH

Health Behavior

Michael L. Lopez
DrPH Candidate

TEXAS A&M UNIVERSITY

Community Setting Use Study
Qualitative Research: Version 1.1
August 1, 2022

Focus Group Guide

County:
Location:
Date:
Time:

Moderator:
Note taker:

Participants:

Hello. I would like to welcome you all here today. My name is Mike Lopez, and I am from the Texas A&M School of Public Health and Texas A&M AgriLife Extension.

Consent

Before we begin, I would like us to review the Consent document and provide an opportunity to answer any questions that you might have.

Review the Informed Consent document and answer all questions. Participants will sign two copies, one for the researcher and one for themselves.

Introduction

Thank you for your time today, this session should only take about 1 hour to complete.

The goal of this focus group is to learn about locations in your community that you use for physical activity. We want to learn from community members like yourselves and you have been asked to participate because you live in a rural community in Texas. My job is to get your opinions on what makes it easier or harder to use community settings for physical activity.

Would everyone be willing to answer a few questions to help me understand what things in your community may influence whether you use a community setting for physical activity or not?

Thank you. I want you to feel comfortable during the session so please get up and have refreshments if you like, or go to the bathroom, which is located _____.

You'll notice that I am tape recording this session; this is something we use to write the report so I can remember what was said. There are no right or wrong answers to any of our questions. I am just looking for your points of view and

Office Location: Texas A&M AgriLife Extension | Family & Community Health
Mailing Address: 2251 TAMU, College Station, TX 77843-2251
Physical Address: 1470 William D. Fitch Parkway, College Station, TX 77845

Tel. 979.321.5017
mllopez@tamu.edu

IRB NUMBER: IRB2022-0862D
IRB APPROVAL DATE: 08/08/2022

thoughts about this topic. We expect you to have different opinions, so please feel free to share yours even if it differs from what others have said. However, please make sure that you respect what others are saying, even if you disagree with it.

Here are a few additional housekeeping matters:

- Please talk one at a time
- Talk in a voice as loud as mine
- Avoid side conversations with your neighbors
- Let's work for equal "airtime" so that no one talks too little or too much

As a reminder, your responses will be kept confidential throughout this process. Once we complete data collection for our study, we will ensure all data is de-identified. This means no recorded or stored data can be tracked back to you, so please be as truthful as possible. To respect everyone participating in this session we ask that you keep what is shared confidential too.

We have name tags on to help me remember your names, but they can also help you. If you want to follow up on something someone has said, please feel free to do that.

To get started, I would like to understand if you currently use a setting in your community for physical activity.

Prompts: remind of handout with definitions and examples of community, setting, use, and physical activity

Does anyone have any questions about these definitions?

If not, please tell us your first name and if you currently use or have used any community setting for physical activity. You don't need to go in any order. Feel free to just jump in.

Question 1: What factors do you, or would you, consider when choosing to use a community setting for physical activity?

Prompts: probe on use specifically, are there certain aspects or things of the community setting

Question 2: What type of things prevent you from, or makes it harder to, use these community settings for physical activity?

Prompts: probe for both internal (feelings, beliefs, personal traits) and external suggestions (social support, safety, community, setting)

Question 3: What type of things help you, or makes it easier to, use these community settings for physical activity?

Prompts: probe for both internal (feelings, beliefs, personal traits) and external suggestions (social support, safety, community, setting)

Finally, I would like to understand more about re-using community settings. Remember to review your handout for the definition.

Question 4: What factors do you, or would you, consider when choosing to re-use a community setting for physical activity?

Prompts: probe on re-use specifically, are there certain aspects or things of the community setting

[Summarize the discussion]. Do you think that accurately captures what we talked about today? Is there anything else that you would like to add?

Thank you all very much for your time. The information you have given me will be very helpful in shaping this project, so that we are best able to help rural adults increase their use of community settings for physical

APPENDIX F

INFORMED CONSENT

TEXAS A&M UNIVERSITY HUMAN RESEARCH PROTECTION PROGRAM
INFORMED CONSENT DOCUMENT FOR FOCUS GROUP DISCUSSION

Title of Research Study: Community Setting Use for Physical Activity in Texas Rural Adults

Co-Principal Investigator: Michael Lopez

Supported By: This research is supported by Texas A&M AgriLife Extension and Texas A&M University.

Why are you being invited to take part in a research study?

You are being asked to participate because you are an adult living in one of the following rural counties in Texas: Anderson, Comanche, Gillespie, Houston, Milam, Leon, and Washington.

What should you know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the Co-Principal Investigator, Michael Lopez at 979-321-5017 or mllopez@ag.tamu.edu.

This research has been reviewed and approved by the Texas A&M Institutional Review Board (IRB). You may talk to them at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu., if

- You cannot reach the research team.
- Your questions, concerns, or complaints are not being answered by the research team.

- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The aim of this study is to evaluate the factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults.

How long will the research last?

A short survey and focus group will last for approximately one (1) hour

How many people will be studied?

We expect to enroll about 8 – 12 people in this research study at this site. Approximately 60 people in the entire study statewide will be enrolled.

What happens if I say "Yes, I want to be in this research"?

You will meet for an hour-long small focus group discussion to share your thoughts about the use and re-use of community settings for physical activity. Participants will also take a survey.

What happens if I do not want to be in this research?

This research is completely voluntary. You can leave the research at any time and it will not be held against you.

What happens if I say "Yes", but I change my mind later?

You can leave the research at any time, and it will not be held against you. If you decide to leave the research, contact the investigator so that the investigator can delete any collected data.

What happens to the information collected for the research?

The records of this study will be kept private. While the discussion will be recorded, no identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely. Only research personnel will have access to the records, and the audio recordings will be transcribed and analyzed using NVivo – a software of QSR International. The third party will not disclose any of the information.

For more information about QSR International, please see the Privacy Policy: https://www.qsrinternational.com/privacy-policy

What happens to the information collected for the research?

Information collected as part of the research will NOT be used for other studies or given to other researchers for future research studies.

What else do I need to know?

This activity will not expose you to any more risk than you would come across in everyday life. As a token of appreciation, a snack and small gift will be provided.

What are the benefits of the research?

This research will include important information on the factors of community setting use and re-use. This information will help in the development of future AgriLife Extension education programs to promote the use of community settings for physical activity with rural adults.

Audio Recording:

Audio recordings are mandatory for focus group participation and if you do not want to be recorded, then you can choose not to participate.

Statement of Consent:

I agree to be in this study and know that I am not giving up any legal rights by signing this form. The procedures, risks, benefits have been explained to me, and my questions have been answered. I know that new information about this research study will be provided to me as it becomes available, and that the researcher will tell me if I must be removed from the study. I can ask more questions if I want.

_____ _____

Participant's Signature Date

_____

Printed Name

Additional Consent:

_____ I give my permission for audio recordings to be made of me during my participation in this research study.

Investigator's Affidavit

Either I have or my agent has carefully explained to the participant the nature of the above project. I hereby certify that to the best of my knowledge the person who signed this consent form was informed of the nature, demands, benefits, and risks involved with his/her participation

_____ _____

Signature of Presenter Date

_____

Printed Name

APPENDIX G

FOCUS GROUP HANDOUT

TEXAS A&M AGRILIFE EXTENSION

TEXAS A&M UNIVERSITY

COMMUNITY SETTING USE FOR PHYSICAL ACTIVITY IN TEXAS RURAL ADULTS

ABOUT TODAY'S

FOCUS GROUP

The goal of the focus group is to learn about locations in your community that you use for physical activity.

DEFINITIONS:

Community
Can include your general location or area, but also any connections by interests or relationships, like work or spiritually

Setting
A location where people can be physically active. See community setting image handout for examples.

Use
A single visit to a community setting. No routine or consistency with the setting.

Physical Activity
Any body movement that expends energy

Exercise
Specific type of physical activity designed to increase fitness or get you in shape

Re-Use
The action of using a community setting again or more than once

Contact me: 979-321-5017 MLLope

IRB NUMBER: IRB2022-08620
IRB APPROVAL DATE: 08/08/2022

COMMUNITY SETTINGS

EXAMPLES OF COMMUNITY SETTINGS

INCLUDES CHURCH FACILITIES, TOWN CENTERS, INDOOR AREAS, AROUND THE NEIGHBORHOOD, SCHOOL GROUNDS, AND OUTDOOR AREAS

APPENDIX H

CODEBOOK

Community Setting Use for Physical Activity Focus Group Codebook

Overall objective:

To elucidate factors that contribute to the use and re-use of community settings for physical activity in Texas rural adults

Ecological Framework: a conceptual model, guided by an ecological framework, led to the creation of categories that influence community setting use. The three major components include the community, setting, and user.

Codebook:

Code	Definition	Subcodes
Community Setting Use - Experience	A description about the use of a community setting that the user experienced	- Described a unique use or one-time decision to use the community setting - The use was not a planned experience - The user described something that prevented a decision to re-use the community setting
Community Setting Re-Use - Experience	A description about the re-use of a community setting that the user experienced	- Described a positive experience that brought the user back to the community setting - Discussed an adjustment that was made to re-use the community setting
Community Setting Use - Vicarious / Non-Experience	A description about the community setting that the user has not experienced themselves	- Described something that the user has not experienced
Physical Activity	A factor related to physical activity and not related to the use of a community setting	- Described a type of physical activity - Discussed a factor related to physical activity and not use
Location	A community setting for physical activity	- A location for physical activity was described