Promoting Physical Activity Through Extension Education and Survey-Based Insights

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Abstract

To determine the impact of walking trails in Cape May County and establish the built environment's ability to support improved frequency of physical activity, the Family and Community Health Science Agent designed and administered a survey study. This pilot project sought to determine how the built environment in Cape May County, New Jersey was perceived by residents and visitors and to collect data on trail usage, safety, and, demographics. Additionally, the study used Cooperative Extension's unique position as the community arm of the University to establish partnerships within the county to meet both University and County objectives.

Introduction

In the United States, only 28.3% of men and 20.4% of women meet the recommendations for weekly physical activity (Elgaddal, et al. 2022). Sedentary lifestyles cost 117 billion dollars annually in healthcare costs and are reported to be the cause of 1 in 10 premature deaths (CDC, 2023). Regular physical activity reduces the incidence of chronic disease, improves symptoms of depression and anxiety and, can improve sleep quality and quantity (United States Department of Health Human Services, 2018). The Physical Activity Guidelines for Americans (PAGA) recommends adults participate in 150 to 300 minutes of cardiovascular exercise each week with an additional two days that include muscle strengthening exercises (USDHHS, 2018). Cooperative Extension delivers research-based knowledge and education to communities nationwide, offering services that promote health and wellness. These efforts include encouraging physical activity as a valuable tool for enhancing overall quality of life.

Over the past two decades, built environments have gained prominence in community development initiatives by promoting increased physical activity through the creation of safe, planned spaces for living, working, and, playing. The United States Department of Transportation (USDOT) has focused on collaborations with state and local government to encourage healthier built environments by approaching broader public health concerns such as chronic disease prevention, improved equity, increased physical activity and, improved safety (U.S. Department of Transportation, 2015). Beginning in the 1990's policy makers in Cape May County, New Jersey planned and designated funds and maintenance resources to establish a county-built environment to promote safe and convenient exercise (New Jersey Bicycle and Pedestrian Resource Center, 2017). While built environments aim to create community enhanced physical activity opportunities, few studies have been done to determine the success of these changes (McCormick et al. 2022). There is also evidence that the built environment may need supplemental education to support increased movement (McCormick et al. 2022). Cooperative Extension programs are an excellent resource to assess community behaviors and to design effective educational programs to promote physical activity.

To encourage more physical activity and exercise amongst residents and visitors, the Cape May County Family and Community Health Sciences Agent created the Cape May County Walking Guide to promote the use of the built environment. The Cape May County Walking Guide is available online and in print at the county Cooperative Extension office and was designed as an educational tool to increase movement. It was theorized that the guidebook effectively provided education and awareness about the built environment as an exercise modality to increase physical activity in the community. However, the guidebook did not assess the need for additional education to promote increased physical activity or examine how the built environment was being used as a means of exercise.

Purpose

Cooperative Extension is well positioned in the local community to evaluate and deliver education for better community health outcomes. The County Agent designed, administered and assessed a survey study to evaluate how the built environment was being utilized. It was hypothesized that user feedback from this study could potentially inform trail expansion and guide the

development of physical activity education initiatives by Cooperative Extension. This research project gathered user input on safety, signage, demographics, and, exercise habits.

Methods

An Institutional Review Board (IRB) protocol (Pro 2023000920) was obtained from Rutgers University for a 20-question online survey using Qualtrics as the data collection tool (see Image 1). The survey reported a 99% response quality and allowed only one survey to be completed per person.

To effectively gather data, the Cape May County Walkability project posted signs at walking trails throughout the county with a Quick Response (QR) code. The QR code directed participants to the survey questions about safety, demographics, and, activity level. Anyone who saw the sign and chose to scan the QR code was eligible to participate. Fifty-nine signs were posted throughout Cape May County at trailheads and parking lots between June 1, 2023, and November 1st, 2023 (see Image 2). These dates were chosen to obtain an appropriate response from both residents and visitors because this is the height of tourism season in the county. No signs were placed in areas where data could be skewed by a high number of people using the trails for non-physical recreation, such as beaches and boardwalks. No signs were posted in the State Forest due to the substantial number of trails in that concentrated area. The first one hundred participants were offered an incentive to complete the survey.

The County Agent partnered with the County Planning Director to develop a twenty-question pilot survey designed to gather inferential data on how the built environment is used and its effectiveness in encouraging physical activity among residents. Questions about physical activity were designed based on the Physical Activity Guidelines for Americans and cardiovascular exercise questions were categorized into three key components – intensity, frequency, and, duration (USDHHS, 2018). The County Planning Executive contributed questions specifically about the built environment for use in the development and sustainability of trails and included questions about relevant signage, distance willing to travel and, points of interest. Questions were administered using Qualtrics and no data linking the respondent to the response was collected.

Results

Surveys were completed by both residents (54%) and visitors (46%) of Cape May County with 333 total responses recorded and 251 completed surveys (n=251). Participants who were visitors to the County came from fifteen different states (53%) outside of New Jersey, as well as from international locations (>1%), while 46% were visitors from other counties within New Jersey. Most respondents were female (58%), primarily between the ages of 55-65 (26%) and 46-55 (21%) additionally 2% identified as Hispanic. Thirty-six percent had an income of $125,000 or more and 44% held a college degree (see Figure 1). The demographic data in this study closely aligns with county statistics, including income ($80,800 annually), age (29.5% over 65 years old), and, ethnicity (8.6% Hispanic) (University of Wisconsin Population Health Institute, 2024).

Safety is a critical aspect of a well-designed built environment, and factors such as poor lighting, excessive trash, crime, and, challenging terrain can discourage use (Giles, et al. 2021). To assess trail safety, participants were asked to share their perceptions of both the trails where they completed the survey and those they used regularly. Trail safety was measured using response options of safe, unsafe, or neutral. Various conditions were evaluated including terrain, surroundings, lighting, trash in area, crime in area, and, signage for orientation/wayfinding. Overall, safety was not a reported concern at the survey location - lighting (70%), trash in area (81%) terrain (96%), surroundings (95%), crime (93%) and, signage for way finding (83%) were all favorably identified as safe. Comparable positive outcomes were observed on other trails (trails where the survey was not taken but used by participants), with favorable safety results including lighting (78%), trash in area (78%) terrain (92%), surroundings (93%), crime (89%) and, signage for way finding (84%) (see Figure 2). Findings from the safety portion of this study are not

surprising given Cape May County's low crime rates, flat terrain, safe surroundings and, well-planned built environment.

The Physical Activity Guidelines for Americans highlight the built environment's role in enhancing community well-being by improving access to diverse physical activity opportunities (USDHHS, 2018). To assess respondents' fitness levels and commitment to regular exercise, questions were asked about the frequency, intensity, and, duration of their workouts. The data collected showed that most users were regular moderate exercisers. Specifically, 17% reported engaging in over 300 minutes of moderate exercise per week, 15% exercised for 151-300 minutes, while 14% reported 60-100 minutes, and, another 14% exercised for 31-60 minutes weekly. Only a small percentage (3%) did not engage in any regular exercise, while vigorous exercisers (15% in total) participated in varying amounts, ranging from 31 to 300 minutes weekly. The County Health Rankings and Roadmaps reports Cape May County as average in physical inactivity days (22%) which aligns with state (23%) and United States (23%) amounts (University of Wisconsin Population Health Institute, 2024).

In addition to examining user habits, this study aimed to evaluate how trails fulfilled users' personal needs, ensuring the sustainability of the built environment while enabling Cooperative Extension to assess and enhance educational opportunities. Proximity to home and work (70%) met the needs of the majority, followed by surroundings (55%), and, safety (43%) were listed as most important for personal needs. Multiple use opportunities including play area, exercise equipment and, fields were important to 43% of participants while 3% felt wheelchair accessibility was prudent. Most participants indicated they had driven from within five miles (46%) to access the built environment trail system and 36% walked or biked from within 3 miles of the trail. Only 13% drove more than five miles and 4% walked or biked further than 3 miles. The county's-built environment is extensive; however, data indicates that 59% of respondents used motorized transportation to access it, suggesting it may not effectively support the goal of providing easy access to exercise opportunities.

The *Cape May County Walking Guide* provided research-based education on the benefits of physical activity, along with practical strategies for incorporating movement into daily life. Designed to be user-friendly, it served as an accessible and engaging educational resource. To determine if the guidebook was being utilized one question on the survey asked, "have you ever used the Cape May County Walking Guide", respondents overwhelmingly responded no (96%) they had not used the guidebook. Although distribution through the County Extension office, tourism centers, libraries, and county buildings remain steady, survey responses did not reflect significant usage. This highlighted the need for improved marketing efforts and alternative distribution methods to enhance the guidebook's reach.

Discussion

Well-designed built environments can improve community access to physical activity; however, availability alone does not ensure usage. To promote long-term sustainability, it is essential to understand user perceptions, evaluate how different modalities are utilized, and, identify educational strategies that could encourage greater physical activity. This study led to increased collaboration between Cooperative Extension and the County, provided insights into educational opportunities for utilizing the built environment, and, enhanced understanding of user perceptions for physical activity promotion. However, it presented both benefits and challenges, offering valuable lessons for enhancing data collection and, improving outcomes in future research.

The Cape May County Planning Department has been collaborating with the South Jersey Transportation Organization (SJPTO) to establish a cross-county bike trail system. Because the Cooperative Extension Agent developed a relationship with the Planning Department for the Walkability study the final data was shared with SJPTO for future trail planning. The ability to share data related to the built environment positioned Cooperative Extension and specifically the department of Family and Community Health Sciences as a worthy partner within the county for research and evaluation.

The *Cape May County Walking Guide* has been widely distributed and requested (average 3000 copies distributed per year since 2022). It is marketed on the FCHS Facebook page, given out at tabling events, distributed in county buildings, shared at educational events, and, requested by community members. However, the poor user rating (4%) received in the Walkability Study demonstrates that it did not reach a portion of county residents and visitors and, more specifically it did not reach those using the built environment. A valuable lesson learned was that the guidebook needed to be marketed in various ways to reach a wider audience. To enhance readership of the guidebook, FCHS created small signs featuring a QR code that directs users to the virtual guidebook (see Image 3). These signs were placed in additional public locations, including post offices, restaurants, and, stores. Additionally, the guidebook is emailed to participants of FCHS educational programs after each class. Recognition that the guidebook had the ability to reach a broader audience was a positive outcome of the study.

The Walkability Study evaluated a small section of the community and was not an exhaustive inclusion of the entire population as is often the case with survey studies. The survey did reach visitors and residents of Cape May County but only a small portion of the community was represented, the majority of which were regular exercisers. Participants who took part recognized the convenient location, surroundings, safety, and, availability of multiple-use spaces as positive factors for their personal needs. Extension professionals can leverage personal convenience data to tailor educational opportunities within workplace wellness programs. Given that proximity to work was identified as a key benefit, it is logical to promote both the built environment and Extension education to encourage physical activity in workplaces. Safety and multi-use options could be promoted to the public for more widespread community use of the built environment and Extension professionals are well situated to offer information in existing programming. The impact of Extension education on the built environment could be assessed after each program that incorporates it, allowing for a broader evaluation of community members' perceptions.

Unfortunately, the study unintentionally omitted the collection of racial demographic data, which could have provided valuable insight for inclusiveness and educational programs. Cape May County is not a diverse community, however ensuring that all residents and visitors are included in Extension education is critical. According to the 2023 US Census Cape May County residents are comprised of 91.6% White community members, 4.7% Black, 0.5% American Indian and Alaska Native, 1.0% Asian, 0.1% Native Hawaiian/other Pacific Islander, 2.1% Two or more Races (U.S. Census Bureau, 2020). Data collected on ethnicity in the Walkability Study showed that 2% of survey respondents identified as Hispanic or Latino, while Census data indicated that the Latinx population in the community is 8.6%. Given the underrepresentation in the survey, the guidebook is being reviewed for potential translation opportunities to help Extension Education better reach and engage a more diverse audience. Extension professionals should address how to reach a broader audience of sedentary residents to encourage use of the built environment as a form of exercise based on these findings.

Summary

Evaluating built environments is necessary to promote sustainability and determine best practices for Extension Education. Poor safety can be a deterrent to use, however Cape May County's built environment demonstrated favorable safety outcomes. The Cape May County Walkability Study is the result of Extension education and data collection that supported both University and county needs. It served as a good pilot study to reinforce the built environment in Cape May County while examining insight for future education, research, and potential partnerships. Data collection is closely aligned with county statistics and serves as a marker for evidence-based information to expand the built environment and guide development for future Extension education programs aimed at increasing physical activity levels.

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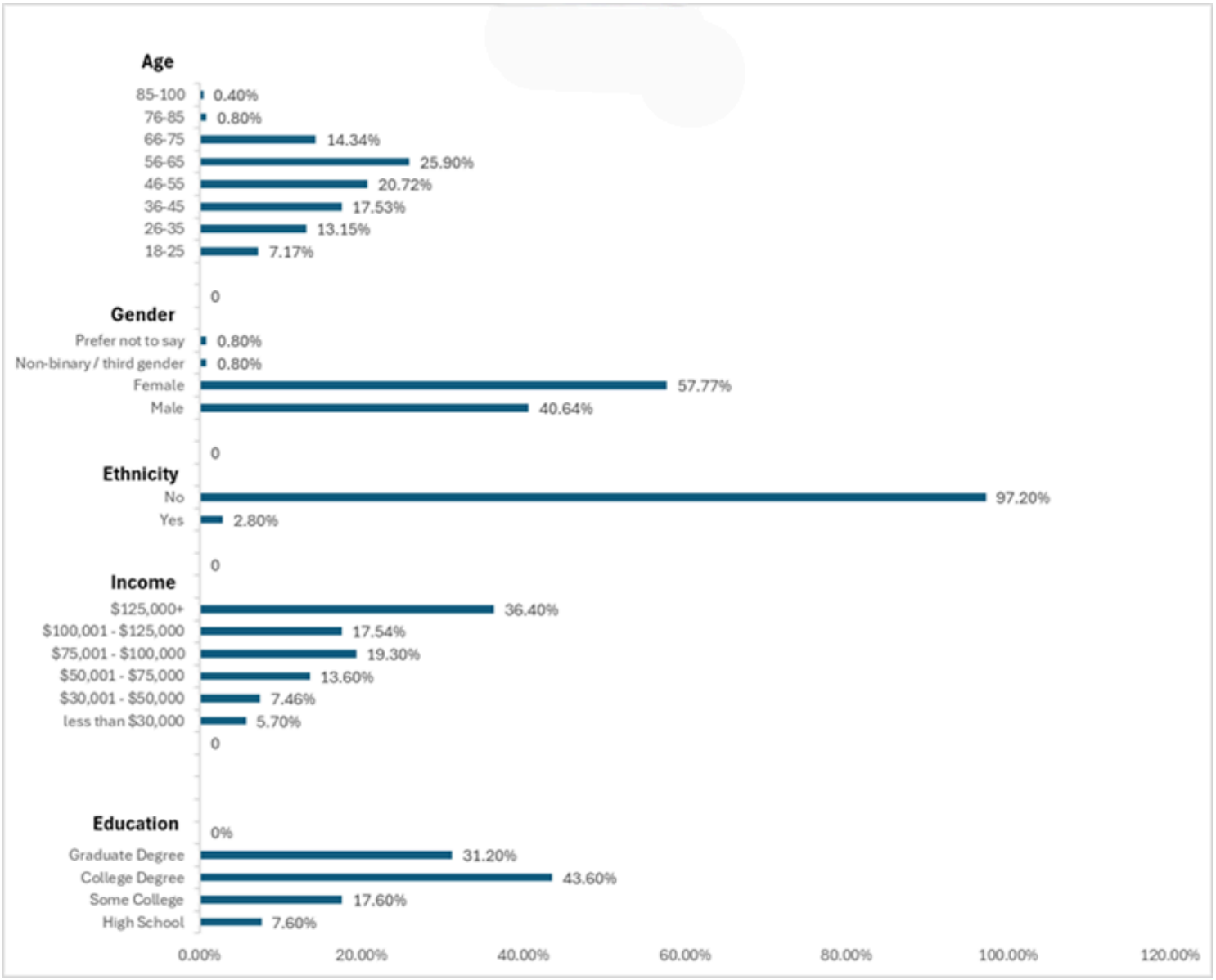
Figures

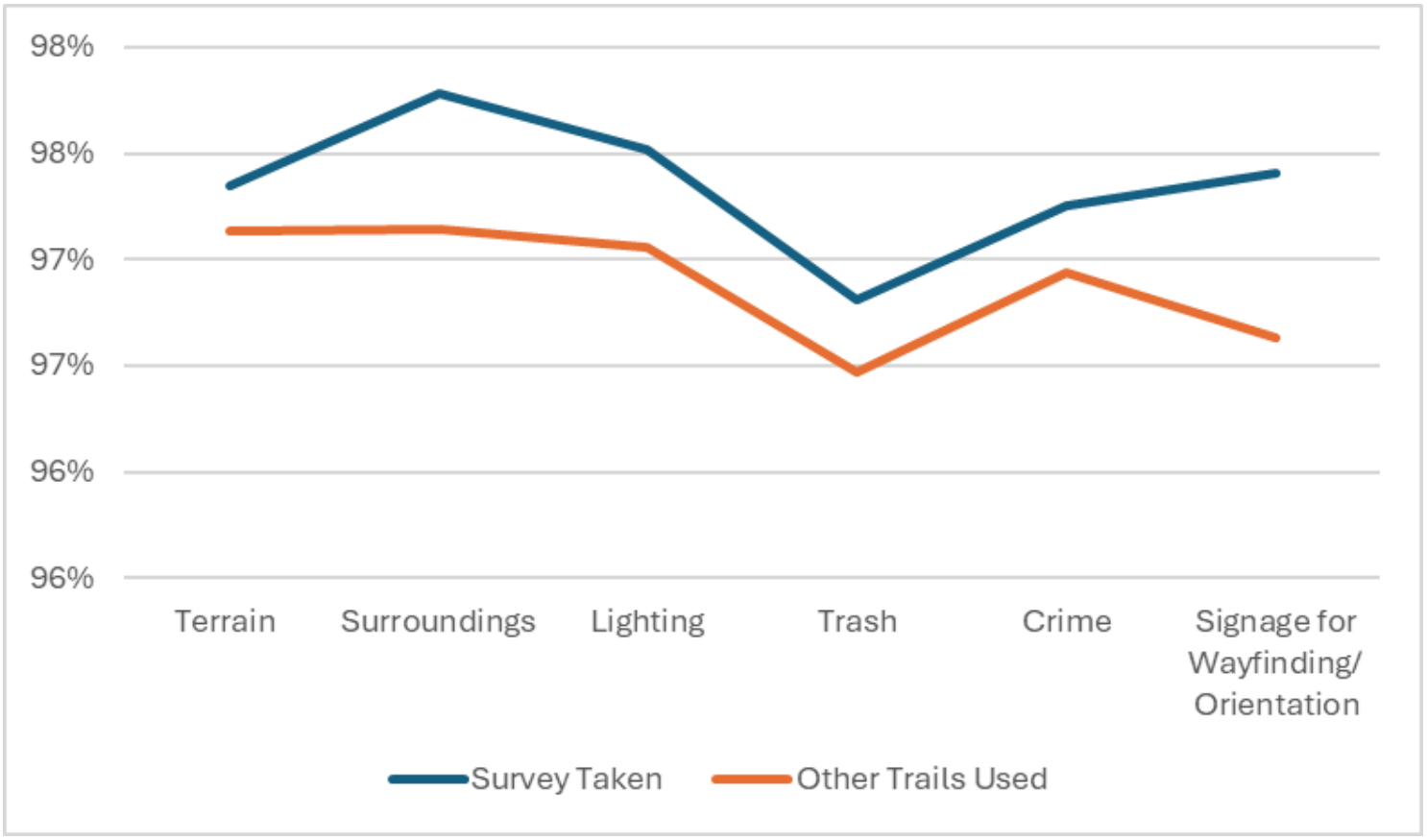
Figure 1



Demographics

Figures

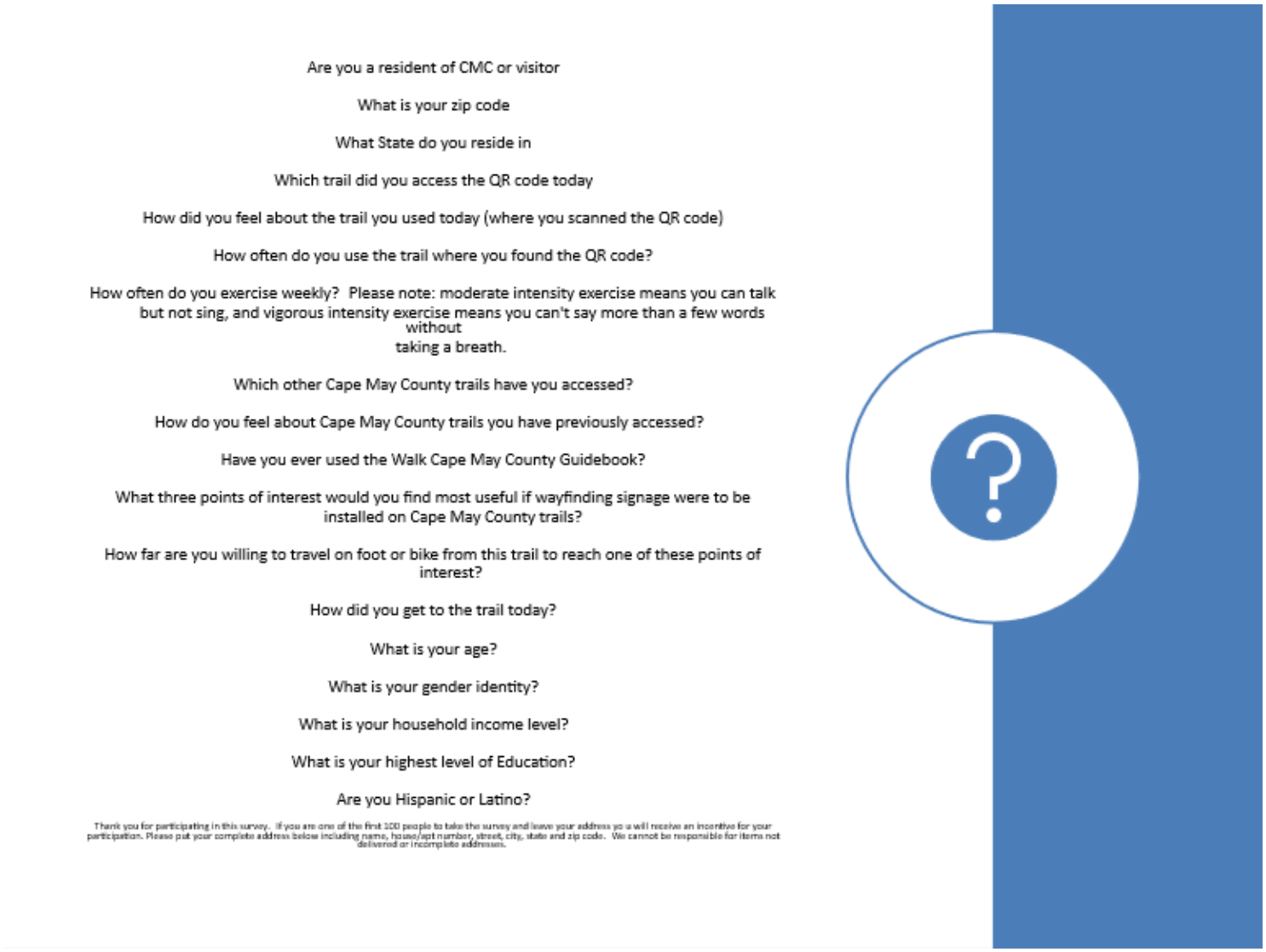
Figure 2



Trail Safety Comparison

Images

Image 1



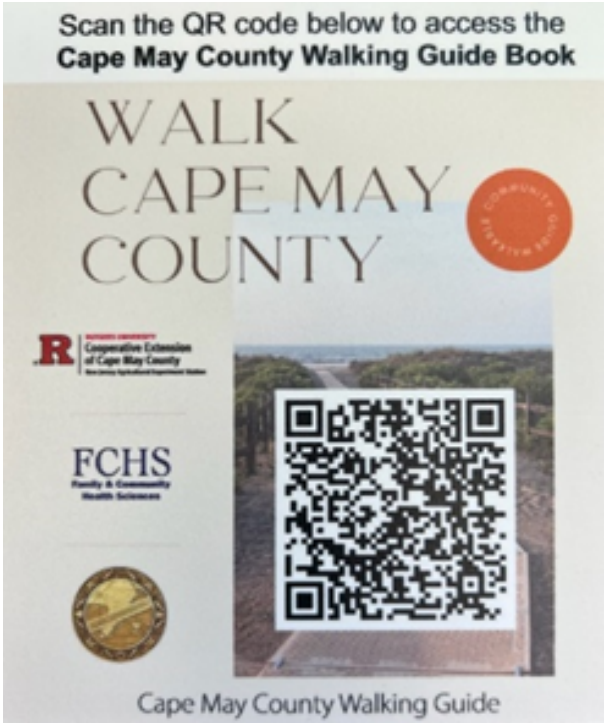
20 Questions Used for Survey

Images

Image 2

Sign to Access Survey for Study

Image 3



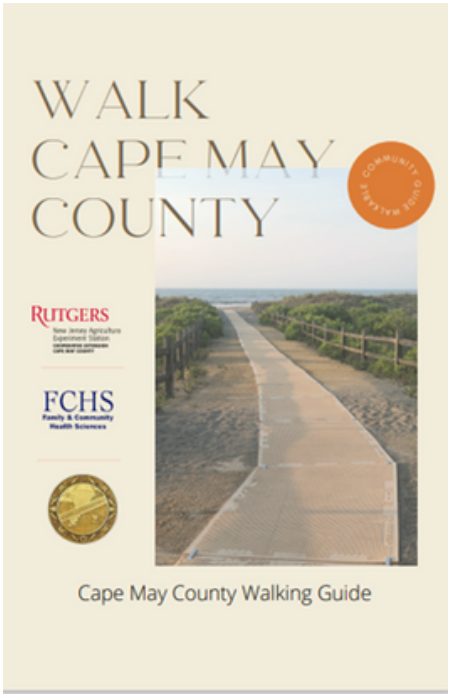
Sign Used for Additional Marketing with QR Code to Guidebook

Appendix 1

Photo 1

Trail Head Sign

Photo 2



Guidebook Print Copy