

## Introduction

A Healthy lifestyle improves one's quality of life and prevents undesirable health complications, such as obesity, diabetes, and heart disease<sup>1</sup>. Despite good information about how to sustain a healthy life, many lack "health capability", which incorporates neighborhood opportunities for healthy behaviors, personal resources, and factors of the social environment<sup>1</sup>. Generally, greater capability should increase the likelihood of maintaining a healthy lifestyle<sup>2</sup>.

One's belief in his or her ability to make healthy choices, even when the opportunity is available, may affect behavior. The concept of locus control addresses responsibility for actions. Individuals with an *internal locus of control* generally hold themselves responsible for actions and consequences, while those with an *external locus of control* tend to believe that chance or powerful others are responsible<sup>3</sup>. The aim for this study is to determine the relationship between locus of control and health capabilities, physical activity, and sedentary behavior.

### Key terms

**Internality:** I am in control of my own health.

**Powerful Others:** My family has a lot to do with my becoming sick or staying healthy.

**Chance:** No matter what I do, if I am going to get sick, I get sick.

**Vigorous PA:** heavy lifting, digging, aerobics, fast cycling

**Moderate PA:** carrying light loads, regular pace cycling, swimming for fun

**Convenience F:** Fresh fruits and vegetables are available in places I shop for food.

**Convenience PA:** I have nearby places for outdoor physical activity.

**Barrier F:** Illness gets in the way of my cooking

**Barrier PA:** My health limits my daily activities

**Opportunity:** My neighborhood generally feels safe.

## Materials and Methods

**Participants** were outpatients from 8 clinical sites of the Residency Research Network of Texas, a collaboration of family medicine residency programs. Eligibility criteria included adults ages 18-74 who spoke English or Spanish.

**Procedure.** Medical student research assistants approached 829 patients as they waited for their office visit, and invited them to complete the study questionnaire. 637 patients completed surveys, for a participation rate of 77%.

**Measures.** The 118-item patient survey included patient demographics, BMI, general health status, diet, and the following scales.

*Health Locus of Control Scale*<sup>46</sup> addressed 3 concepts: "Internality", "Powerful Others", and "Chance".

Subscale scores range from 1 to 5 and are calculated so that a high score is high endorsement of the concept.

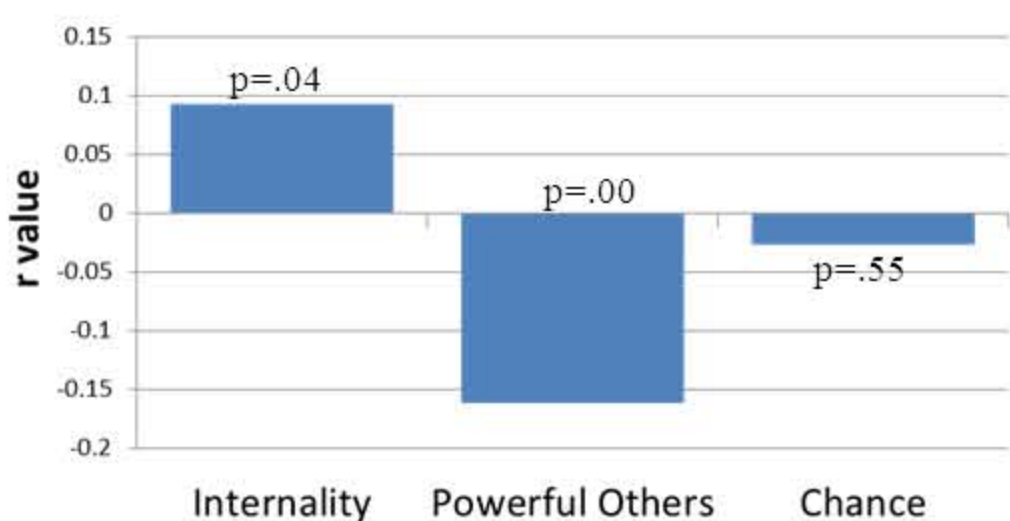
*The Capability Assessment for Diet and Activity (CADA)* was a 38-item measure of opportunities for healthy diet and physical activity with 9 subscales: Convenience, Barriers, Knowledge, Support (Family, Nonfamily, and Spouse), Opportunity, Time, and Respect. Subscale scores were means of item responses, coded so that higher scores represented greater opportunity.

*International Physical Activity Questionnaire* had 4 items addressing time spent in vigorous physical activity, moderate physical activity, walking, and sitting. For activity, minutes per week were translated into Metabolic Equivalent Task units (MET-minutes) per week.

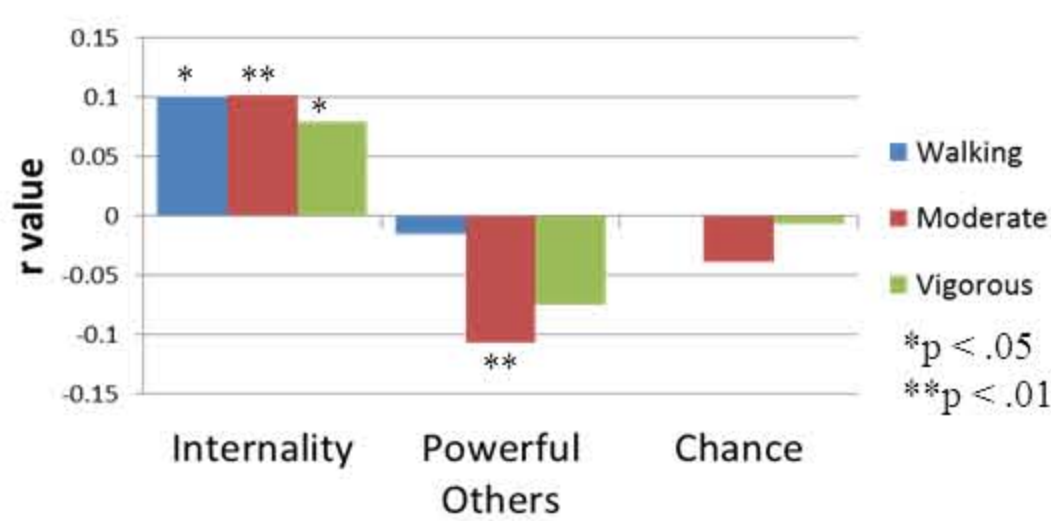
## Results

This sample of participants was 67.5% female with a mean age of 44.51. There were also 55.1% Hispanic participants, and 59% of participants reported having at least one year of college experience. The mean locus of control scores were strongest for Internality(3.72), with Powerful Others(3.07) and Chance(2.49) having far less influence on participants.

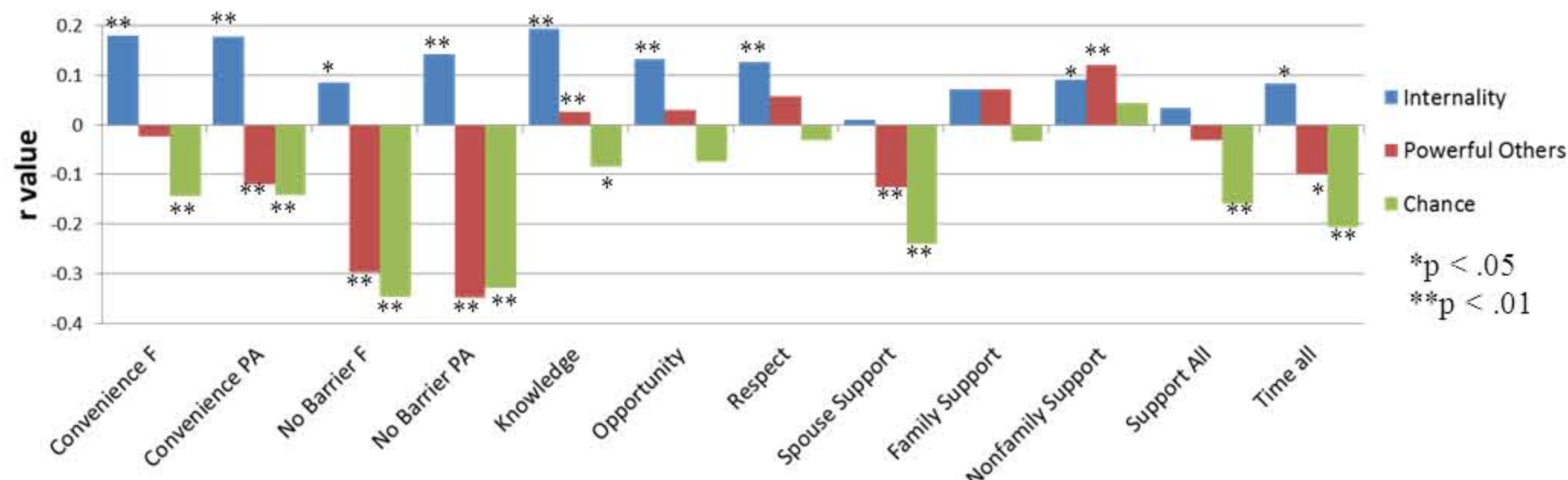
**Figure 1. Time Sitting associated with Locus of Control**



**Figure 2. Physical Activity associated with Locus of Control**



**Figure 3. Capabilities associated with Locus of Control**



## Conclusions

Most measures of capabilities positively correlate ( $p < 0.05$ ) with an Internal locus of control. One interesting finding is that people with an Internal locus of control tend to spend more time sitting, while those oriented toward Powerful Others spend less. This may partly be attributed to the link between Internal locus of control with greater education and less labor intensive jobs. Previous research has suggested that locus of control has little predictive power when determining healthy behaviors<sup>3</sup>. However, this research demonstrates, people with a stronger Internal locus of control are more physically active and perceive greater capabilities for healthy behavior; while those oriented toward Powerful Others and Chance perceive fewer capabilities. This has implications for physicians as it should change the conversation with patients based on the individual's locus of control. Internally oriented patients may have more independence in identifying resources and pursuing a healthier lifestyle, while externally oriented patients may be more reliant on the Powerful Other physician to direct them. Further research is needed to determine whether one's capabilities form perception of locus of control or if the inverse holds true.

## References

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## Acknowledgements

This study was conducted in The Residency Research Network of Texas (RRNeT) with support from the Office of the Medical Dean at UTHSCSA, the Texas Academy of Family Physicians Foundation, and the Health Resources and Services Administration (Award # D54HP16444).

Also, a special thank you to Dr. Ashok Kumar, Dr. Robert Ferrer, and Inez Cruz for assistance as site mentors.