

Adolescent health literacy and development of high-risk behaviors



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Adolescence



WHO identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to 19.

Adolescent Health Literacy

- Across studies and measurement approaches, between 15 and 57 percent of adolescents evidence limited health literacy.
- Teen health literacy has been found to be associated with body mass index (Sharif, 2010), medication misunderstanding (Shone, 2011), primary care use (Sanders, 2009), and e-health use (Chisolm, 2011).



The Syndemic Study

- NIDA-funded R01 grant exploring the co-occurring epidemics of substance use and high risk sexual activities in adolescents
- Designed to measure risk trajectories and identify mediators and moderators of risk
- Partnership between Nationwide Children's Hospital and University of Pittsburgh

Study Design

- Open cohort design recruiting teens ages 14-19 seen in a participating adolescent medicine clinic
- Data collection includes a baseline visit and up to eight 6-month follow-up visits
- Recruitment designed to balance the sample on race, gender, and selected risk factors

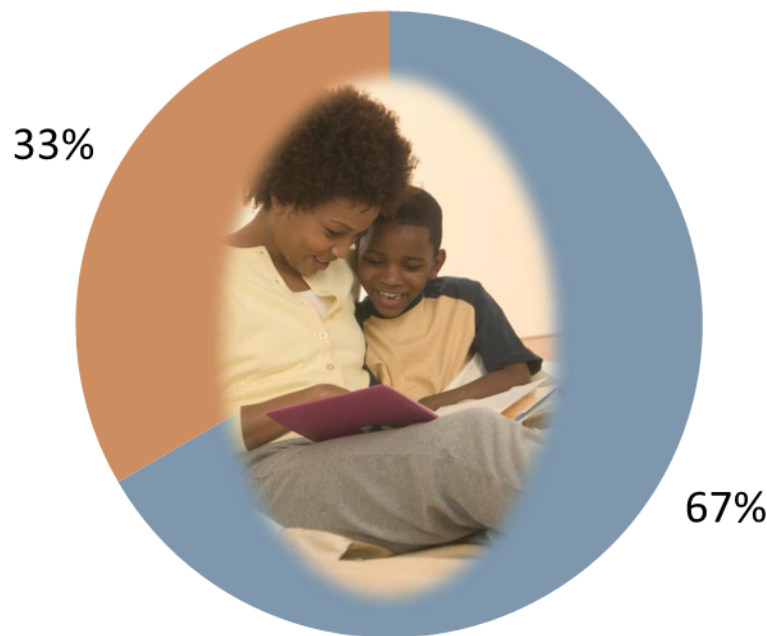
Study data

- Biometrics
 - Substance use
 - Drug and alcohol expectancies
 - Sexual activity
 - Suicidality
 - STIs
 - Anxiety
 - Depression
 - Family relationships
 - School Performance
 - Bullying
 - Exposures to violence
 - Violence victimization
 - Self-esteem
 - Spirituality
 - Coping
 - Delinquency
 - General Health
 - Health Literacy
-

Study Population Description

Characteristic	n	percent
Total	354	
Gender		
Male	115	32.5
Female	239	67.5
Race		
White	176	49.7
Black	166	46.9
Other	12	3.4
Age		
14-15	74	21.0
16-17	167	47.3
18-19	112	31.7

Health Literacy (REALM-Teen)

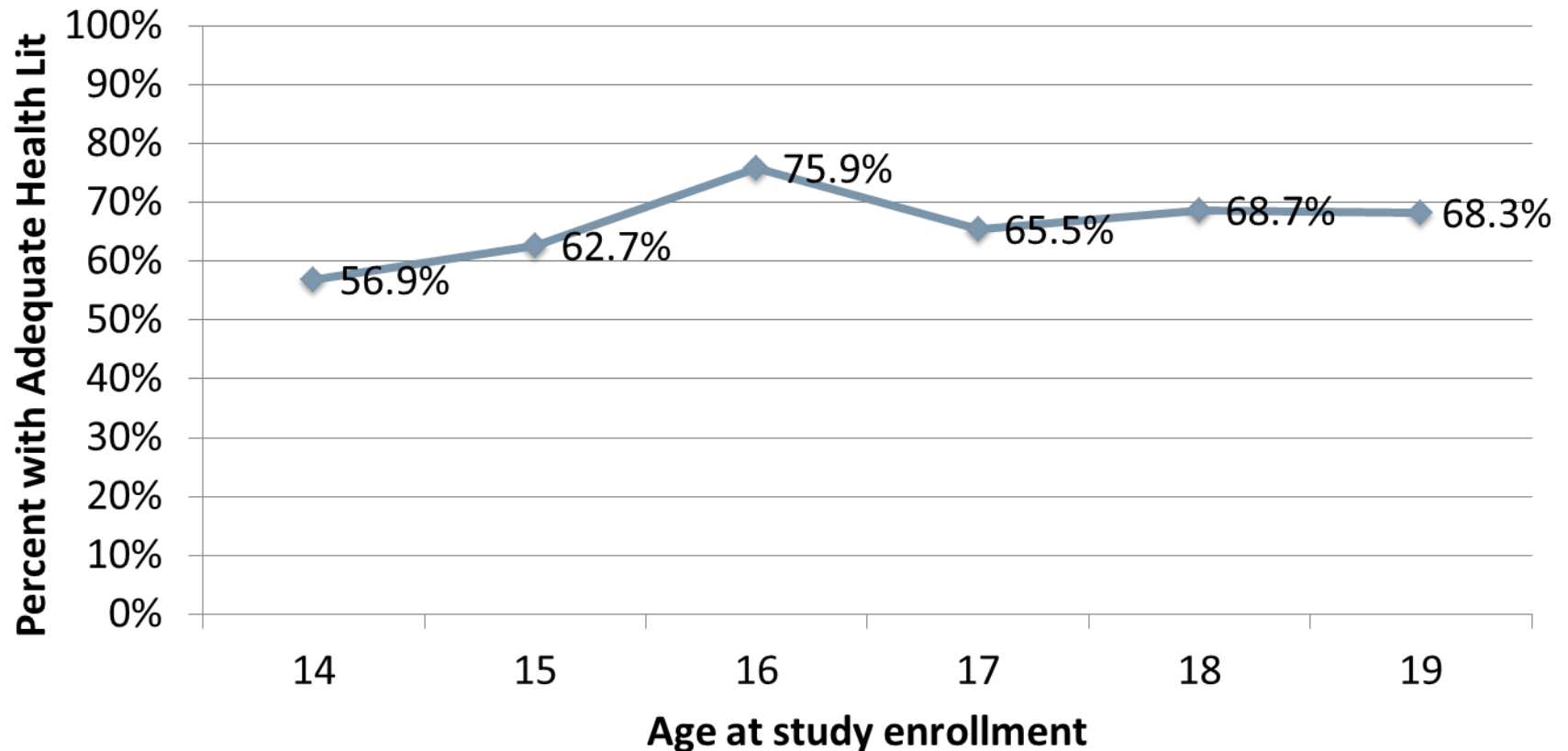


■ Adequate ■ Less than Adequate

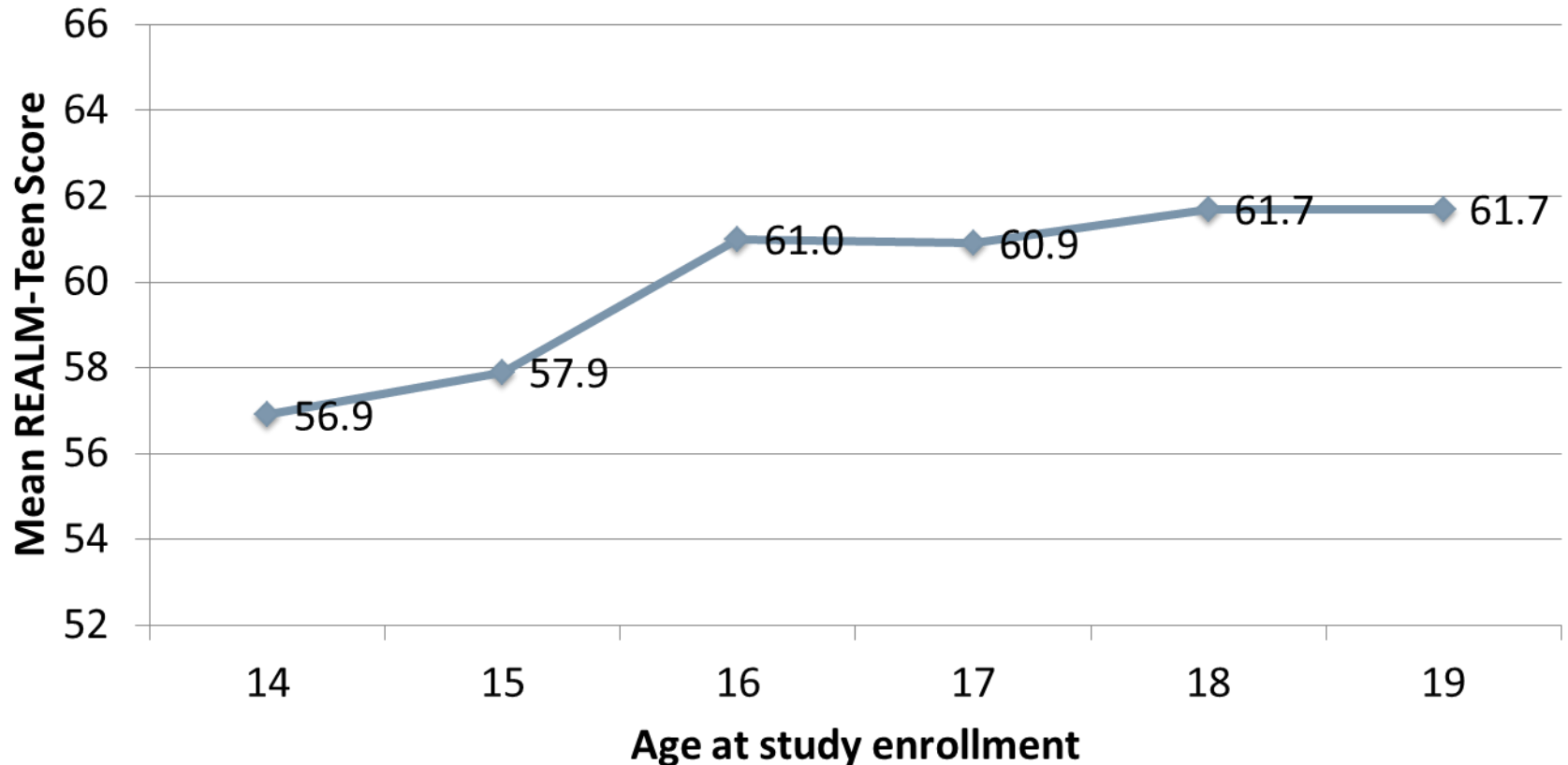
Predictors of Health Literacy

- Age
- Race
- Parental education
- Socio-economic status
- (Almost) gender

Adequate Health Literacy Rate by Age



Mean REALM-Teen score by age



Research question



Is health literacy related to the initiation and continuation of adolescent risk behaviors like misuse of alcohol?

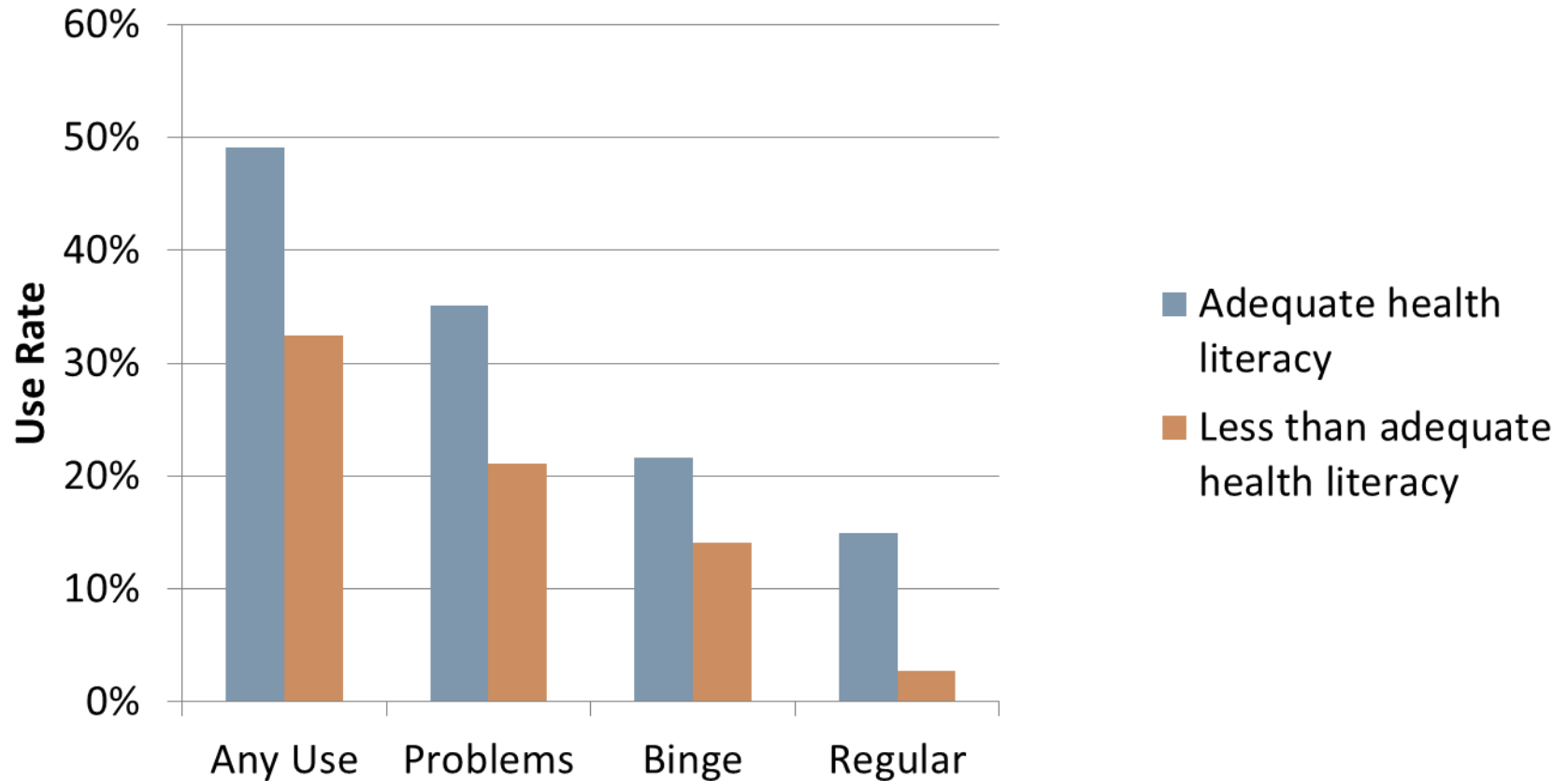
Chisolm DJ, Manganello JA, Kelleher KJ, Marshal MP. (2014) Health literacy, alcohol expectancies, and alcohol use behaviors in teens. *Patient Education and Counseling*. 97(2):291-296

Behaviors of interest



- **Alcohol use** – any self reported use of alcohol (more than a sip) in the past 6 months
- **Regular use** – drinking once per month or more
- **Binge use** – Five or more drinks in a sitting in the past 6 month
- **Problem use** – interpersonal problems, physiologic problems, self-control issues

Health literacy and alcohol use in the past six months



Next Question



WHY!!!

Alcohol Expectancies

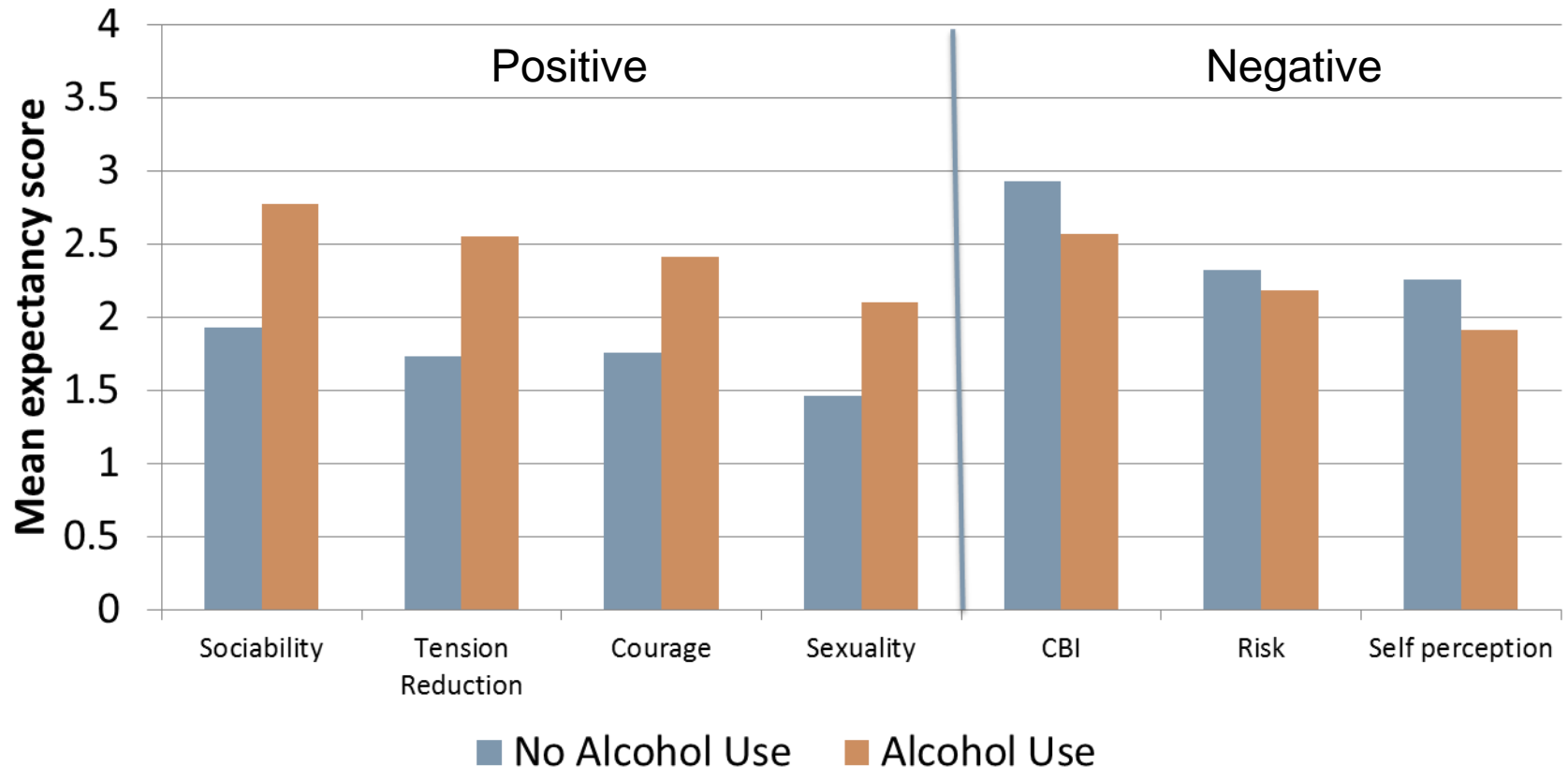


Expectancy Theory – behaviors can be influenced by expectations for specific outcomes from that behavior.

Positive	Negative
Sociability	Cognitive behavioral impairment
Tension Reduction	Risk Aggression
Liquid Courage	Self Perception
Sexuality	

Comprehensive expectancies of alcohol (CEOA) scale

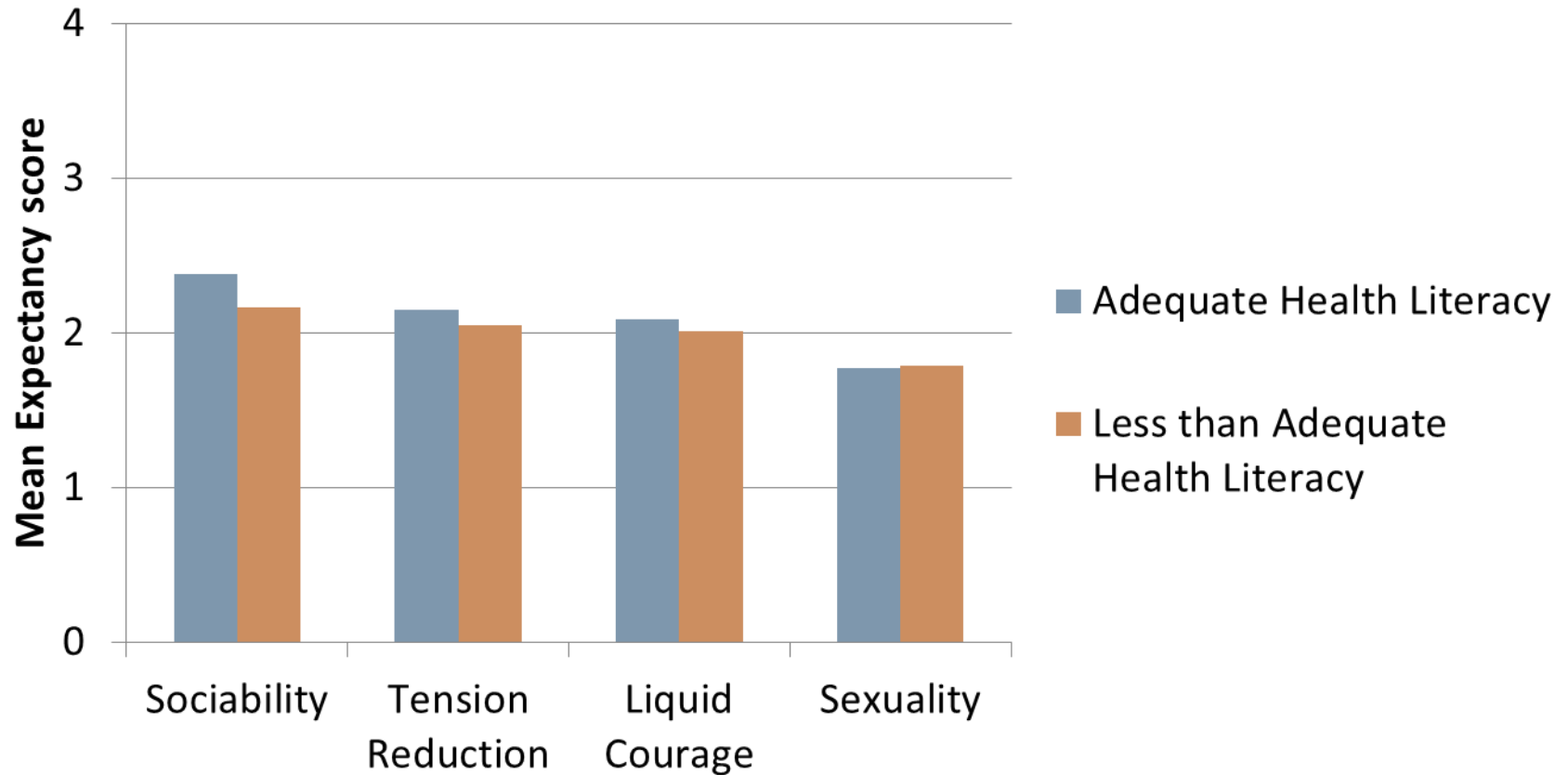
Expectancies and Alcohol Use



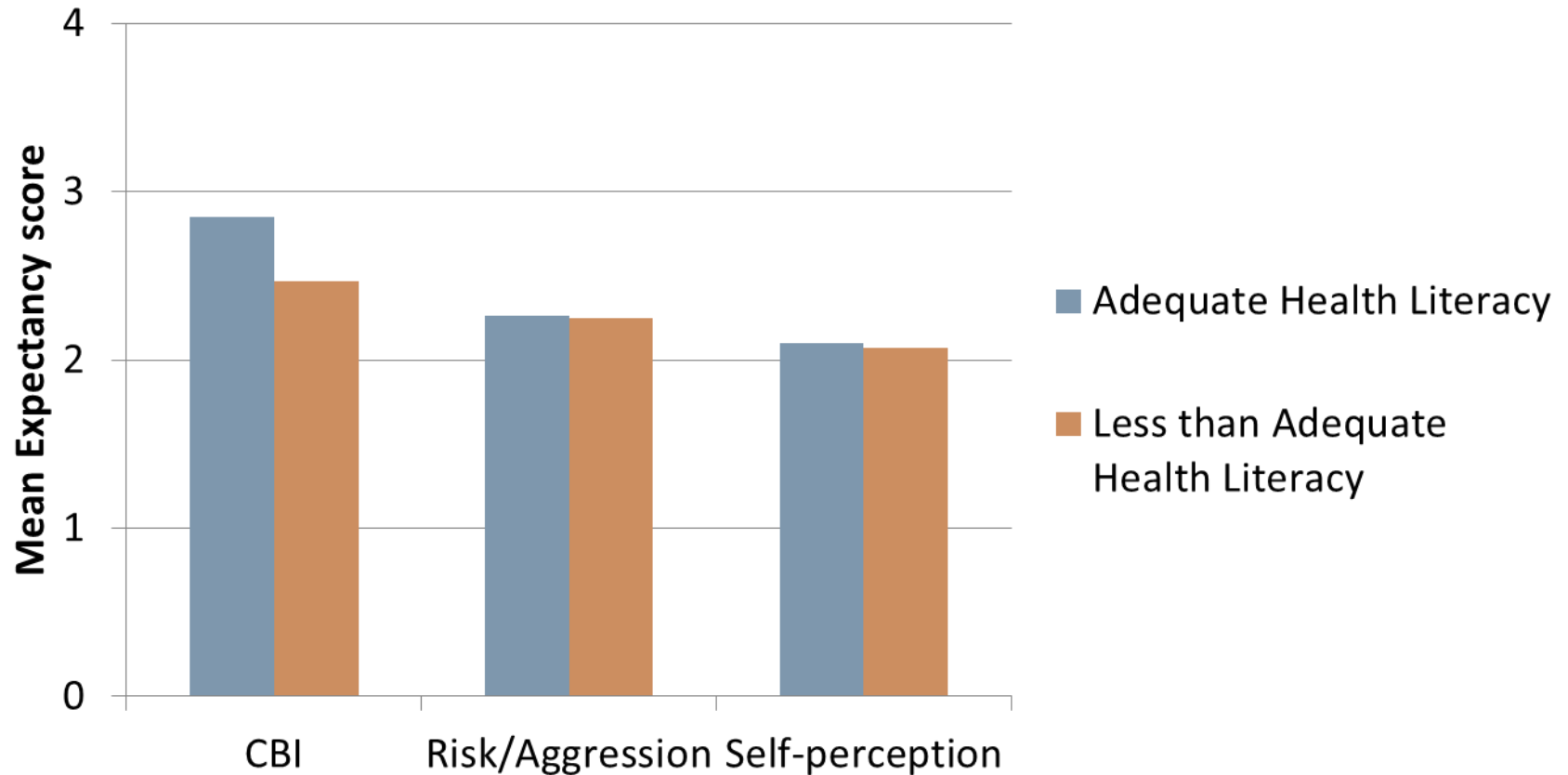
Mediation Model



Health Literacy and Alcohol Positive Expectancies



Health Literacy and Alcohol Negative Expectancies



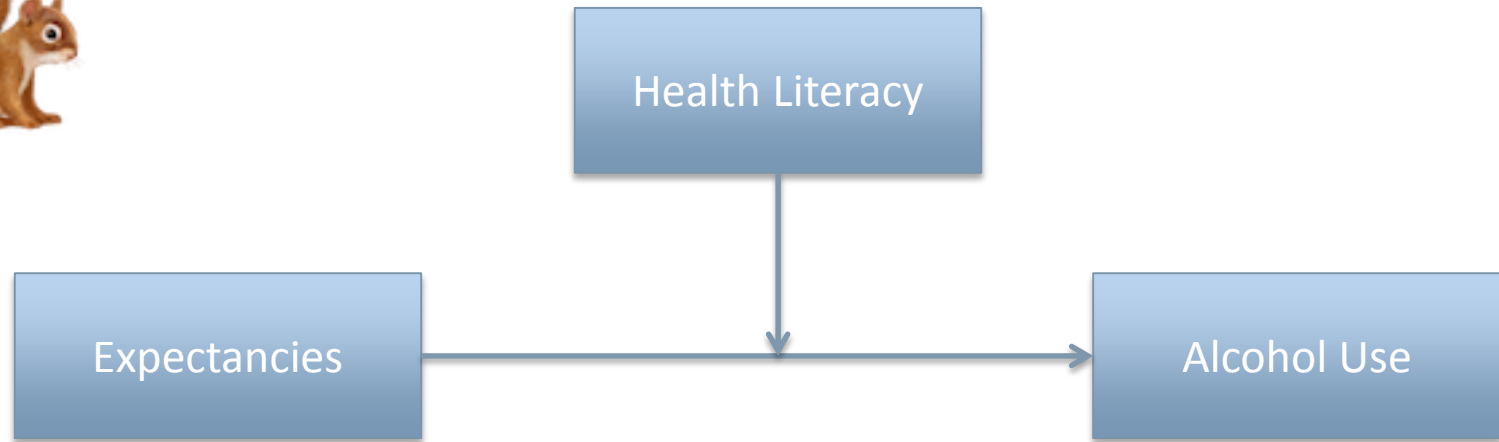
Next Question



Why!!!

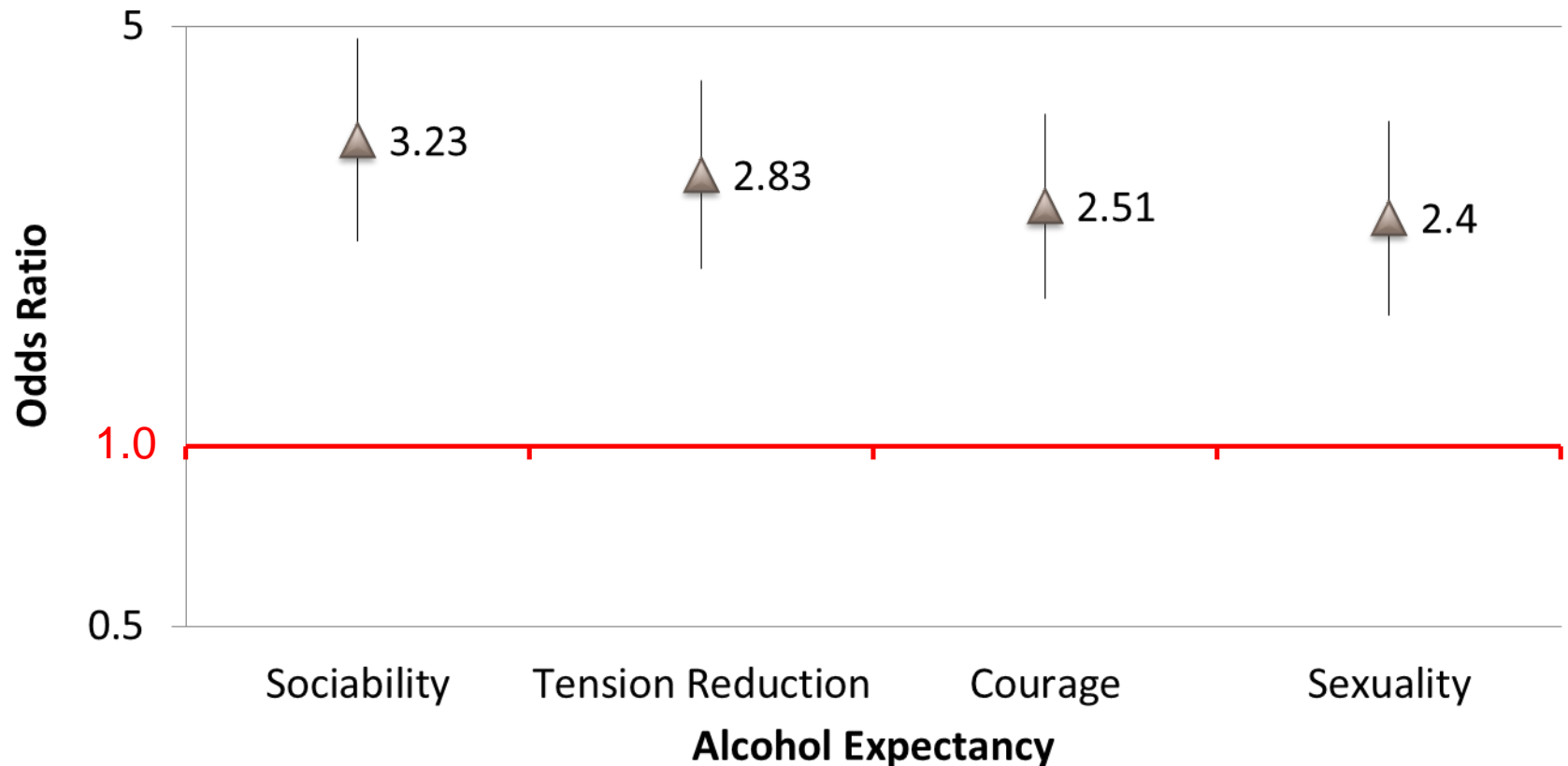
Version 2

Moderation



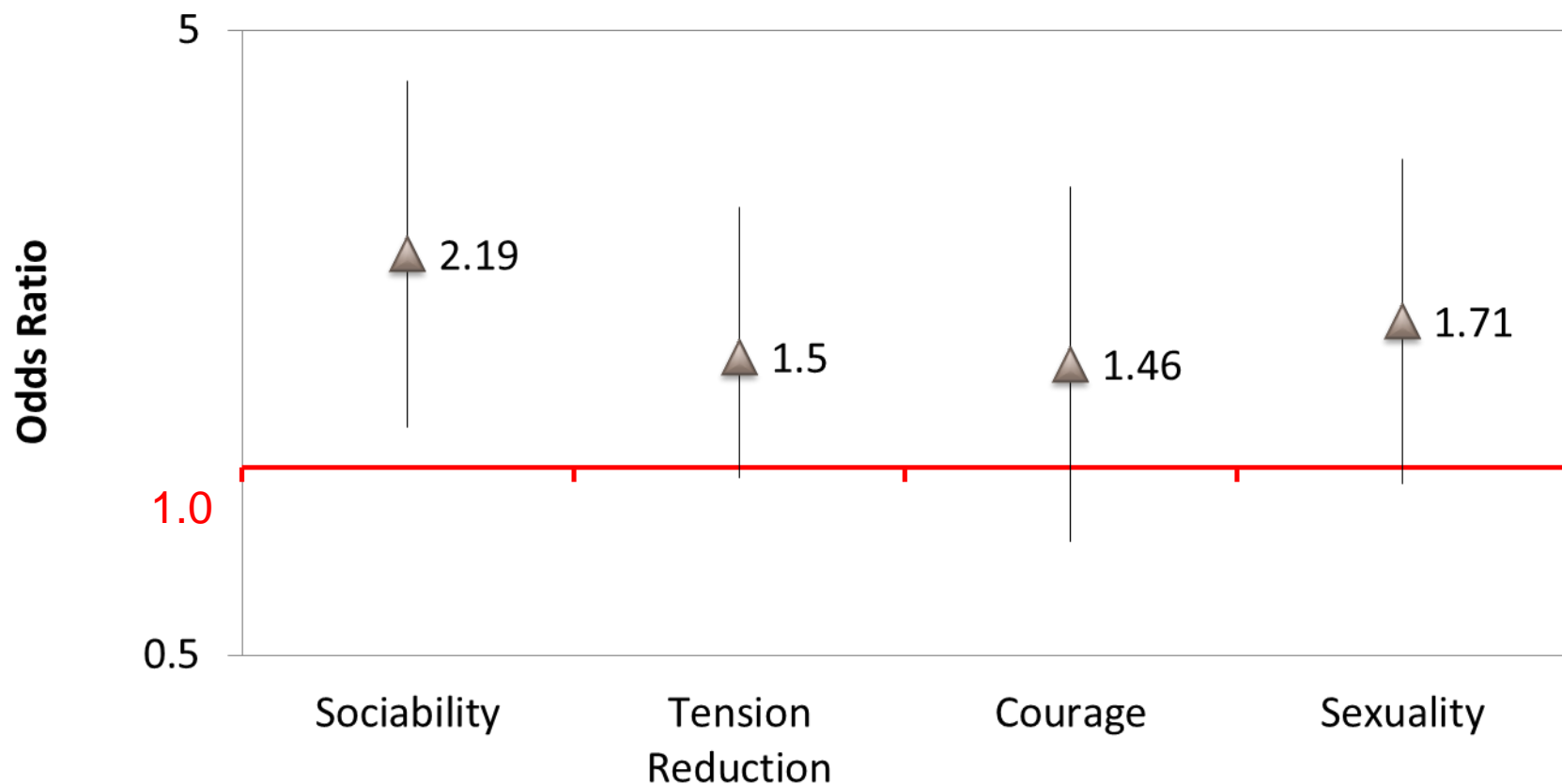
Use of Alcohol in the past six months by positive alcohol expectancy

Adequate Health Literacy



Use of alcohol in the past six months by positive alcohol expectancies

Less than Adequate Health Literacy



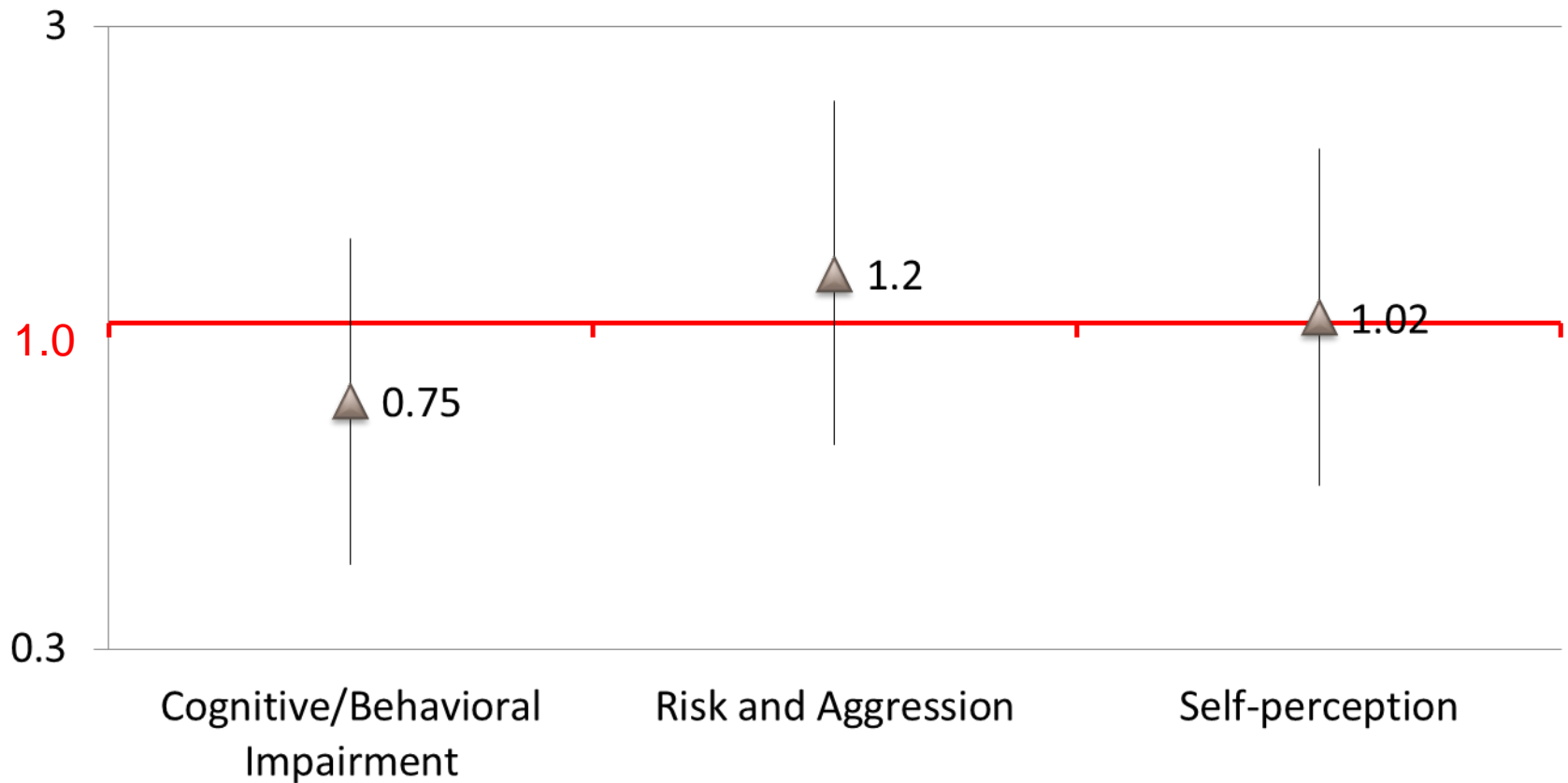
Use of Alcohol in the past six months by negative alcohol expectancies

Adequate health literacy



Use of Alcohol in the past months by negative alcohol expectancies

Less than Adequate health literacy



Conclusions

- Adolescent health literacy is still developing in the early teens but appears to level out by mid adolescence
- Relationships between health literacy and health behaviors are complex and may not go in expected directions
- Understanding the nature of these relationships can help with the design of interventions

Thank You!

- Our funders
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- Our teams
 - Michael Marshal, Co-PI
 - The LEAP/PATHWAY Team

