

Cannabis and Health

Module 15: Cannabis and Aging

Lecture 2: Older Adults and Cannabis

Cannabis Use in Older Adults

- We know cannabis use is increasing in older adults
- Epidemiological data show that from 2006 to 2013, past-year cannabis use prevalence increased 57.8% among adults aged 50 to 64 and 250% among adults 65 and older (Han et al., 2016).
- What we do NOT know is why this is happening

Survey Data

- Reynolds et al. (2018) collected data from older adult cannabis users in Colorado
- Most common reasons for cannabis use were
 - to help alleviate pain
 - increase the quality of sleep
 - decrease negative affect (depression and/or anxiety)
- Is it helpful?

Perceptions of benefit

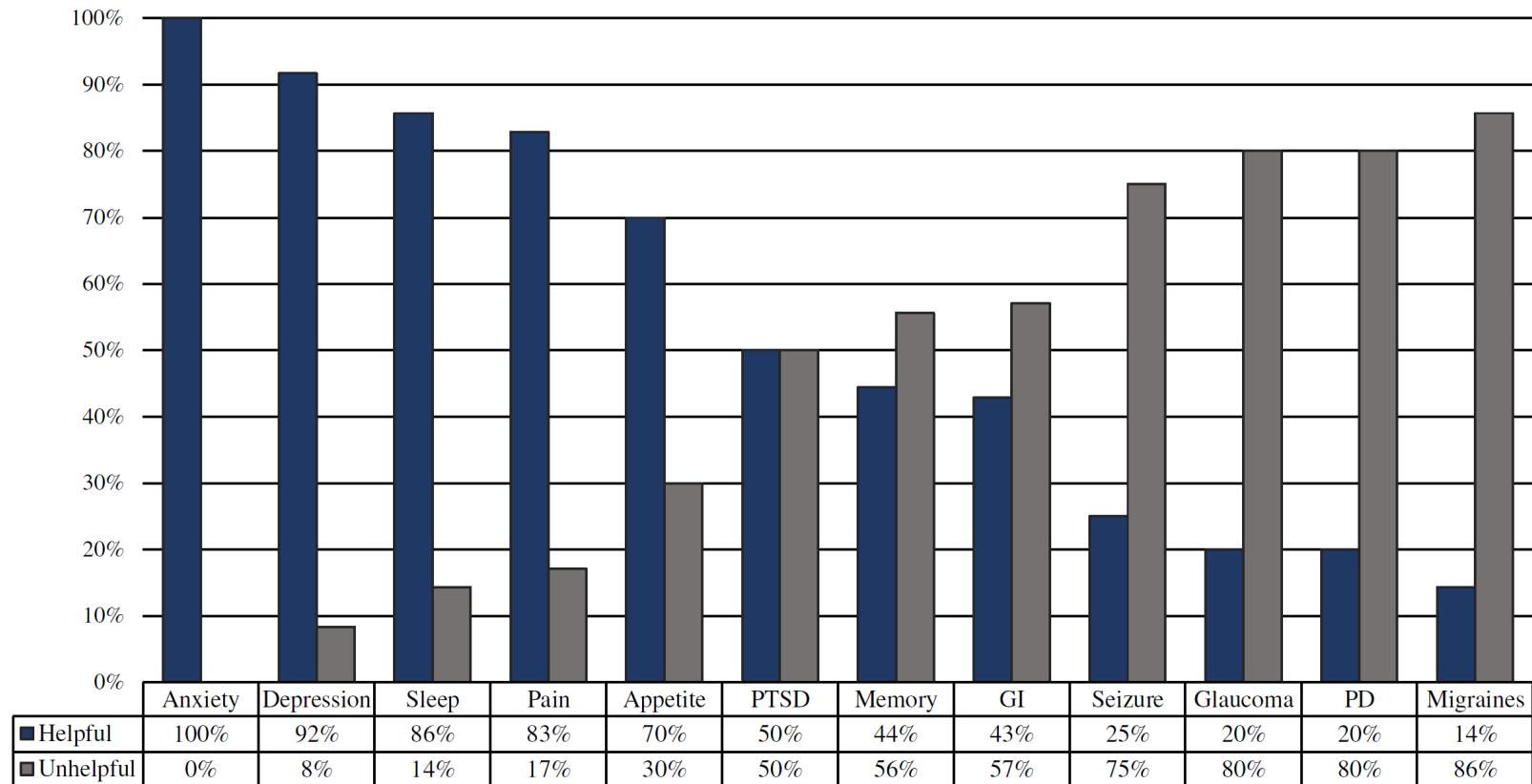


Figure 1. Respondent rating of effect of marijuana on various conditions and symptoms. GI = gastrointestinal complaints including nausea, vomiting, diarrhea, constipation; PD = Parkinson's disease symptoms; PTSD = posttraumatic stress disorder.

Questions this raises

- First, if older adults experience relief from their symptoms, does this depend on the constituent cannabinoids of the product they are using?
- Second, are there impacts on neurocognition and motor control that might be harmful, or even potentially beneficial, to older adults and do these, too, depend on the cannabinoid profile of the products being used?
- Third, might cannabis allow older adults to be more active, thus increasing quality of life?
 - Let's explore this question first

Fitness, Older adults, and Resting state Connectivity Enhancement (FORCE)



- Older adults (60+)
- NOT currently exercising (less than 80 minutes per week)
- Higher versus lower intensity exercise
 - 3X per week, 16 weeks
- Testing before and after exercise program
 - Fitness tests, cognitive tests, brain scans
- All procedures were reviewed and approved by the Colorado Multiple Institutional Review Board (COMIRB)

FORCE participants

- $n=259$ (61% female)
- Mean age 68 ($sd=5.8$)
 - Range 60-88 years
- Baseline $VO_2\max$
 - $M=25.00$ ($sd=5.49$)
- Randomly assigned to
 - LICT=low intensity continuous training
 - MICT+HIIT=moderate intensity continuous training+high intensity interval training

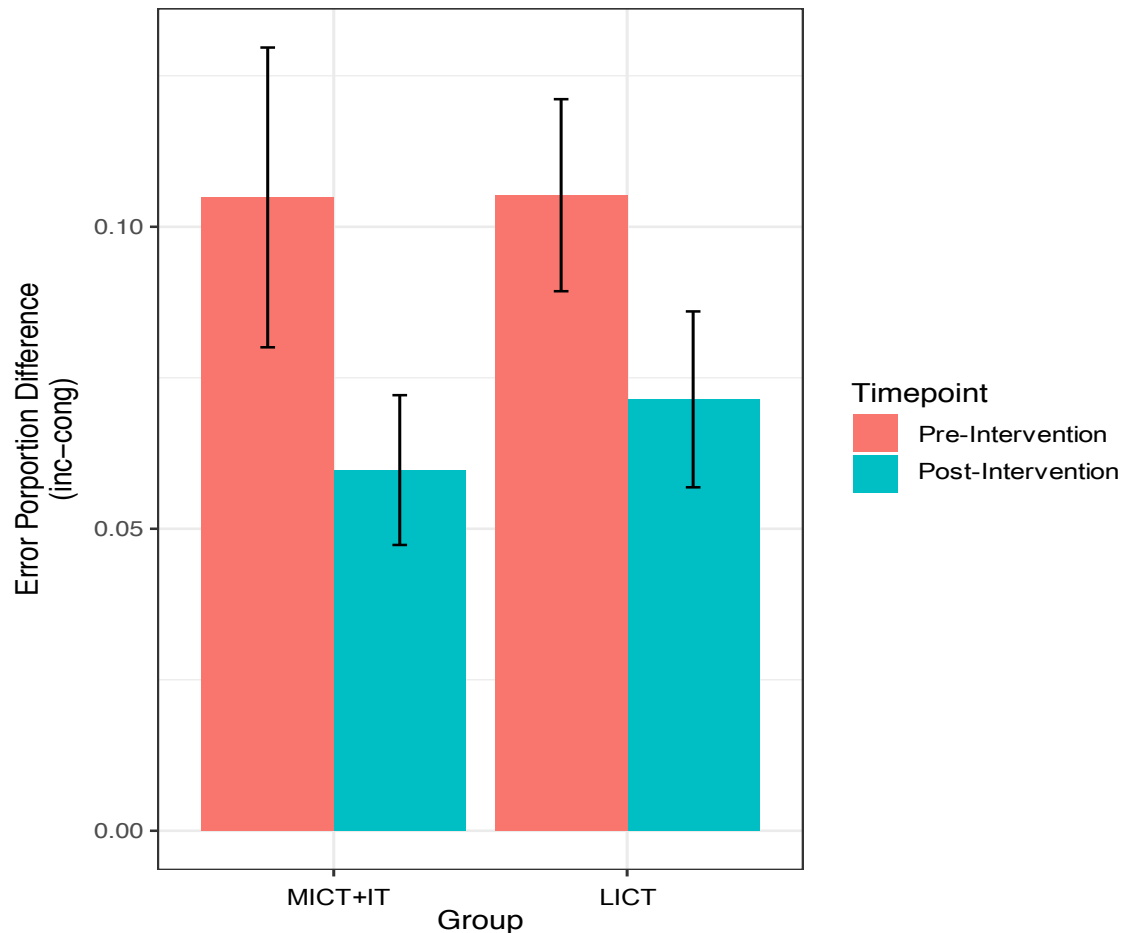


Effects of Exercise on Fitness

- 119 have completed full study
 - Significant effects of time on cardiorespiratory fitness [$F(1, 104) = 10.87$, $p = .001$]
 - Significant condition X time interaction on cardiorespiratory fitness [$F(2, 104) = 19.99$, $p < .001$]
 - Those in the MICT+IT condition are demonstrating greater gains than those in the LICT condition

Effects of Exercise on Executive Functions

- Exercise leads to improvements in function on the category switch task and Stroop task
- **HOWEVER**, no difference by exercise condition



The Colorado Question

- Cannabis legal for medical and recreational use in Colorado
- Adults over the age of 50 are one of the fastest growing segments of the cannabis user population
- Possible impacts of cannabis on exercise?



Cannabis users in FORCE?

- 15 cannabis users roughly matched by age, race, exercise condition, and gender to 15 non-cannabis users
- Half-way through exercise intervention, participants completed the 7-day Physical Activity Recall

Cannabis Users

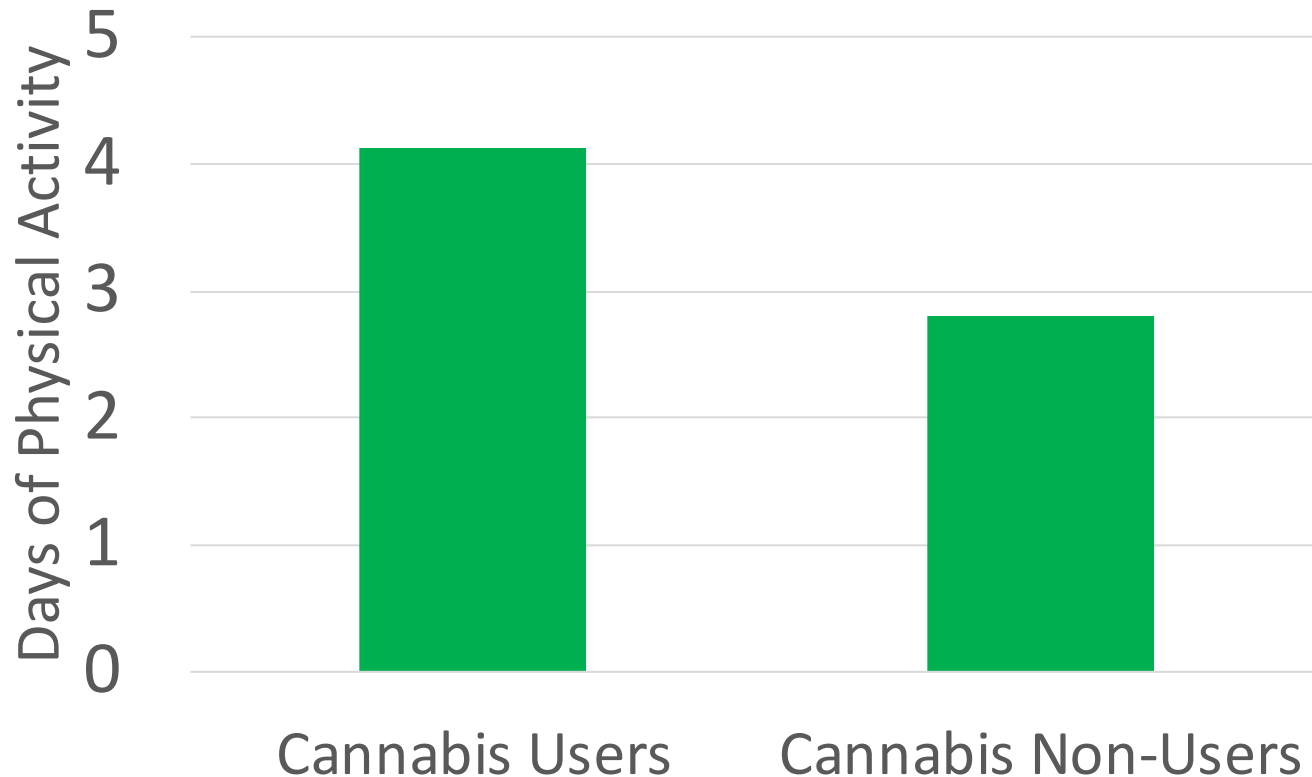
- 53% female
- Mean age 67.6 (sd = 4.7)
- Range 60-80 years

Cannabis Non-Users

- 40% female
- Mean age 66.8 (sd = 5.2)
- Range 60-74 years

Cannabis users in FORCE?

- Analyses controlling for baseline physical activity and intervention condition showed that cannabis users were engaging in marginally more **total** physical activity than non-users ($p = .076$).



Summary

- We need more carefully controlled studies of the relationship between cannabis and exercise for older adults
- As you learned in the exercise module, cannabis *might*
 - Increase enjoyment of exercise
 - Improve recovery from exercise
 - Decrease pain from exercise
 - And this might lead older adults to exercise more
- Need to evaluate harm – benefit ratio and learn about cannabis effects on other aspects of healthy aging