BACKGROUND

- Past work (e.g., Lachman & Firth, 2004; Mirowsky & Ross, 2007) consistently suggests that control beliefs decline with age. In addition, significant intradividual variability (IIV) in older adults’ control beliefs has been reported (e.g., Bielak et al., 2007).
- There is evidence for a negative association between lower levels of control beliefs and cognitive performance (e.g., Caplan & Scholer, 2003; Herzog, McGuire, & Lineaweaver, 1998; Windsor & Anstey, 2008), and for a mediational role of anxiety and task interference (e.g., Lachman & Agrigoroaei, 2012).
- Higher intradividual variability (IIV) in control beliefs was a better predictor of mortality than the level of control (Eisenman, Nesselroade, Featherman, & Rowe, 1997).
- Recent findings obtained with a sample of older adults, revealed that general control beliefs and cognitive performance covaried within individuals over time (Neupert & Allaire, 2012). On occasions when participant’s beliefs were higher than their average, cognitive performance was also higher.

CURRENT STUDY & QUESTIONS

- CURRENT STUDY
  - We examined working memory performance and task-specific indicators of control beliefs, anxiety, and distraction across multiple sessions and trials.
  - Within each session, the cognitive tasks increased in level of difficulty.

- RESEARCH GOALS
  AIM 1: ASSOCIATIONS BETWEEN IIV IN MEMORY CONTROL BELIEFS AND ANXIETY, DISTRACTION, AND WORKING MEMORY PERFORMANCE
  - We expect that those with greater fluctuations in their memory control beliefs would show higher levels of anxiety and distraction, and lower levels of cognitive performance.

  AIM 2: WITHIN-PERSON ASSOCIATIONS: ANXIETY AND DISTRACTION AS MEDIATORS OF THE RELATIONSHIP BETWEEN CONTROL BELIEFS AND COGNITIVE PERFORMANCE
  - We expect that on occasions when people have higher control beliefs - they would experience less anxiety, less distraction, and have better cognitive performance (MEDIATION MODEL).

METHOD

- PARTICIPANTS
  N = 56; Age: 18-88; M = 47.84; SD = 26.24
  64.3% Women; Education Attainment: M = 15.73 yrs.; SD = 2.78

DATA ANALYSIS & RESULTS

- Multilevel models (measures 6 trials for n-back and 8 trials for memory updating) nested within sessions (4), and nested within participants (56)
- Low amount of shared variance between the two working memory tasks (1.3, γ (0.02, t = 2.29, p = .017); therefore separate models were tested for each working memory task
- Index of IIV within-person SD across all trials (Neupert et al., 2008)
- As indicated by the fully unconditional multilevel models, there was not significant variance at the level of session. Therefore, all multilevel analyses were conducted with trials as Level 1 and persons as Level 2 because significant variance was observed for all variables at both levels.

PROCEDURE & MEASURES

- 4 sessions, each about 10 days apart
- N-Back (e.g., Schmidt et al., 2009)- 6 levels of difficulty:
  - Low difficulty: High difficulty
  - Distraction
  - Anxiety

SUMMARY & CONCLUSIONS

- People who had more variable (stable) in their control beliefs showed a greater increase in anxiety as difficulty increased compared to those who were more stable in their beliefs.
- Those who had greater variability in their control beliefs showed greater increase in anxiety as difficulty increased compared to those who were more stable in their beliefs.
- People who were more variable (stable) in their control beliefs showed greater increase in distraction as difficulty increased compared to those who were more stable in their beliefs.

ACKNOWLEDGEMENTS

This research was supported by a National Institute on Aging grant - RO1 AG 17920

Poster presented at the GSA’s 65th Annual Scientific Meeting, November 14-18, San Diego, CA