

Background

- Cognitive interference, either internal (e.g., rumination) or external (e.g., distraction), can re ability to inhibit irrelevant information and can d cognitive functioning processes (Clapp & Gazza 2010)
- Previous research mainly conducted in lab-bas settings and examining between-person different rather than within-person fluctuations in everyd
- Within-person research found cognitive interfer negatively correlated with lab-based cognitive performance (Stawski, Sliwniski, & Smyth, 200 Stawski, Sliwniski, & Smyth, 2010) among olde adults, although not known whether negative ef of cognitive interference occur earlier in adulthe
- We investigated the role of internal sources of interference (i.e., intrusive thinking and multitas in everyday life in relation to daily cognition (sel reports and cognitive performance), and the moderating role of age across the adult lifespar

Current Study

Research Questions and Predictions

- 1. Do internal sources of interference (intrusive thinking and multitasking) affect cognition in life? We hypothesized that greater cognitive interference would be associated with worse cognition.
- Is age a moderator of the relationship betwee cognitive interference and daily cognition? W predicted that cognitive interference would have more detrimental effect for older adults comp to younger adults.

Methods

Daily Experiences and Memory Study

Participants

N =122 Age (M=50.5, SD=20.0), education (M=15.5 years) *SD*=2.4), 57% female, 50% working

This research was supported by NIA Grant RO1 AG 17920

Daily Demands Interfere with Cognition: Some Days are Better than Others

Elizabeth Hahn Rickenbach^a, Stefan Agrigoroaei^b, & Margie E. Lachman^c

^aDepartment of Psychology, Saint Anselm College; ^bPsychological Sciences Research Institute, Université catholique de Louvain, Belgium; ^cDepartment of Psychology, Brandeis University

	Methods: Procedure and Measures					
	Background	Day 1 D	ay 2 Day 3	Day 4 Day 5	Day 6 Day 7	
reduce	Demographics		Daily	y measures		
disrupt zaeley,	 Age Gender 	 Busyness: Self-report "How busy were you today?" 1 (very busy) to 4 (not at all busy), Reverse-scored, Average busyness across up to 7 days used as a covariate 				
sed ences day life	 Education Intrusive thinking: Self-rating "Today, I could not get certain thoughts out of my mind and "Today, I kept thinking about the same thing again and again." 0 (does not apply at all) to 7 (applies very well), The mean of the two daily items computed for each day 					
erence	 Multitasking: Self-report "How much did you have to juggle things or multi-task today?" 1 (a lot) to 4 (not at all), Reverse-scored 					
06; er effects hood	 Daily cognitive measures Cognitive performance: Immediate word recall of 15-item categorizable word lists category fluency, new category each day Self-report: 10 everyday memory problems (yes/no); e.g., "Today, did you forget what you went into a room for?" (Sunderland, Harris, & Baddeley, 1983) 					
:	 Multi-level modelling (MLM) using SAS Version 9.2 					
asking) elf-	 Covariates: diary day, age, gender, education, working status, average busyness 					
	 Within-person relationship between daily cognitive interference (intrusive) 					
an	thinking and multitasking) and daily cognition					
	•	 Age as a moderator of the within-person relationship between cognitive 				
	interference an		•		5	
				anitive interfere	$ence_i) + v_{enc}(Age_i)$	
		Daily cognition _{ij} = $\gamma_{00} + \gamma_{01}$ (Covariates _j) + γ_{02} (Cognitive interference _j) + γ_{03} (Age _j) + γ_{04} (Cognitive interference *Age _{ij}) + $u_{0j} + u_1j + r_{ij}$				
9						
daily	Results					
e e daily	Table 1 Results of multilevel model of intrusive thinking as a predictor of daily cognition					
	Dependent variables, Est. (SE)					
en Ne	Parameter		Category fluency	Immediate word recall	Everyday memory problems	
have a	Intercept		5.76 (2.62)*	6.92 (1.09)*	2.21 (1.08)*	
pared	Intrusive thinking (within-person)	-0.36 (0.14)*	0.02 (0.05)	0.08 (0.03)*	
	Intrusive thinking (person-mean)	0.00 (0.22)	0.16 (0.08)	0.37 (0.09)*	
	Note. Model adjusted for day, age, gender, education, working status, and busyness Table 2 Results of multilevel model of multitasking as a predictor of daily cognition Dependent variables, Est. (SE)					
	Parameter		Category fluency	Immediate word	Everyday memory	
	ranameter		Category nuclicy	recall	problems	
	Intercept		5.94 (2.42)*	7.67 (1.02)*	3.89 (1.07)*	
	Multi-tasking (withi	n-person)	-0.04 (0.23)	0.05 (0.08)	0.18 (0.06)*	
ears,	Multi-tasking (perso	on-mean)	-1.15 (0.60)	-0.40 (0.25)	0.13 (0.27)	
	Note. Model adjusted for day,	age, gender, education, wor	king status, and busyness			
		Geront	ological Societ	ty of America'	s 67 th Annual Sci	



Research question 1: Cognitive interference and cognition

- As expected, on days with more intrusive thoughts participants scored worse on category fluency (Figure 1); however, multi-tasking was not related to category fluency
- Contrary to our \bullet expectations, cognitive interference was not related to memory recall
- As expected, on days with more intrusive thinking (Figure 2) and multi-tasking (Figure 3), 25 participants reported more everyday memory 2.1 problems

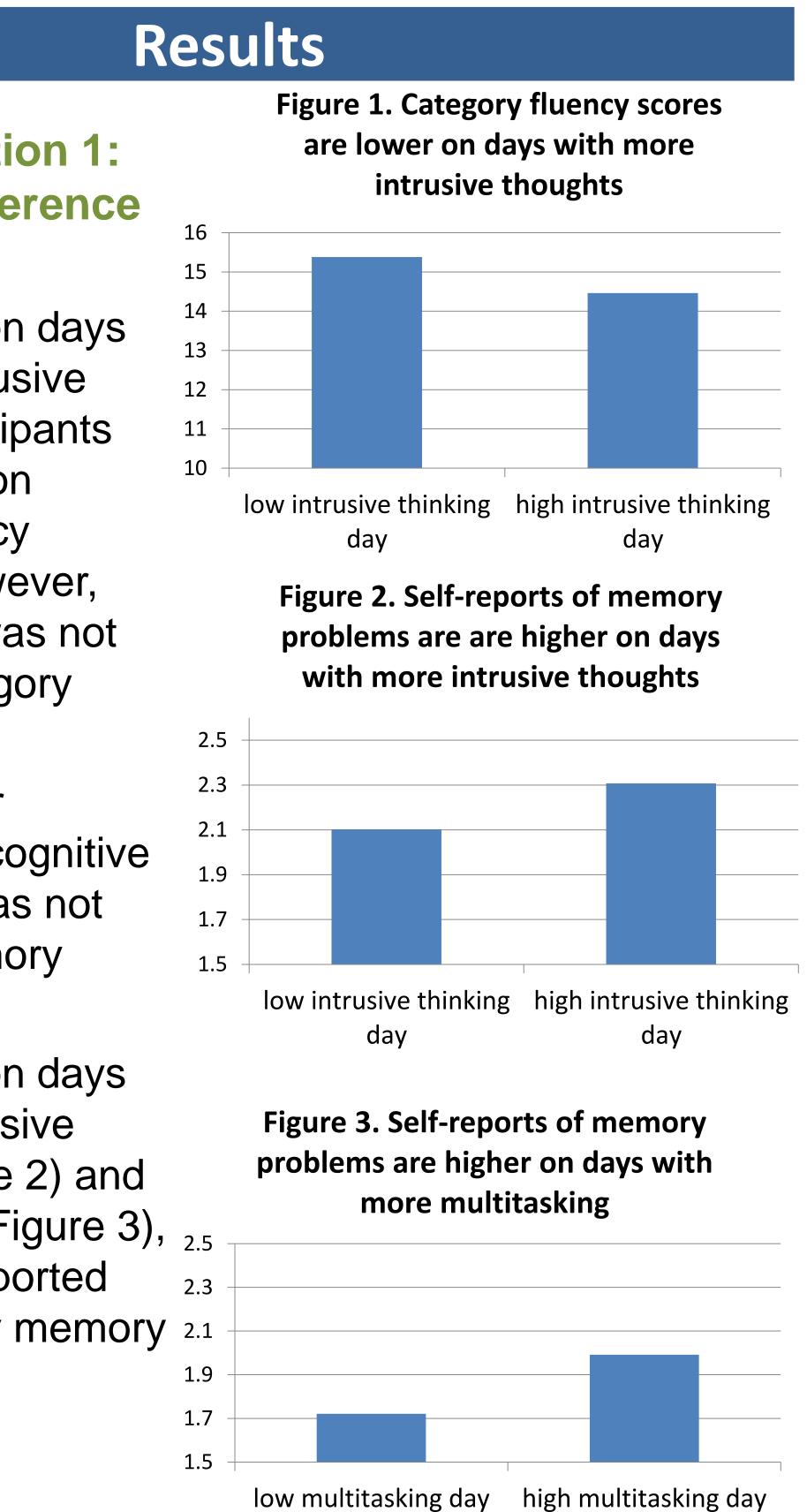
Research question 2: Age as a moderator in cognitive interference-daily cognition relationship

- cognitive interference

Gerontological Society of America's 67th Annual Scientific Meeting, November 5 – 9, 2014, Washington, DC For more information contact Elizabeth Hahn Rickenbach (erickenbach@anselm.edu)







Contrary to expectations, the relationship between cognitive interference and cognition did not differ by age

Discussion

• Across the adult lifespan, internal sources of cognitive interference associated with the demands of daily life contribute to intraindividual fluctuations in cognitive functioning, specifically executive functioning and selfreports of everyday memory problems

• In future research we will investigate whether

compensatory strategy use is associated with reduced

The results have implications for interventions aimed to improve daily cognition by reducing the role of both daily stress and stress-related cognitive interference in disrupting cognitive functioning processes (Hahn Rickenbach, Almeida, Seeman, Lachman, in press)