A collaborative, preregistered meta-analysis on the daily association between affect and alcohol use in everyday life

Collaborative Perspectives on Addiction annual meeting 2022, Portland
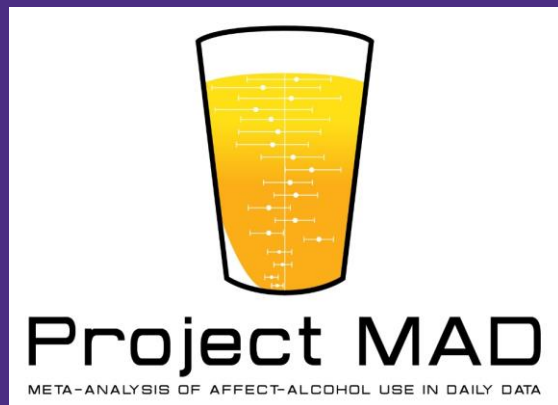
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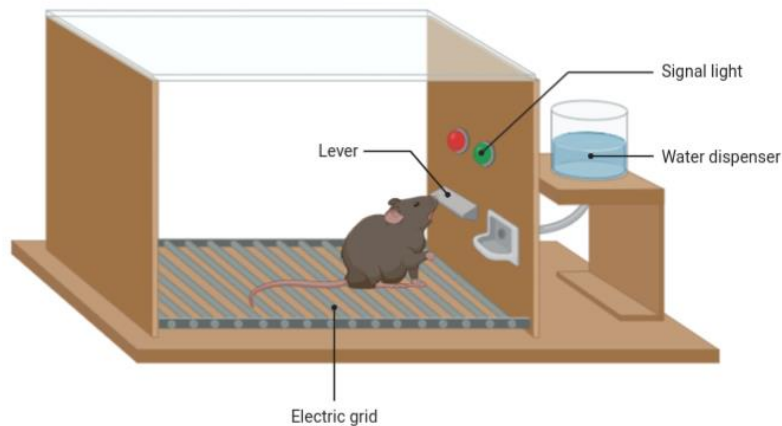# Thank you to my awesome Project MAD collaborators!

Marilyn Piccirillo[1], Katherine T. Foster[1], Kelly Arbeau[2], Stephen Armeli[3], Marc Auriacombe[4], Bruce Bartholow[5], Adriene M. Beltz[6], Shari M. Blumenstock[7], Krysten Bold[8], Erin E. Bonar[6], Abby Braitman[9], Ryan W. Carpenter[10], Kasey G. Creswell[11], Tracy De Hart[12], Robert D. Dvorak[13], Noah Emery[14], Matthew Enkema[1], Catharine Fairbairn[15], Anne M. Fairlie[1], Stuart G. Ferguson[16], Teresa Freire[17], Fallon Goodman[18], Nisha Gottfredson[19], Max Halvorson[1], Maleeha Haroon[20], Andrea L. Howard[21], Andrea Hussong[22], Kristina M. Jackson[23], Tiffany Jenzer[23], Dominic P. Kelly[6], Adam M. Kuczynski[1], Alexis Kuerbis[24], Christine M. Lee[1], Melissa Lewis[25], Ashley N. Linden-Carmichael[26], Andrew Littlefield[27], David M. Lydon-Staley[28], Jennifer E. Merrill[23], Robert Miranda Jr.[23], Cynthia Mohr[29], Jennifer Read[30], Clarissa Richardson[31], Roisin O'Connor[32], Stephanie S. O'Malley[8], Lauren Papp[33], Thomas M. Piasecki[33], Paul Sacco[34], Nichole Scaglione[35], Fuschia Serre[4], Julia Shadur[36], Kenneth J. Sher[5], Yuichi Shoda[1], Tracy L. Simpson[1,37], Michele R. Smith[1], Angela Stevens[23], Brittany Stevenson[38], Howard Tennen[39], Michael Todd[40], Hayley Treloar Padovano[23], Timothy Trull[5], Jack Waddell[40], Katherine Walukevich-Dienst[1], Katie Witkiewitz[41], Tyler Wray[23], Aidan G.C. Wright[42], Andrea M. Wycoff[5], Kevin M. King[1]

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Why study the association between affect and alcohol use?

Skinner (1938)

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Why study the association between affect and alcohol use?

Conger (1956)
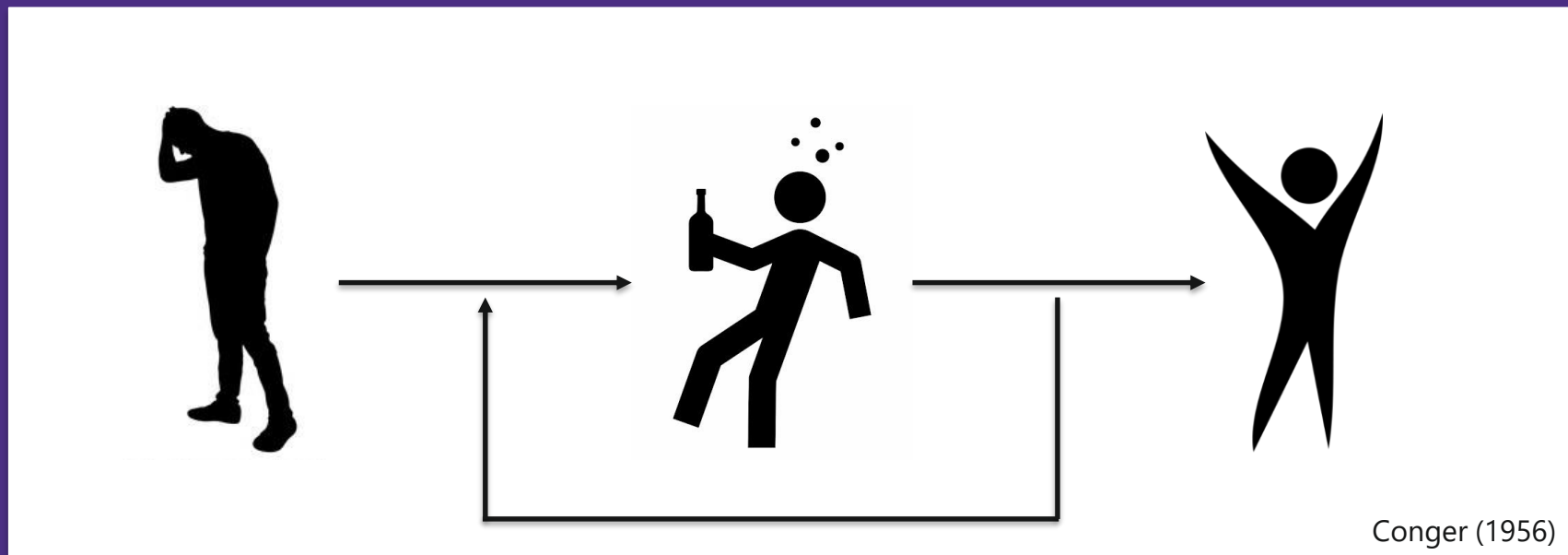
# What inspired this project?

Introduction from early 2000's:

"Theory says people drink to regulate their emotions. People self-report to drink to regulate their emotions. But we're not sure if this is true."

Introduction from early 2020's:

"Theory says people drink to regulate their emotions. People self-report to drink to regulate their emotions. But we're not sure if this is true."
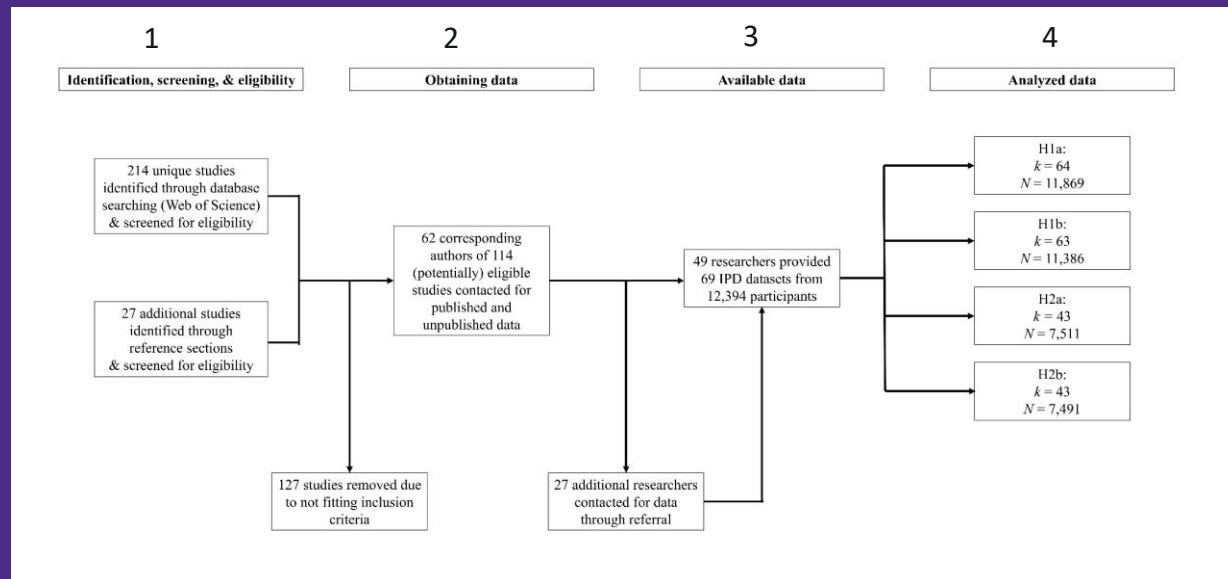
What were our hypotheses?
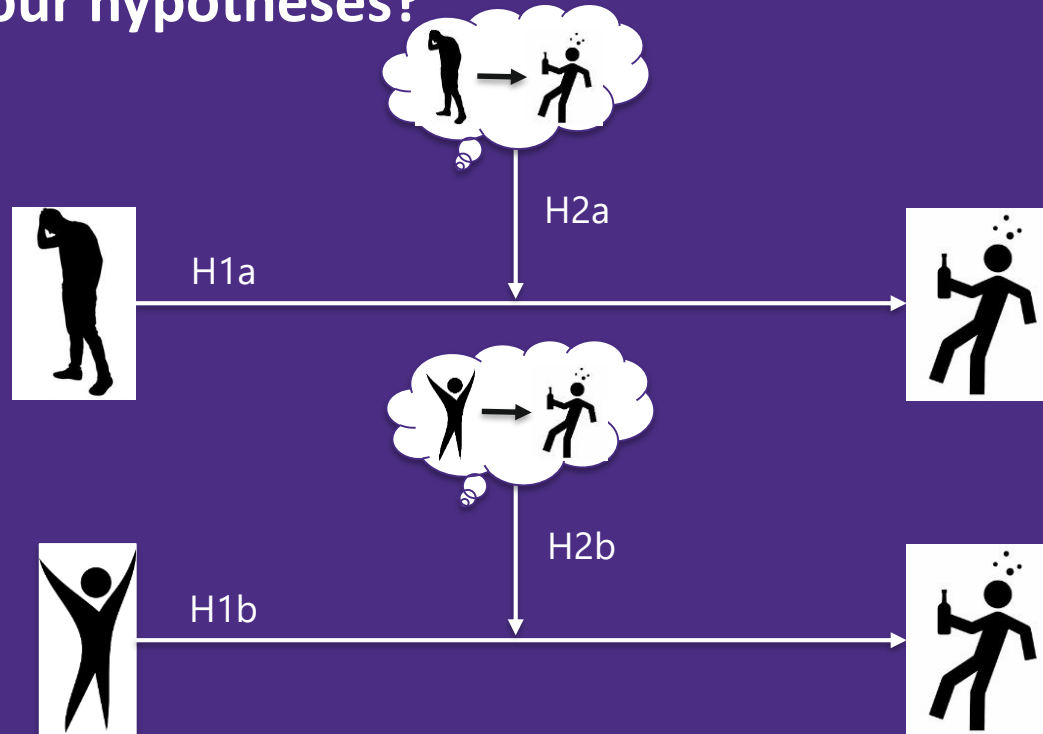
Systematic literature review

1. Human participants
2. Diary or EMA design
3. Assessed total number of alcoholic drinks consumed each day or evening
4. Assessed negative or positive affect with at least two items

Final dataset

k = 69 studies

> k_{Diary} = 26, k_{EMA} = 43

> $k_{Community}$ = 31, $k_{College}$ = 28, $k_{Clinical}$ = 10

> $M_{study\ days}$ = 24.23 (SD = 19.94, min=7, max=120)

n = 12,394 participants
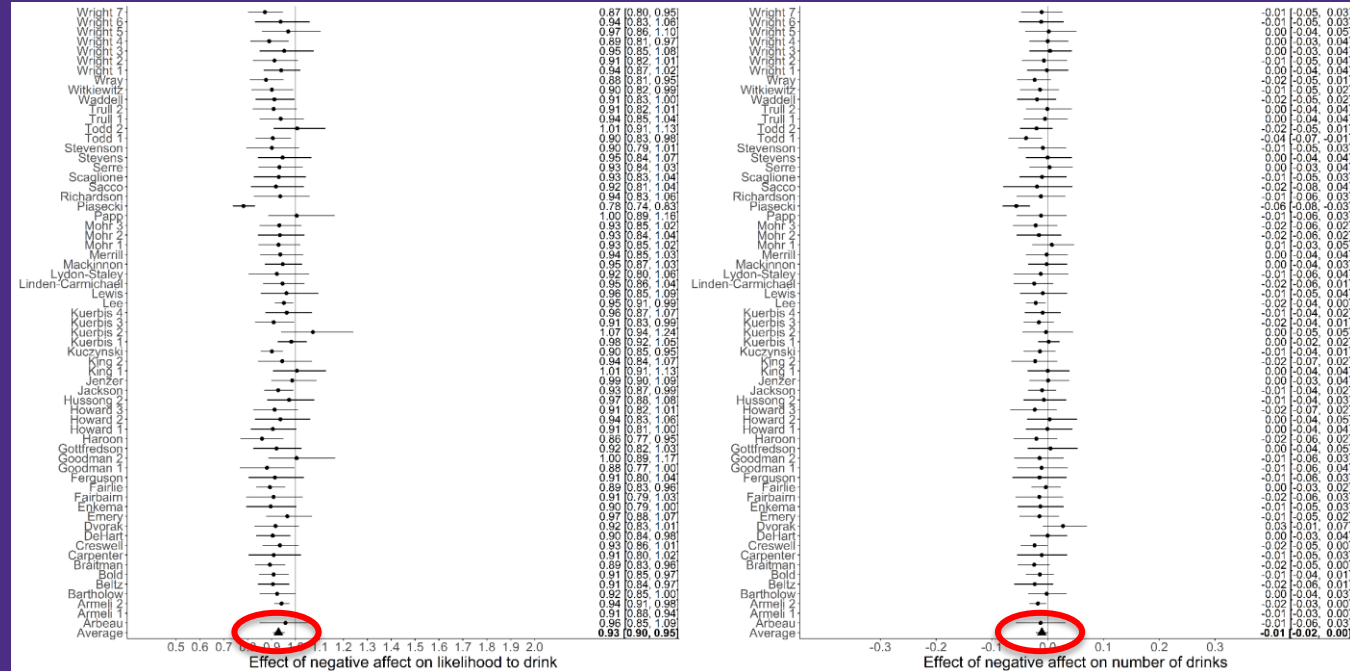
> 55.4% female

> 76.4% White

> M_{age} = 23.53 (SD = 10.03, min=13, max=92)

353,762 study days

> Response rate = 73.4% = 259,700 daily observations

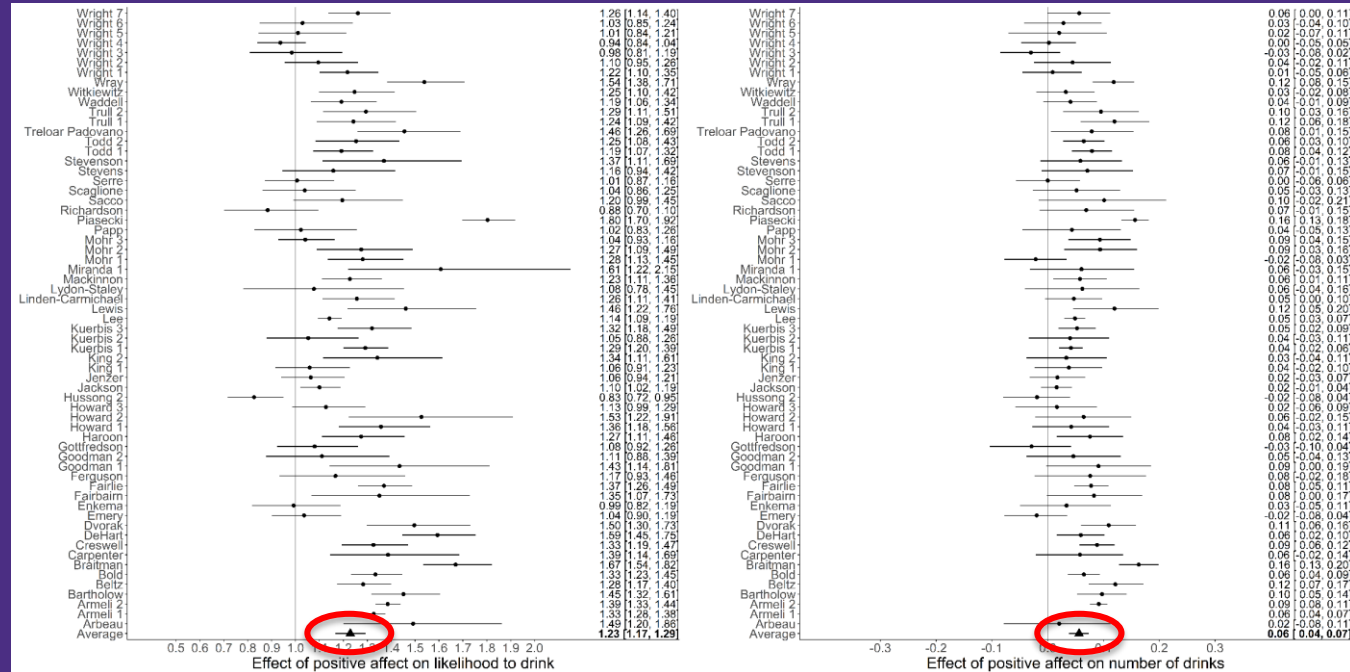> Alcohol use on 31.7% of study days = 82,266 drinking days

Daily association between negative affect and alcohol use

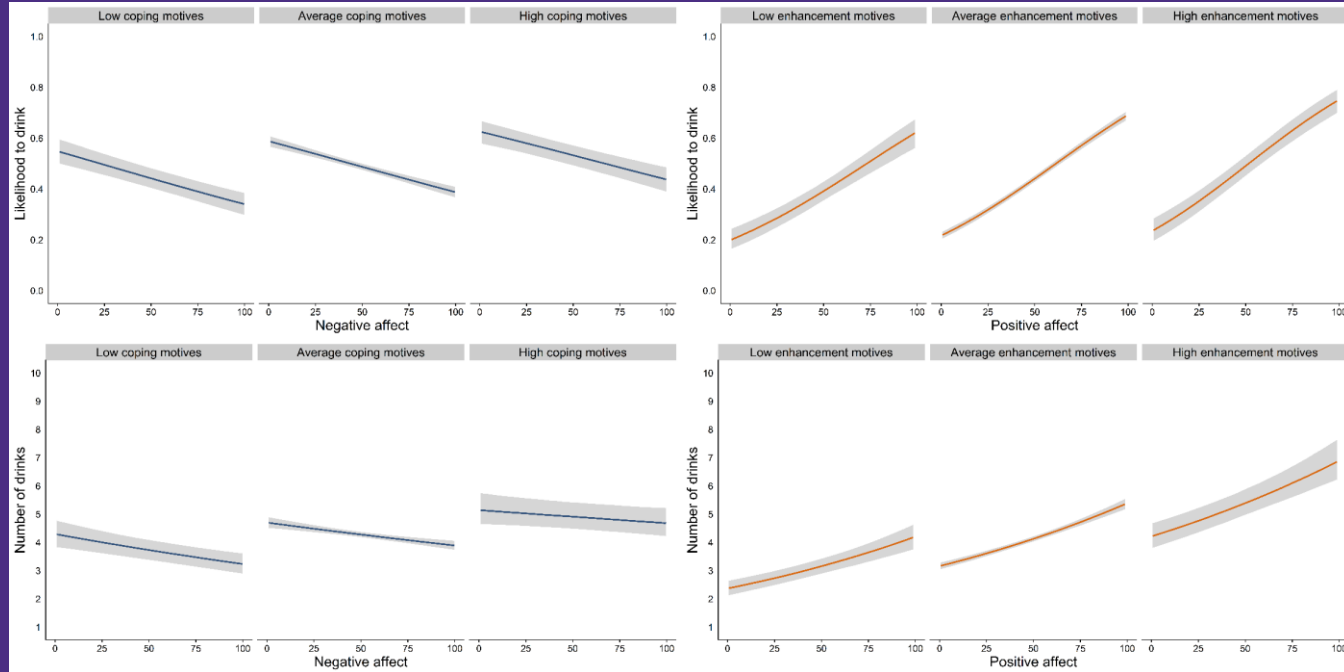# Daily association between positive affect and alcohol use

Effect of positive affect on likelihood to drink

Effect of positive affect on number of drinks

No evidence for moderating effect of drinking motives

Collaborative conclusions

? Theory and people's intuitions are incorrect

> Collaborators: not so fast…

? Access to alcohol is often constrained

> Study context

? Effects are not on the day-level

> Study multiple time scales simultaneously

? Negative affect does not motivate alcohol use in the broader population

> Study broader population and people in treatment for AUD simultaneously

? Drinking regulates affect, but affect does not motivate drinking

> Study motivation and regulation simultaneously

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Jonas's conclusion

OLD PRIOR

Effect of negative affect on alcohol use

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Jonas's conclusion

NEW PRIOR

Effect of negative affect on alcohol use

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