SHAME & PSYCHOLOGICAL FLEXIBILITY AS PREDICTORS OF DRINKING-RELATED BEHAVIOR

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What is shame?
Distinguishing Guilt from Shame

Dimension	Guilt	Shame
Appraisal	Negative evaluation of behavior or action	Negative evaluation of self
Focus of attention	On the harm done to a relationship	On the "bad" self (e.g. brooding)
Nonverbal behaviors	None consistent	Hunched shoulders Facial touching Gaze & head downward Decreased levels of expressive behaviors Avoidance of contact with others (e.g., eye contact)

Figure 2. *Prototypical shame expression (reprinted from Tracy, Robins, & Schriber, 2009).*

Distinguishing Guilt vs Shame

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Primary action tendencies	Confess/repair	Avoid scrutiny/withdraw

Clinical wisdom holds that shame is important in addiction

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What the existing literature says:

- Shame is moderately correlated with alcohol/drug problems and weakly correlated with level of use, per se (Tangney & Dearing, 2005; Ianni et al., 2010; Treeby et al., 2012)
- Levels of self-reported shame are higher in people with addictions than in non-addicted controls (O'Connor et al., 1994)
- Shame predicts time to smoking relapse (Boudrez, 2009)
- Shame-proneness in fifth graders predicts higher drug use at age eighteen (Tangney & Dearing, 2002).

What the existing literature says:

- Shame (measured nonverbally) predicted relapse over four months among 46 newly recovering individuals attending alcoholics anonymous (Randles & Tracey, 2013)

- In a daily diary study, daily shame predicted drinking (at home) that evening, better than other emotions (Mohr & Tennen, 2008)

  However:

  - Shame was only measured by a single item
  - Sample was college students

Questions we wanted to answer:

1) To what extent is shame an antecedent of drinking or a consequence of drinking?

2) Does this prediction hold above and beyond negative affect in general?

3) Can we measure modifiable moderators which begin to explain some of the effect of shame on drinking?

The case for shame as a consequence

Shame is usually cued by violations of personal values or important social norms

Thus, drinking more than one intends (i.e., limit violations) or breaking social norms (e.g., embarrassing behaviors) while drinking could result in shame

The case for shame as a antecedent

Shame is an extremely aversive affect

Shame is likely to lead to social isolation, followed by drinking as a way to escape the aversive emotion.

Our Study: Research Design

Assessments at Intake

- Demographic information
- Time Line Follow Back (TLFB; Standard drinks over the past month)
- Alcohol Use Disorders Identification Test (AUDIT)
- Acceptance and Action Questionnaire II (AAQII)

Daily diary questions (completed between 4-6pm)

Last night:
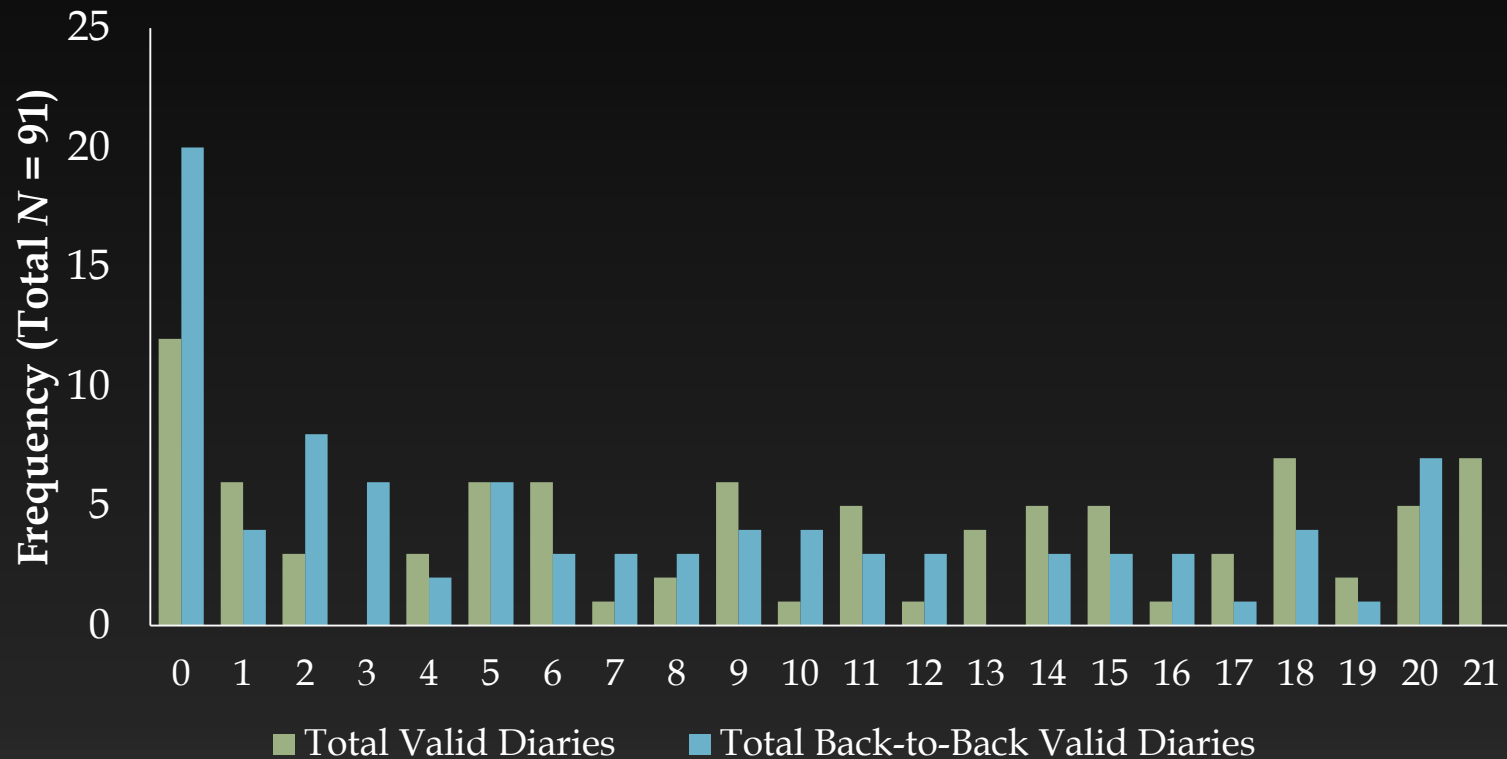
- How many (standard) drinks did you have while alone?

From waking up until now:

- Negative affect subscale from the Positive Affect and Negative Affect Schedule (PANAS; removed the "ashamed" item)
- Shame subscale from State Shame and Guilt Scale (SSGS)

Diaries collected

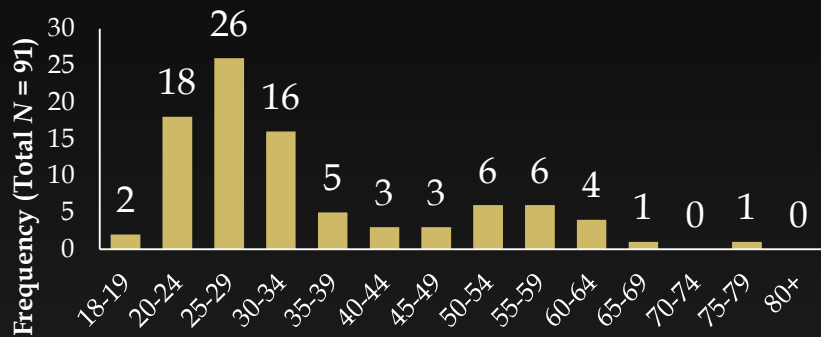
Valid Diaries Returned (M = 10.10, SD = 7.18)
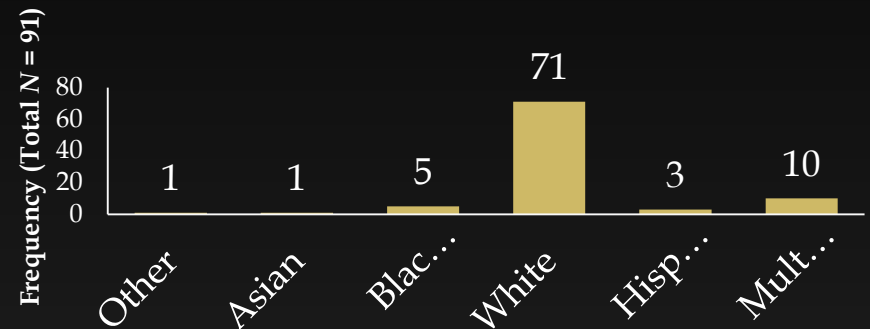Back-to-Back Diaries (M = 7.33, SD = 6.77)

Demographics

Age
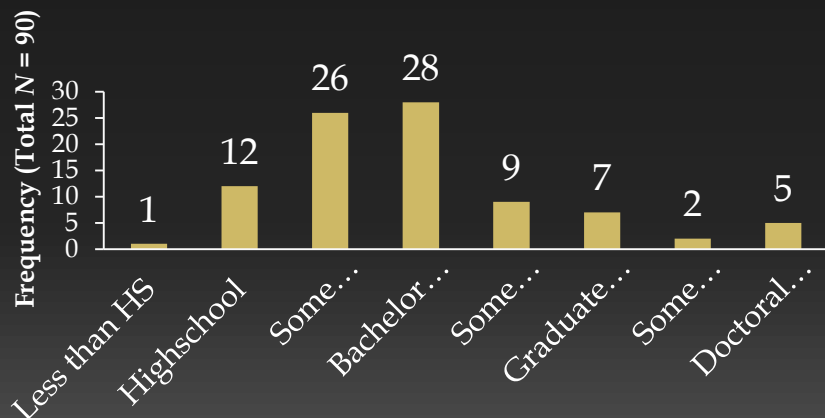**(*M* years = 34.35, *SD* = 13.31)**

Frequency (Total *N* = 91)

30, 25, 20, 15, 10, 5, 0

2, 18, 26, 16, 5, 3, 3, 6, 6, 4, 1, 0, 1, 0

18-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80+

Race/Ethnicity
(78% White, 11% Multiracial, 11% Other)

Frequency (Total *N* = 91)

80, 60, 40, 20, 0

1, 1, 5, 71, 3, 10

Other, Asian, Blac..., White, Hisp..., Mult...

Education
(*M* years = 15.37, *SD* = 2.24)

Frequency (Total *N* = 90)

30, 25, 20, 15, 10, 5, 0

1, 12, 26, 28, 9, 7, 2, 5

Less than HS, Highschool, Some..., Bachelor..., Some..., Graduate..., Some..., Doctoral...

Gender
36% male | 64% Female

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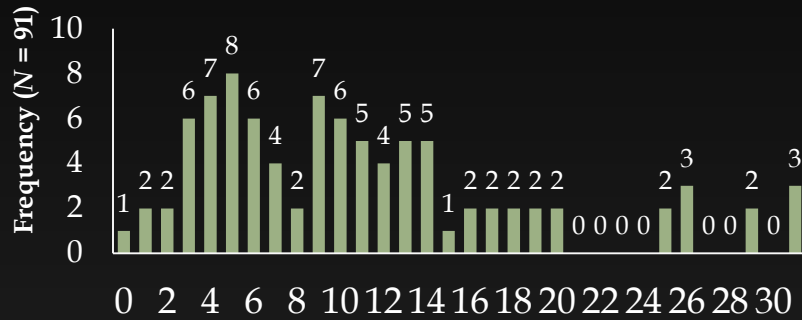
Receiving mental health treatment
78% No | 22% Yes

Drinking
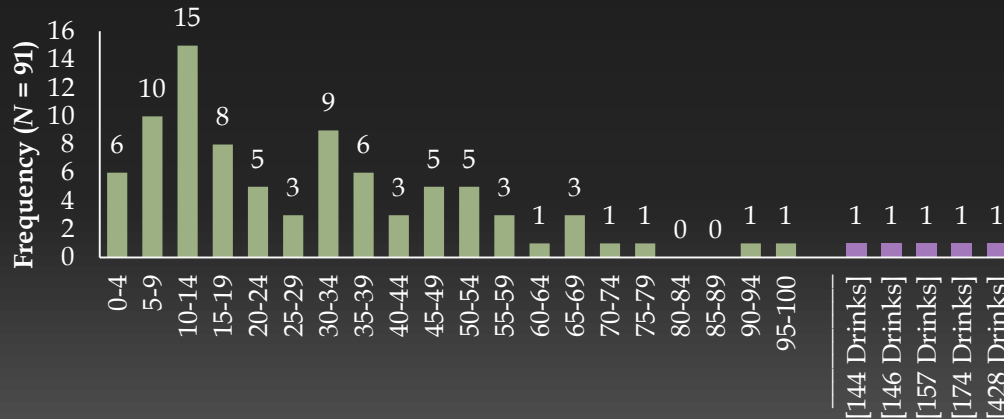

TLFB Days Drinking, Past Month
(*M* = 11.07 days, *SD* = 7.65)

TLFB Binges, Past Month
(*M* binges = 3.11, *SD* = 5.30)

TLFB Number of Drinks, Past Month
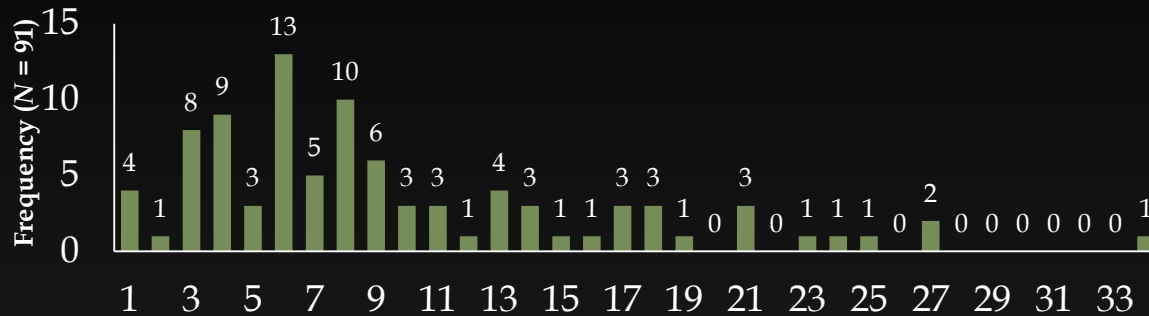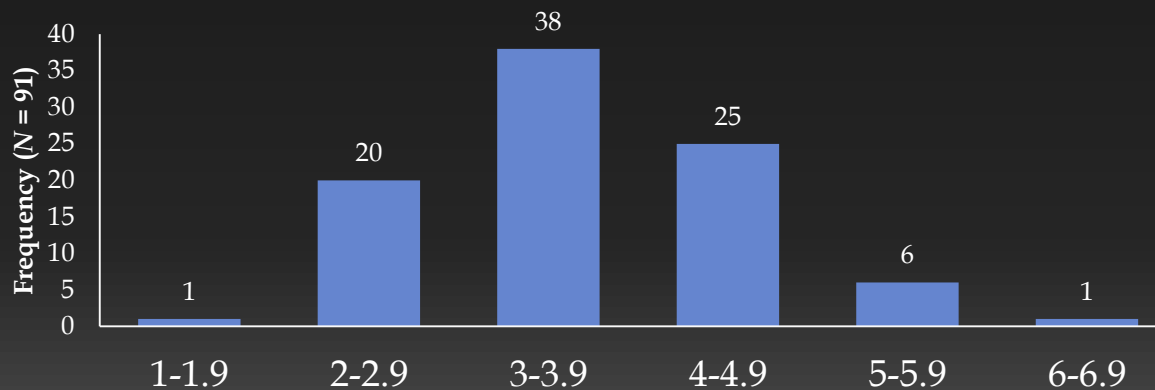(*M* = 38.90 drinks, *SD*= 53.27)

AUDIT Sumary Score
(*M* = 9.62, *SD* = 6.79)
53% Problematic Drinking (AUDIT ≥ 8)

AAQII Average
(*M* = 3.56, *SD* = 0.85)

Statistical approach

Statistical software: R (glmmadmb package)

Drinking was zero-inflated (as is common in drinking studies)

Used a hurdle methodology: analyses were decomposed into two sets of generalized linear models, with the following dependent variables :

1) Occurrence vs non-occurrence of drinking on a given day (binomial distribution)
2) Count of number of drinks > 0 on a given day (truncated negative binomial distribution)

Only analyzed drinking alone, as that has been more reliably tied to daytime mood than social drinking.

Question 1

To what extent is shame an antecedent of drinking or a consequence of drinking?

Does shame that day predict the *likelihood* of drinking that night?

The answer is no.

Variable	B	SE	z value	p
Drinks alone last night	.203	.102	1.99	.047*
Negative affect today (PANAS)	.012	.355	.030	.972
Shame today (SSGS)	.157	.456	.340	.732

Based on 544 observations

Does shame that day predict the *number of drinks* that night?

The answer is yes.

Variable	B	SE	z value	p
Drinks alone last night	.007	.018	.38	.706
Negative affect today (PANAS)	.008	.0138	.06	.954
Shame today (SSGS)	.315	.137	2.3	.021*

Based on 111 observations

Is shame an antecedent of drinking?

Shame appears to be predictive of *heavy drinking* when a person decides to drink, but may not influence the decision to drink very strongly .

The effect of shame on level of drinking was even after controlling for negative affect.

The likelihood of drinking (vs not) appears to be most closely tied to the amount of drinking the prior day (more habit-like).

Question 2

Is shame a consequence of drinking?

Does drinking the previous night predict shame the next day?

The answer is yes.

Variable	B	SE	z value	p
Shame yesterday	.262	.055	4.75	<.001***
Drinks alone last night	.022	.010	2.05	.041*

Based on 544 observations

Is shame a consequence of drinking?

While shame appears to be a *consequence* of drinking alone, shame is a more powerful *antecedent* of heavy drinking.

These analyses also suggest that the sources of shame are largely due to factors other than drinking (alone), per se.

Shame appears to be relatively stable from day to day, with the previous day's shame predicting the next day's shame fairly strongly.

Question 3

Does psychological flexibility moderate the relationship between shame and drinking?

Does psychological flexibility moderate the relationship between shame and *likelihood* of drinking?

The answer is no.

| Variable	B	SE	z value	p
Drinks alone last night	.197	.103	1.91	.057
Negative affect that day	-.020	.356	-.06	.996
Shame that day	.228	1.46	.16	.876
AAQ (at baseline)	.552	.599	.92	.357
Shame*AAQ (interaction)	-.036	.356	-.10	.920

Based on 544 observations

Does psychological flexibility moderate the relationship between shame and *number of drinks* ?

Statistically, the answer is no.

Variable	B	SE	z value	p
Drinks alone last night	.014	.020	-.50	.62
Negative affect that day	.043	.144	.30	.76
Shame that day	1.337	1.066	1.24	.21
AAQ (at baseline)	.229	.322	.71	.48
Shame*AAQ (interaction)	-.246	.257	-.96	.34

Based on 111 observations

Plots hint at a potential interaction
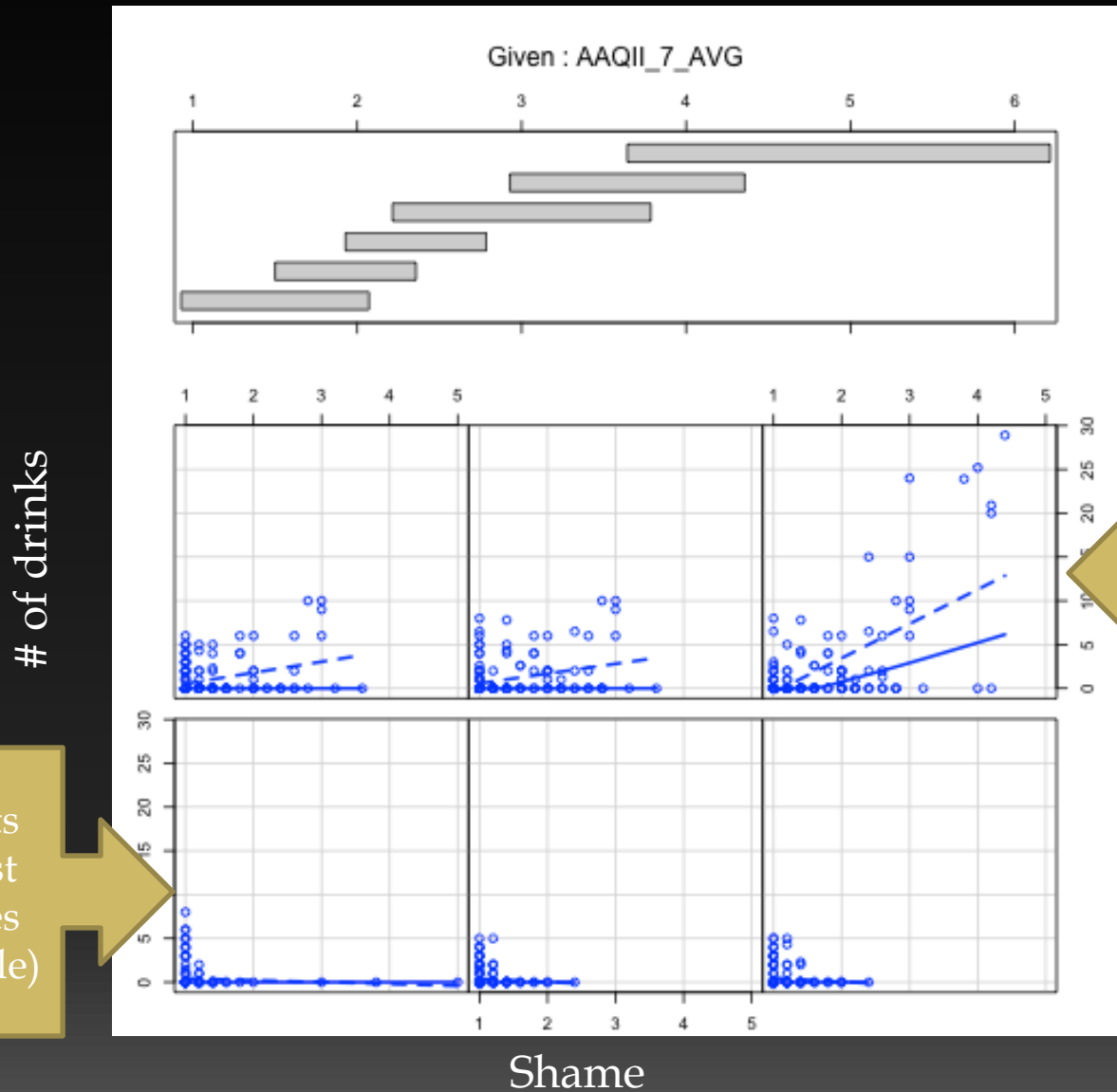
Limitations

Non-experimental study

Would be good to use different software to conduct hurdle approach in one statistical model

Sample size was fairly small, especially for interaction terms

Low rate of back-to-back diaries ($M = 7.33$ out of possible 20 back-to-back diaries)

Conclusions

- Shame is an important emotion in the context of drinking and a common antecedent of heavy drinking episodes (while alone)

- Drinking appears to function, at least in part, as a way to avoid painful feelings of shame – at least for some drinkers

- Interventions for heavy drinkers probably need to target responses to shame , rather than negative affect in general

Future directions

- Analyze data on moderators measured on a daily level (e.g., experiential avoidance, compassion, defusion)

- Examine whether results also apply to social drinking (particularly in terms of whether drinking causes shame) and whether drinking-related outcomes predict shame the next day

- Look at other measures of shame (such as postural data) in relation to drinking

- Experimentally manipulate potential moderators/mediators of shame-drinking relationship in single case designs

Contact info

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