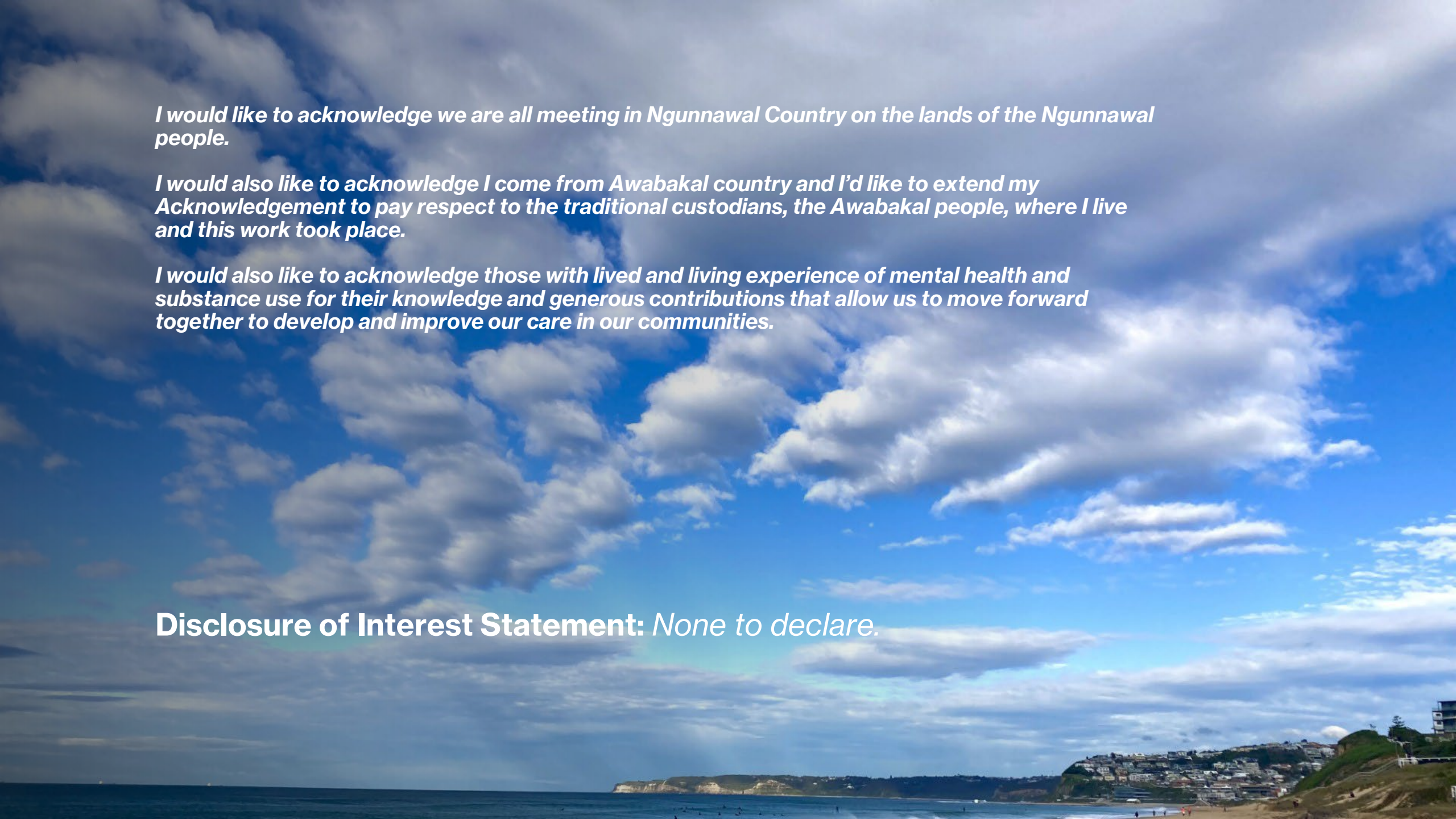

I would like to acknowledge we are all meeting in Ngunnawal Country on the lands of the Ngunnawal people.

I would also like to acknowledge I come from Awabakal country and I'd like to extend my Acknowledgement to pay respect to the traditional custodians, the Awabakal people, where I live and this work took place.

I would also like to acknowledge those with lived and living experience of mental health and substance use for their knowledge and generous contributions that allow us to move forward together to develop and improve our care in our communities.

Disclosure of Interest Statement: *None to declare.*

Safety, belonging and exploration:
Using mixed-methods latent class analysis to increase understanding of alcohol use in emerging adults experiencing severe mental ill-health

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Background

- Most recent national survey of psychosis reported a doubling of lifetime alcohol abuse/dependence since the previous survey a decade prior (Moore et al, 2010)
- Risky alcohol use can be viewed as normative part of emerging adulthood (Dupree et al, 2016) with decreasing use coinciding with increase adult responsibilities (“maturing out”; Windle, 2020)
- Research in severe mental ill-health (SMI) and substance use has primarily focused on cannabis use and adult cohorts

Emerging adulthood

- Broadly includes the ages 16-29 years (Arnett et al, 2014)
- Developmental stage with key features
  - Identity explorations
  - Instability
  - Self-focus
  - Feeling in-between
  - Possibilities and optimism

SMI in emerging adulthood

- 75% of substance use and mental health concerns established by age 25 (Kessler et al, 2005)
- Receiving a mental health diagnosis during emerging adulthood and identity construction – large discrepancy between ideal and current identity related to increased psychological distress and slower recovery in emerging adults (Rickwood & Ferry, 2018)
- Importance of hope and optimism for recovery
- 25% social anxiety disorder in those 15 and older with psychotic disorder and is associated with higher levels of stigma, shame, and social isolation (Birchwood et al, 2007; McEnery et al, 2019)

Alcohol use and SMI in emerging adulthood

- Emerging adults at increased risk of alcohol use disorder compared to adults or older adults (Qadeer et al, 2018)
- Co-occurring alcohol use disorder related to poorer hospitalisation outcomes in first two years after experiencing psychosis (Ouellet-Plamondon et al, 2017)
- Alcohol use can increase upon cannabis cessation (Schuster et al, 2021)
- Alcohol used differentially based on different mental health diagnoses (Meyer et al, 2012; Kaufman et al, 2019)
- Emerging adults remain less likely than other age groups to present for treatment where alcohol is the principal drug of concern (19.9% of those under 30 compared to 68% for people aged over 50, AIHW, 2020).

Drinking motives and metacognitive beliefs about alcohol

Both constructs that are important and potentially modifiable factors in drinking (Cooper et al, 2014; Spada & Wells, 2010; Hamonniere & Varescon, 2018)

Research in emerging adults has focused on general college or community populations

Four broad drinking motives

- Social
- Coping
- Enhancement
- Conformity

Metacognitive beliefs about alcohol

- Positive beliefs about managing emotion
- Positive beliefs about managing cognition
- Negative beliefs about harm from drinking
- Negative beliefs about uncontrollability of drinking

Mixed-methods Latent Class Analysis

Investigate discrepancies between qualitative and quantitative reporting of drinking motives and metacognitive beliefs about alcohol observed in Study 1

Evidence that participants with SMI sometimes misinterpret intention of questions on drinking motives questionnaires (Nehlon et al, 2018)

Latent class analysis allow for identification of previously unrecognised groups within data sets

Current research questions

Qualitative (content analysis)

1. What reasons for drinking are most important to emerging adults with SMI?

2. How has their alcohol use changed since they first started drinking?

Quantitative (Latent Class Analysis)

Are there distinct classes of alcohol use in a population of emerging adults with SMI?

Specific hypotheses:

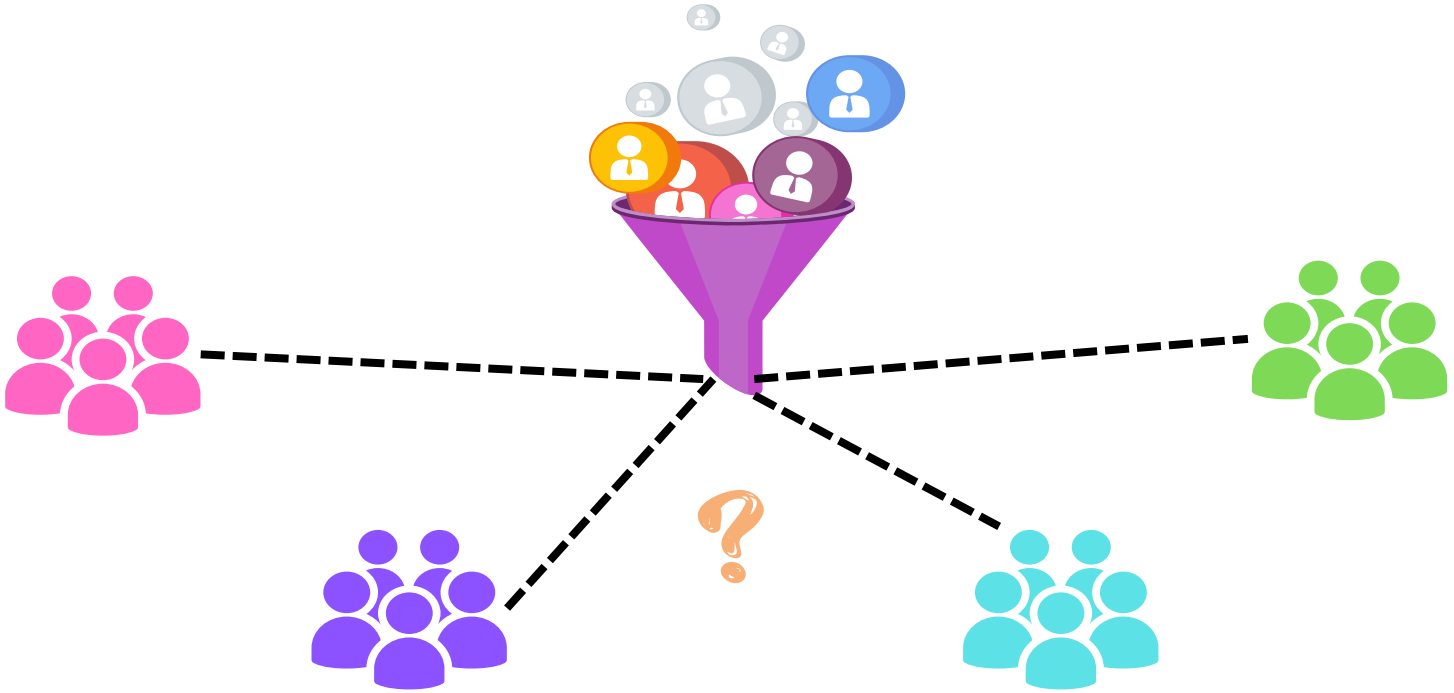
1. Distinct classes of emerging adults would be found in the LCA.
2. No significant difference would be observed between the classes on social drinking motives scores as captured by a standardised measure of drinking motives.
3. Classes would be differentiated by drinking to manage positive (increase social enjoyment) or negative affect (decrease social anxiety) in social situations.
4. Metacognitive beliefs about using alcohol to control thoughts would be positively related to mental health and alcohol use severity.

Self-report measures

+

Content analysis

Mixed-method Latent Class Analysis



Comparison of classes

Procedure

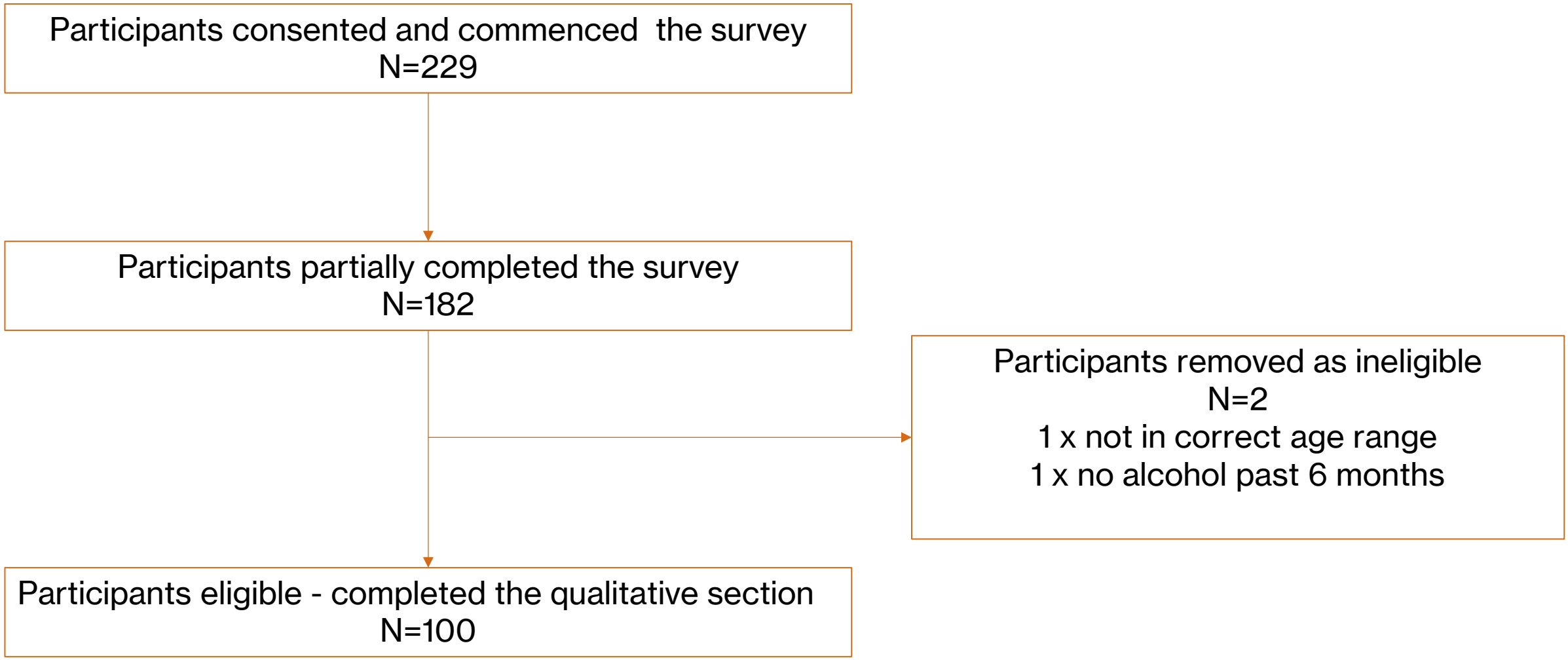
- Recruited Aug – Nov 2019 via social media and flyers in local mental health service
- Aged 16-25 self-reported SMI diagnosis who had consumed any alcohol in the preceding 6 months
- SMI was defined as “a diagnosable mental, behavioural or emotional disorder that has resulted in functional impairment which substantially interferes with or limits one or more major life activities” (RANZCP, 2016)
- Online anonymous survey – similar measures/questions to those asked in Study 1
- Able to enter prize draw for 1 x 4 $50 gift cards

Self-report measures

- **Demographics** (age, gender, occupation, years of education, relationship status, living arrangements including postcode, ethnicity, mental health and substance use diagnoses).
- **Alcohol** - AUDIT (Babor et al, 2001)
- **Substance use** - ASSIST V3.0 (Humeniuk, 2010)
- **Drinking motives** - DMQ-SF-R (Kuntsche & Kuntsche, 2009)
- **Alcohol metacognitive beliefs** - Positive Alcohol Metacognitions Scale/Negative Alcohol Metacognition Scale (Spada & Wells, 2008)
- **Depression** - PHQ-9 - lifetime (Cannon et al, 2007) and current (Kroenke, Spitzer & Williams, 2001)

Qualitative questions

1. How did you first start drinking alcohol?
2. Please describe a recent time when you drank alcohol.
3. Have you changed the ways you drink since you first started drinking alcohol? If yes, please describe how.
4. What is the most important reason you drink alcohol, and why is it important?
5. Please list two other reasons why you drink alcohol.


Participants consented and commenced the survey
N=229
Participants partially completed the survey
N=182
Participants removed as ineligible
N=2
1 x not in correct age range
1 x no alcohol past 6 months
Participants eligible - completed the qualitative section
N=100

Participant characteristics

Group (n)	Total (100)	SM (29)	SSIC (42)	E (29)
Gender n (%)				
Female	73 (73.7)	25 (86.2)	27 (64.3)	21 (75.0)
Male	19 (19.2)	3 (10.3)	12 (28.6)	4 (14.3)
Non-binary	6 (6.1)	1 (3.4)	3 (7.1)	2 (7.1)
Other	1 (1.0)	0 (0)	0	1 (3.6)
Psychosis spectrum diagnosis	34 (34.3)	4 (13.8)[1]	22 (52.4)[2]	8 (28.6)[1]
Substance use disorder diagnosis	20 (20)	2 (6.9)[1]	17 (40.5)[2]	1 (3.4)[1]
Inpatient mental health admission	46 (46)	4 (13.8)[1]	33 (78.6)[2]	9 (31.0)[1]
Lifetime injecting drug use	5 (5)	0 (0)	5 (11.9)	0 (0)
Age Median (IQR)	18 (17-21)	18 (17-19.5)	19 (17-21.25)	18 (16.5-22)
Total AUDIT score Median (IQR)	13 (6-22)	9 (4.5-13.5)	22 (16-28.25)	7 (5-10)
Lifetime substances used Median (IQR)	5 (2-6)	1.5 (1-2)	6 (5-7.25)	5 (3.5-7)
Current depression Median (IQR)	20 (13-25)	22 (13.5 – 26)	26 (16-26)	16 (10-22)
Lifetime depression Median (IQR)	24 (20-27)	25 (20-27)	25 (21-27)	20 (11-25)
Time (years) since first diagnosis Median (IQR)	4 (2-6.25)	3 (1-5)	5 (3-9)	4 (2-7.5)

Content Analysis

Theme	% participant endorsement
Seeking positive affect	71%
Manage negative affect	59%
Social confidence	46%
Drinking to escape, forget or numb experience	35%
Social fun	33%
Intensify a pleasant cognitive event	27%
Reduce an unpleasant cognitive event	22%
Detachment from an unpleasant cognitive event	20%
Enjoy taste or sensation and accessibility	19%
Externalised a drinking problem	7%
Drinking to manage sleep, energy levels, or pain	6%

Indicator variables

Indicator	Categories	Source
Psychiatric admission	Yes/No	Quantitative response
Drinking change	Decrease/no change/increase	Coded response
Manage social experience	Yes/no	Coded and survey response
Social enjoyment	Yes/No	Coded response
Manage thoughts	Yes/No	Coded response
Manage feelings	Yes/No	Coded response
Cannabis	Yes/No	Quantitative response
Tobacco	Yes/No	Quantitative response
Other substance use	Yes/No	Quantitative response
Psychosis	Yes/No	Quantitative response
AUDIT class	Low risk/hazardous/harmful	Quantitative response

Latent classes identified

- Sample of 100 adequate as >70 supported when appropriate indicator variables selected (Wurpts & Geiser, 2014)
- 3 classes identified as best fit

Class	Log-likelihood	AIC	BIC	Entropy	df	G^2	G^2p
2	-711	1477	1547	0.80	72	547	0.08
3	-683	1449	1556	0.86	58	491	0.08
4	-663	1437	1580	0.88	44	451	0.04

SOCIAL MANAGEMENT

(n=29)

“The most important reason I drink alcohol is to fit in..because I feel like I stand out”

“To seem 'normal' to others”

- 48.3% of this group had only ever used alcohol
- Primary function of alcohol was to fit into a group and manage social anxiety (79%)
- Did enjoy alcohol n social settings (66%)
- Unlikely to have a psychiatric admission (15%)
- Unlikely to have a psychosis spectrum disorder (14%)
- Drinking likely increased across time (43%)
- Drinking used to manage mood (68%)
- Drinking less like used to manage thoughts (37%)
- Hazardous alcohol use (55%)
- Least time since mental health diagnosis

SAFETY SEEKING/IMPAIRED CONTROL

(n=42)

“To distract myself from the suicidal thoughts, it goes quiet and stays calm. It’s the only time I feel safe”

- 100% of this group had polysubstance use (90% cannabis, 90% tobacco, 97% other)
- Primary function of alcohol was to manage anxiety and be able to participate in social settings (74%)
- Unlikely to enjoy social alcohol use (70%)
- Likely to have a psychiatric admission (78%)
- Likely to have a psychosis spectrum disorder (51%)
- Drinking likely increased across time (66%)
- Drinking used to manage mood (100%)
- Drinking used to manage thoughts (53%)
- High risk alcohol use (77%)
- Most of the male participants (63% of sample)
- Most likely to have a substance use diagnosis (85% of sample)
- Longest time since mental health diagnosis
- All injecting drug use is this group

EXPLORATION

(n=29)

“It makes things fun.
It makes me feel good”
“I’m typically very anxious and quiet and when I drink I’m happier and more outgoing”

- 100% reported polysubstance use (100% cannabis, 93% tobacco, 79% other)
- Primary function of alcohol was social enjoyment (88%)
- Unlikely to have a psychiatric admission (33%)
- Unlikely to have a psychosis spectrum disorder (27%)
- Drinking likely decreased across time (43%)
- Drinking used to manage mood (68%)
- Drinking less likely used to manage thoughts (37%)
- Low risk alcohol use (69%)

Standardised variable scores by class

Comparison of main variables by class

Class (n)	SM (29)	SSIC (42)	E (29)	χ^2	p
Variable	Median				
Age	18	19	18	1.80	0.406
Lifetime substances used	1	6	5	55.67	<0.001 [a c]
AUDIT total score	9	22	7	41.38	<0.001 [a b]
Social motive	2.67	2.67	2.33	1.58	0.455
Coping motive	2.33	2.67	2.00	11.81	0.003 [b]
Enhancement motive	2.33	2.33	2.33	3.62	0.164
Conformity motive	2.00	1.33	1.00	7.44	0.024 [c]
Symptom motive	1.67	1.67	1.33	5.04	0.081
PAMS cognitive	7.00	7.00	5.00	8.57	0.014 [b]
PAMS social/emotional	24.00	26.00	20.00	9.23	0.010 [b]
NAMS uncontrollability	3.00	4.00	3.00	19.33	<0.001 [a b]
NAMS harm	5.00	6.50	5.00	7.87	0.020 [b]
Current depression	22.00	22.00	16.00	9.36	0.009 [b]
Lifetime depression	25.00	25.00	20.00	10.35	0.006[b c]
Time since diagnosis	3	5	4	10.61	0.005[a]

Note.

[a] significant difference between SM-SSIC

[b] significant difference between SSIC-E

[c] significant difference between SM-E

SM=Social Management
SSIC=Safety Seeking/Impaired Control

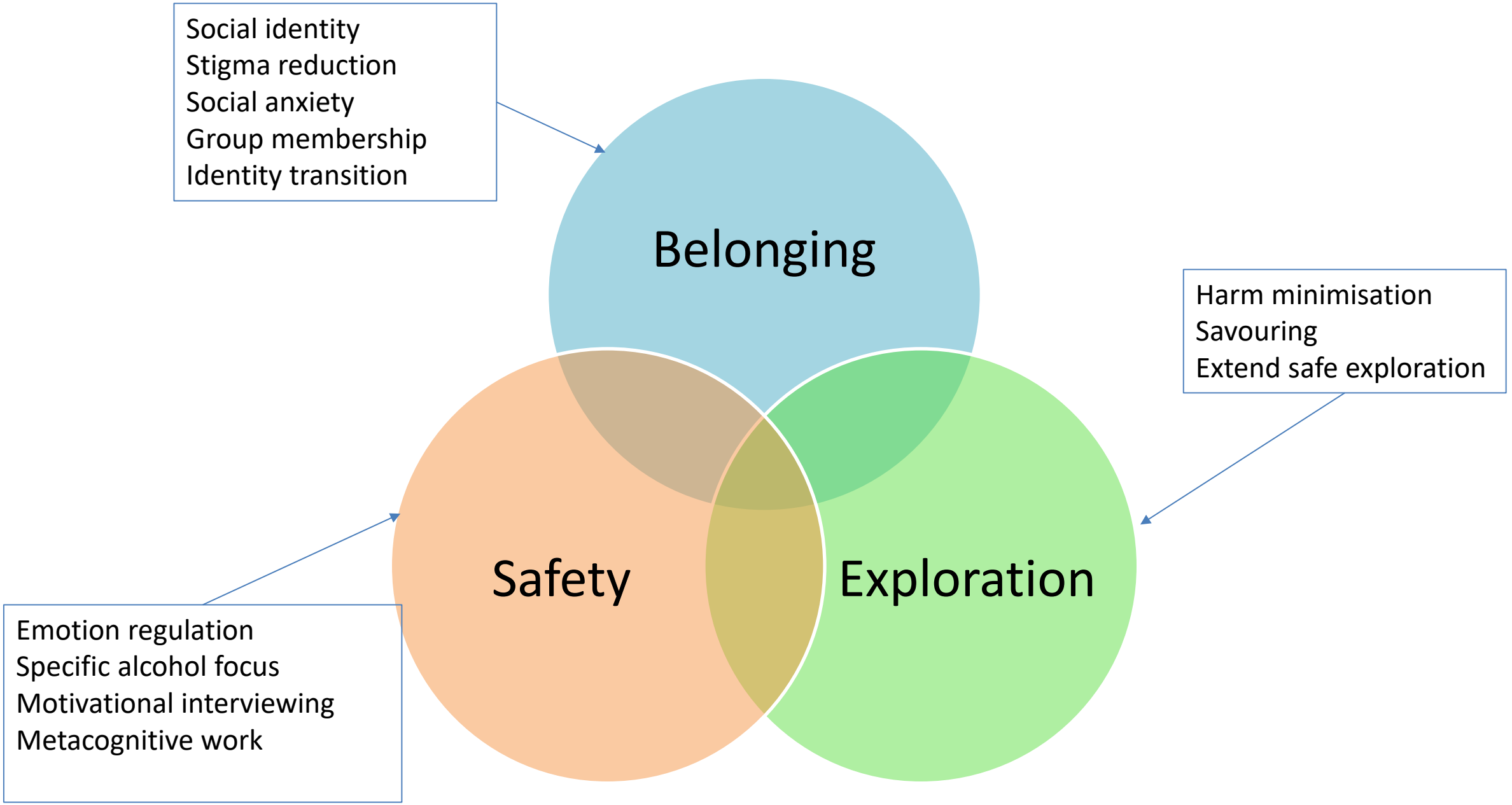
E=Exploration

Diagnosis by class

Group (n)	Total (100)	SM (29)	SSIC (42)	E (29)
Diagnosis n (%)				
Schizophrenia	5 (5)	0 (0)	5 (11.9)	0 (0)
Bipolar	19 (19)	1 (3)	14 (33.3)	4 (13.8)
Schizoaffective	4 (4)	0 (0)	4 (9.5)	0 (0)
Depression with psychosis	14 (4)	4 (13.8)	6 (14.3)	4 (13.8)
Delusional disorder	2 (2)	0 (0)	1 (2.4)	1 (3)
Severe depression (no psychosis)	53 (53)	18 (62)	25 (59.5)	10 (34.5)
Anxiety disorder	82 (82)	24 (82.7)	36 (85.7)	22 (75.9)
Personality disorder	19 (19)	1 (3)	14 (33.3)	4 (13.8)
Substance use disorder	20 (20)	2 (7)	17 (40.5)	1 (3)
Not share diagnosis	2 (2)	1 (3)	0 (0)	1 (3)
Other diagnosis	20 (20)	5 (17)	9 (21.4)	6 (20.7)

Conclusions

Discrete patterns of alcohol use in EA with SMI were observed
Social connection and social survival are strongly important to EA with SMI
Social motives are not heterogeneous and not all social drinking is pleasurable for EA with SMI - this was not captured by self-report measures of motives
Depression higher in SMI than general EA population suggesting it is specific to those with SMI rather than just a developmental feature
Polysubstance use is frequent in EA with SMI
EA with SMI who only use alcohol may require intervention for social anxiety
EA with psychosis spectrum disorders may be more likely to use alcohol to control thoughts and harmful levels of alcohol
Important for clinicians to consider both developmental stage and alcohol use in assessment and use this to map appropriate intervention strategies


Social identity
Stigma reduction
Social anxiety
Group membership
Identity transition
Belonging
Harm minimisation
Savouring
Extend safe exploration
Safety
Exploration
Emotion regulation
Specific alcohol focus
Motivational interviewing
Metacognitive work

Kevin Butz, Unsplash

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