





Article

# Suicidal Thoughts, Depression, Post-Traumatic Stress, and Harmful Alcohol Use Associated with Intimate Partner Violence and Rape Exposures among Female Students in South Africa

Mercilene Tanyaradzwa Machisa<sup>1,2,\*</sup> , Esnat Chirwa<sup>1,2</sup> , Pinky Mahlangu<sup>1,2</sup> , Ncediswa Nunze<sup>1</sup>,  
Yandisa Sikweyiya<sup>1,2</sup>, Elizabeth Dartnall<sup>3</sup> , Managa Pillay<sup>4</sup> and Rachel Jewkes<sup>1,2</sup>

- <sup>1</sup> South African Medical Research Council Gender and Health Research Unit, 1 Soutpansberg Road, Pretoria Private Bag x385, Pretoria 0001, South Africa; esnat.chirwa@mrc.ac.za (E.C.); pinky.mahlangu@mrc.ac.za (P.M.); ncediswa.nunze@mrc.ac.za (N.N.); yandisa.sikweyiya@mrc.ac.za (Y.S.); rachel.jewkes@mrc.ac.za (R.J.)
  - <sup>2</sup> School of Public Health, Faculty of Health Sciences, University of Witwatersrand, 60 York Road, Parktown, Johannesburg 2193, South Africa
  - <sup>3</sup> Sexual Violence Research Initiative, 28 High Street, Waterkloof, Pretoria 0145, South Africa; elizabeth@svri.org
  - <sup>4</sup> Department of Basic Education, 222 Struben Street, Pretoria Central, Pretoria 0001, South Africa; pillay.m1@dbe.gov.za
- \* Correspondence: mercilene.machisa@mrc.ac.za



# INTRODUCTION

- Ample evidence from high-income country settings indicates the prevalence and risk factors for multiple mental ill-health symptoms in student populations, evidence from low- and middle-income higher education settings remains limited.
- Existing evidence shows that the prevalence of mental distress and disorders is higher in student populations compared to the general population and that female students are particularly more vulnerable compared to male students.
- Evidence also indicates that depression, PTSD, anxiety disorders, and substance use disorders negatively affects female students' overall wellbeing, social functioning, sexual and reproductive health, academic performance, and completion of studies
- Scholars have begun to study the prevalence and risk factors for mental ill-health among University students in South Africa, however it is essential to acknowledge that previously White universities constitute only a part of the national integrated post-school system
  - Research has lacking in historically disadvantaged Universities
  - Research is lacking in Technical Vocational Education and Training (TVET) colleges



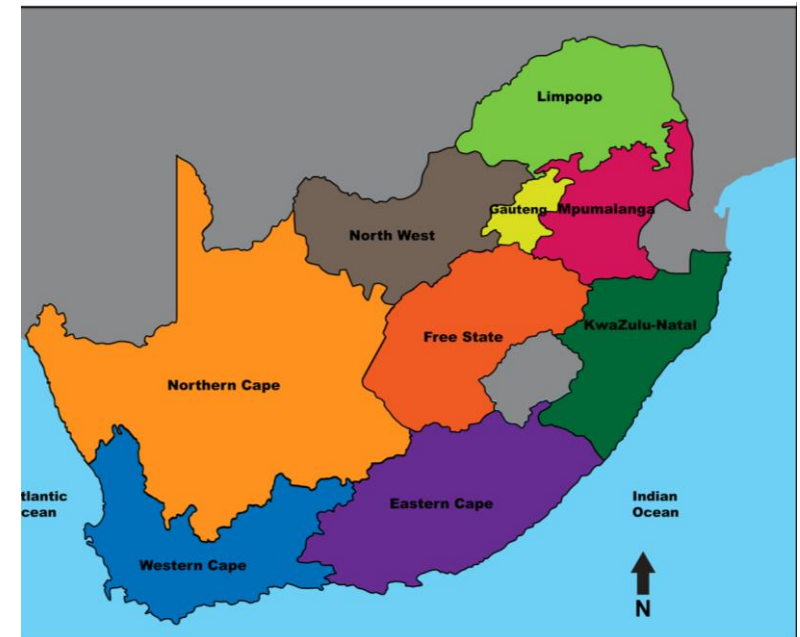
# OBJECTIVE

- To determine the **frequency, factors and pathways associated with mental health** among predominantly Black African and younger female students (aged 18–30 years) in selected South African public TVET colleges and universities



# STUDY AIMS, DESIGN AND SETTINGS

- **Study design:** Convenient sampling on selected campuses
- **Location:** Survey in 9 campus sites located in Gauteng, Mpumalanga, Eastern Cape, Limpopo, KZN
- **Recruitment:** Participants were invited through adverts posted on campuses and social media pages
- **Inclusion criteria**
  - Female
  - 18-30 years
  - Enrolled student
- **Sample size:** 1272 women
  - 87.3% ages 18-24 years
  - 59.9% university vs 40.1 TVET college
- **Data collection:** Structured electronic questionnaire self-administered



# KEY VARIABLES AND MEASUREMENT

Child sexual abuse  
Childhood trauma  
questionnaire

Other life trauma  
Life events checklist

Sociodemographic  
and partner  
characteristics

Depression  
CESD Scale

PTSD  
Harvard trauma  
questionnaire

Binge drinking  
Audit scale

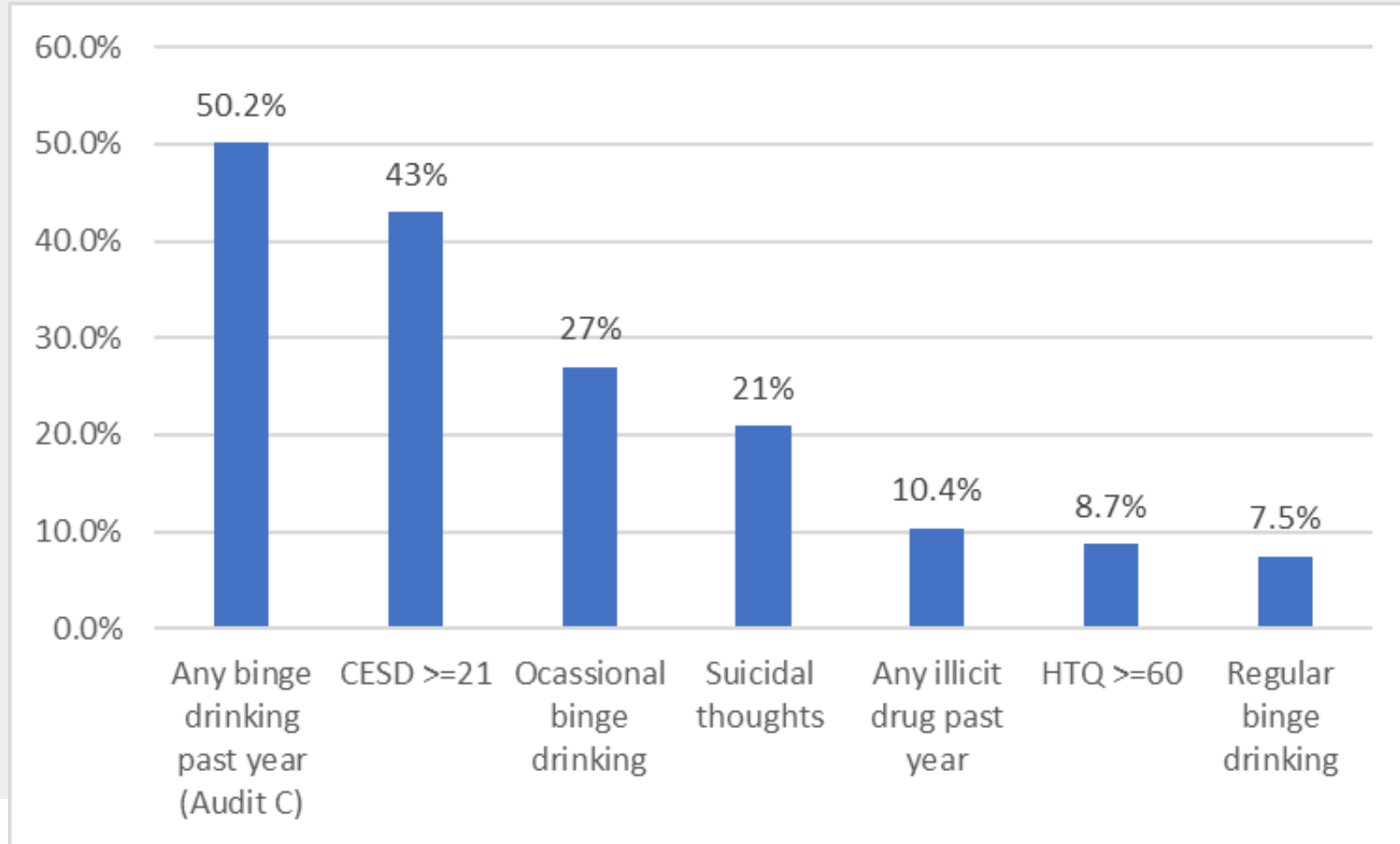
Sexual relationship power  
SRPS scale

Gender Equity  
GEM Scale

Lifetime & Past year intimate partner violence & non-partner rape  
WHO Domestic violence

Risky sexual  
behaviours

# FREQUENCIES OF MENTAL HEALTH FACTORS



# FREQUENCY DIFFERENCES (I)

The frequency of depressive symptoms and suicidal thoughts were higher among students from TVET colleges compared to university students.

The students who experienced IPV or non-partner rape reported higher depressive symptoms, PTSD symptoms, and suicidal thoughts.

	Total n = 1293	No Depression n = 728	Depression n = 565		PTSD Score <60 n = 1181	PTSD Score >= 60 n = 112		No Suicidal Thoughts n = 1002	Suicidal Thoughts n = 267	Missing n = 24	
	n	n (%)	n (%)	p-Value	n (%)	n (%)	p-Value	n (%)	n (%)	n (%)	p-Value
<b>Age group</b>											
18-24	1072	603 (56.3)	469 (43.7)	0.871	982 (91.6)	90 (8.4)	0.176	829 (77.3)	221(20.6)	22 (2.1)	0.723
25-30	200	112 (56)	88 (44)		178 (89)	22 (11)		155 (77.5)	43 (21.5)	2 (1)	
Missing age	21	13 (61.9)	8 (38.1)		21(100)	0 (0)		18 (85.7)	3 (14.3)	0 (0)	
<b>Type of institution</b>											
Tvet college	519	267 (51.5)	252 (48.5)	0.004	476 (91.7)	43 (8.3)	0.693	353 (68)	156 (30.1)	10 (1.9)	<0.0001
University	774	461 (59.6)	313 (40.4)		705 (91.1)	69 (8.9)		649 (83.9)	111 (14.3)	14 (1.8)	
<b>Past 12 m IPV experience (n = 1216)</b>											
No	692	444 (64.2)	248 (35.8)	<0.0001	654 (94.5)	38 (5.5)	<0.0001	577 (83.4)	105 (15.2)	10 (1.5)	<0.0001
Yes	524	246 (46.9)	278 (53.1)		459 (87.6)	65 (12.4)		375 (71.6)	141 (26.9)	8 (1.5)	
<b>Experienced non-partner rape</b>											
No	1196	690 (57.7)	506 (42.3)	<0.0001	1104 (92.3)	92 (7.7)	<0.0001	944 (78.9)	231 (19.3)	21 (1.8)	<0.0001
Yes	97	38 (39.2)	59 (60.8)		77 (79.4)	20 (20.6)		58 (59.8)	36 (37.1)	3 (3.1)	

# FREQUENCY DIFFERENCES (2)

Higher proportions of the students who binge drank reported more comorbid depressive symptoms, PTSD symptoms, and suicidal thoughts than those who never drank, although this was not statistically significant.

The mean food security, trauma, and childhood trauma scores among students reporting depressive symptoms, PTSD symptoms, and suicidal thoughts were significantly higher than students who did not report symptoms

	Total n = 1293	No Depression n = 728	Depression n = 565		PTSD Score <60 n = 1181	PTSD Score >= 60 n = 112		No Suicidal Thoughts n = 1002	Suicidal Thoughts n = 267	Missing n = 24	
	n	n (%)	n (%)	p-Value	n (%)	n (%)	p-Value	n (%)	n (%)	n (%)	p-Value
<b>Alcohol use</b>											
None	593	361 (60.9)	232 (39.1)	0.070	561 (94.6)	32 (5.4)	0.067	484 (81.6)	106 (17.9)	3 (0.5)	0.113
yes, but no binge drinking	201	117 (58.2)	84 (41.8)		182 (90.6)	19 (9.4)		156 (77.6)	42 (20.9)	3 (1.5)	
yes, occasional binge	351	185 (52.7)	166 (47.3)		318 (90.6)	33 (9.4)		269 (76.6)	79 (22.5)	3 (0.9)	
Yes, regular binge	97	51 (52.6)	46 (47.4)		88 (90.7)	9 (9.3)		70 (72.2)	26 (26.8)	1 (1.03)	
Missing	51	14 (27.5)	37 (72.5)		32 (62.8)	19 (37.3)		23 (45.1)	14 (27.5)	14 (27.5)	
	<b>mean (sd)</b>	<b>mean (sd)</b>	<b>mean (sd)</b>	<b>p-value</b>	<b>mean (sd)</b>	<b>mean (sd)</b>	<b>p-value</b>	<b>mean (sd)</b>	<b>mean (sd)</b>		<b>p-value</b>
<b>Food security score</b>	7.51 (0.16)	6.13 (0.19)	9.32 (0.26)	<0.0001	7.19 (0.16)	11.06 (0.69)	<0.0001	6.96 (0.18)	9.55 (0.40)		<0.0001
<b>Other life trauma score</b>	1.56 (0.05)	1.22 (0.06)	2.02 (0.08)	<0.0001	1.51 (0.05)	2.29 (0.23)	<0.0001	1.36 (0.05)	2.33 (0.13)		<0.0001
<b>Childhood trauma score</b>	5.31 (0.13)	4.43 (0.14)	6.44 (0.22)	<0.0001	5.06 (0.12)	8.01 (0.61)	<0.0001	4.95 (0.13)	6.58 (0.36)		<0.0001



# BIVARIATE DESCRIPTIVE ASSOCIATIONS

## Depression – Binary Outcome

## PTSD – Binary Outcome

## Suicidal Thoughts

	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
Experience IPV in past year	2.02	1.70 to 2.39	<0.001	2.4	1.79 to 3.23	<0.001	2.07	1.65 to 2.61	<0.001
Experience non-partner	2.13	1.43 to 3.18	<0.001	3.15	1.94 to 5.10	<0.001	2.53	1.81 to 3.54	<0.001
Food insecurity score	1.10	1.07 to 1.14	<0.001	1.11	1.07 to 1.14	<0.001	1.08	1.03 to 1.12	<0.001
Childhood trauma score	1.11	1.09 to 1.14	<0.001	1.11	1.07 to 1.15	<0.001	1.08	1.04 to 1.11	<0.001
Experienced other	1.31	1.25 to 1.37	<0.001	1.21	1.08 to 1.36	0.001	1.32	1.23 to 1.42	<0.001
Alcohol use:									
none							Ref		
yes, but no binge drinking	1.11	0.92 to 1.34	0.291	1.84	1.10 to 3.06	0.019	1.23	0.98 to 1.56	0.077
yes, occasional	1.39	1.12 to 1.74	0.004	1.76	1.05 to 2.96	0.033	1.34	0.99 to 1.82	0.059
Yes, regular binge drinking	1.41	0.95 to 2.10	0.091	1.79	1.12 to 2.87	0.016	1.69	1.16 to 2.47	0.007

Students who **experienced recent IPV** were **twice more likely to report depressive symptoms, PTSD symptoms, and suicidal thoughts** compared to those who did not experience IPV.

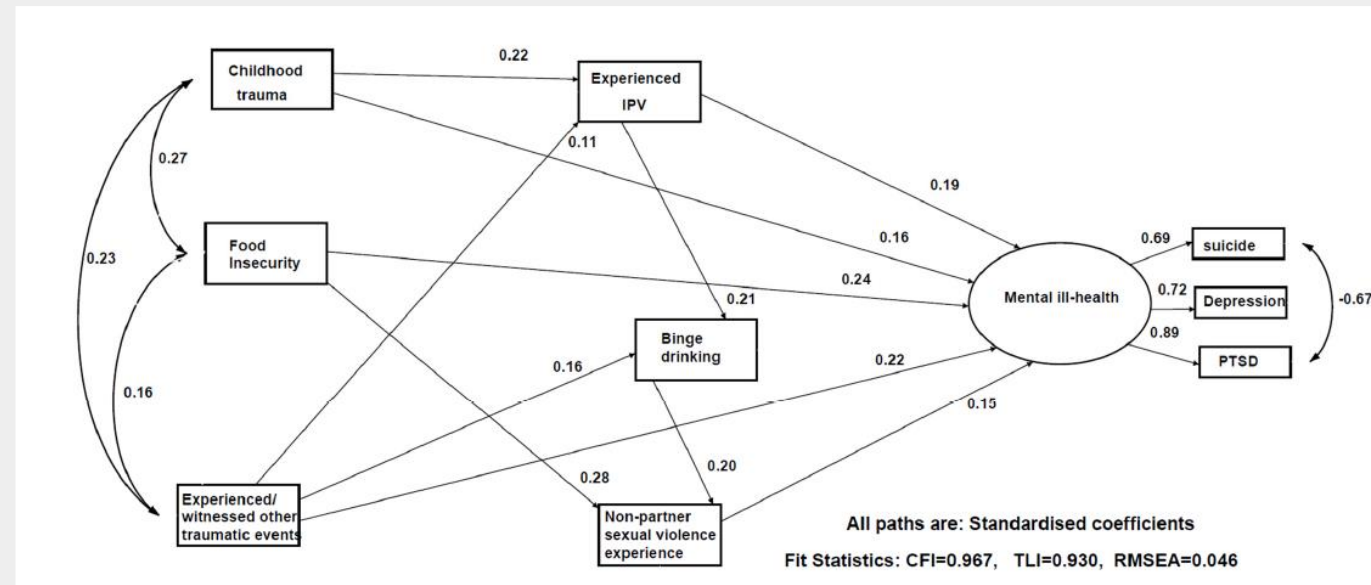
Students who **experienced non-partner rape** were **twice more likely to report depressive symptoms and thrice more likely to report PTSD symptoms or suicidal thoughts** compared to students who did not experience non-partner rape.

**Higher food security, trauma, and childhood trauma scores were associated with increased risk for depressive symptoms, PTSD symptoms, and suicidal thoughts.**

Students who **binge drank** were **more likely to report depressive symptoms, PTSD symptoms, and suicidal thoughts.**

# PATHWAYS BETWEEN VARIABLES AND MENTAL HEALTH FACTORS

- Childhood trauma had direct and indirect effects on mental ill-health mediated by IPV experience.
- Food insecurity had direct and indirect effects on mental ill-health mediated by non-partner rape experience.
- Experiencing other trauma had direct and indirect effects on mental ill-health mediated by IPV experience, binge drinking, and non-partner rape.
- Binge drinking was associated with experiences of other trauma and IPV but had effects on non-partner rape experience.
- Experience of childhood trauma co-related with food insecurity and other trauma exposure.
- Food insecurity correlated with other trauma exposures.
- Experiencing IPV co-related with non-partner rape experience.



# CONCLUSION

- Seemingly higher burden of mental ill-health among the surveyed female students compared to studies that were conducted among first-year students enrolled at urban, historically White universities and which used different measurement tools
- Mental health latent outcome confirmed that **depressive symptoms, post-traumatic stress symptoms, and suicidal thoughts overlap or are comorbid** among some participants
- Binge drinking is risky and impacts female students' sexual violence experience, which directly affects mental health.
- **Childhood trauma, other traumatic events, IPV, and non-partner rape, which are in part driven by inequitable gender beliefs, directly impacted mental ill-health**
- **Findings show central role of IPV in mediating or moderating the relationship between different variables and mental ill-health among female students in higher education settings**
- **Students' food insecurity while on campus is problematic and poses direct and indirect mental ill-health risks through a path mediated by sexual violence experience, as shown elsewhere**

# INTERVENTION RECOMMENDATIONS

- Findings support that **violence prevention programming and support services** are important for reducing and mitigating the high burden of mental ill-health among female students in South African higher education settings.
  - Improving female students' mental health and wellbeing will require interventions that promote healthy relationships, address risk factors for IPV and rape, including addressing effects of past childhood or other trauma
  - The adaptation of effective interventions addressing GBV perpetration by male students is crucial for the South African higher education sector.
  - Group-based, gender-transformative interventions that employ participatory approaches and critical reflection, and are delivered to both men and women have been effective in community settings future
- **Mental health promotion**, confidence building and trauma-focused components which help female students to cope with the stressors unique to life in HEIs and reduce the mental ill health effects from past traumatic exposures are urgently needed in these settings
- **Resilience building intervention** to withstand social pressures, promote financial management with budgeting and saving within a sustainable livelihoods framework to reduce female students' engagement in risky behaviours and reduce their vulnerability to victimisation
- Research to **evaluate the effectiveness of mental health services and promotion interventions among students** must be prioritised

## PAPER REFERENCE

Machisa, M.T.; Chirwa, E.; Mahlangu, P.; Nunze, N.; Sikweyiya, Y.; Dartnall, E.; Pillay, M.; Jewkes, R. Suicidal Thoughts, Depression, Post-Traumatic Stress, and Harmful Alcohol Use Associated with Intimate Partner Violence and Rape Exposures among Female Students in South Africa. *Int. J. Environ. Res. Public Health* 2022, 19, 7913. <https://doi.org/10.3390/ijerph19137913>

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