

ISA World Congress of Sociology

29<sup>th</sup> June, 2023

RC49:688.4



# **The Association between Mental Health and Overall Health, Safety Behavior, and Social Relationships Among University Students in Cambodia**

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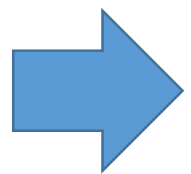
# Introduction

- Mental health is one aspect of overall health and well-being, and it is important to maintain and promote mental health for healthy adolescent development. (WHO, 2021)
- Mental illness in adolescence has been associated with an increased risk of mental disorders in later adulthood. (Johnson, et al., 2018)



# Introduction

- In Cambodia, after the civil war of the late 20<sup>th</sup> century, people developed mental disorders, affecting even younger generations that did not directly experience the civil war. (Mak, et al., 2021)
- A previous study reported some Cambodian university students have experienced moderate depression, anxiety, and stress symptoms. (Pan, 2017)
- Currently, Cambodia lacks adequate mental health care services for mental health problems. (Jegannathan, et al., 2015)



It is important to clarify the factors associated with mental health problems in the Cambodian context to support mental health among university students.



# Introduction

Previous research shows

- Key factors associated with depressive symptoms among Cambodian university students (Ngin et al., 2018)

Low socio-economic background

Poor academic accomplishment

Consumption of unhealthy food

Physical violence, psychological abuse during childhood

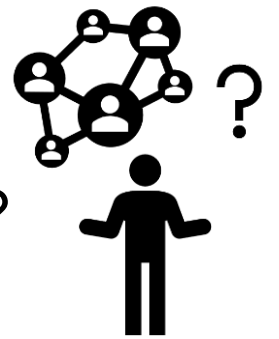
- Key factors associated with a reduced likelihood of depression (Seidler et al., 2017), (Fujiwara & Kawachi, 2008), (Fahmil et al., 2019).

High-quality social connection with friends and family members

social trust (trust of neighbors)

How do university students perceive social support and trust around them?

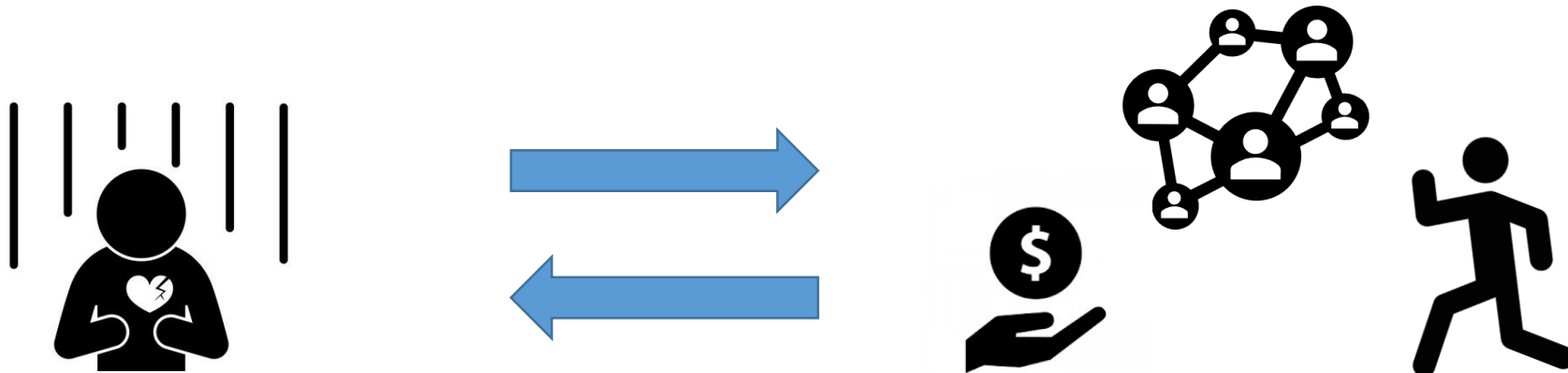
Is that related to their mental health?



Lack of research on the association between mental health and social support and trust in Cambodia

# Objectives

1. To clarify the association between mental health and socio-economic status, health and safety behaviors, social support, and trust among university students in Cambodia
1. To obtain insights into mental health support in university



# Method

Study design: cross-sectional study

## Self-administered questionnaire survey

Sample	4 <sup>th</sup> year university students in Phnom Penh and Battambang
Date	May to June 2022
Items	<ul style="list-style-type: none"><li>▪ Socio-demographic status (Age, Gender, Marital status, Living situation, Hometown, Self-assessment of the economic situation)</li><li>▪ Mental health: Thinking too much, Self-rated mental health</li><li>▪ Health behaviors: Consumption of fast food, Having breakfast, Physical activity habits, etc.</li><li>▪ Safety behaviors: Drinking alcohol, Smoking</li><li>▪ Self-rated academic performance</li><li>▪ Social support and trust: Close people, Generalized trust, Warm and trusting relationship</li></ul>

\*Questionnaire was translated to Khmer language.

# Method

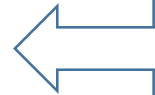
## Statistical analyses

### 1) Descriptive statistics

### 2) Multiple regression analysis

#### ◆ Dependent variable

-Thinking too much, Self-rated Mental Health



Each question is scored on a scale of 1 to 5.  
Higher scale has bad mental health status.

#### ◆ Independent variable

-Socio-demographic status

-Health behaviors

-Safety behaviors

-Self-rated academic performance

\*IBM SPSS Statistics, Version 29

\*The significance level was set at 5%

\*Ethical Approval of this study was obtained from Tokyo Gakugei University (registered number: 555)

# Results

## 1. Characteristics of the study population

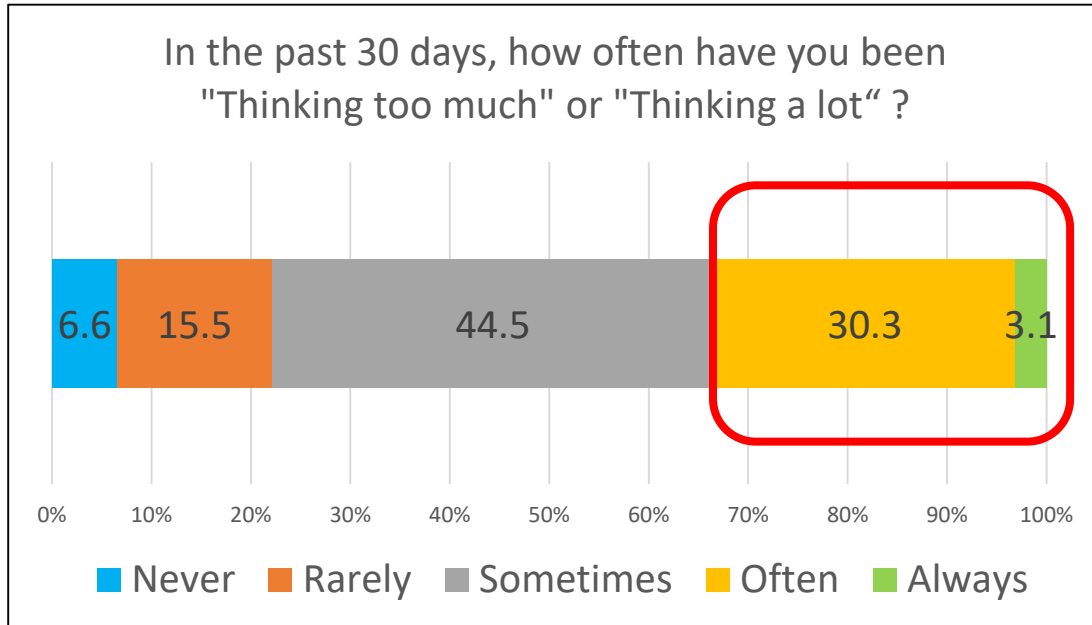
Variables	Category	n	%
Age	20	7	2.4
	21	46	15.9
	22	99	34.1
	23	52	17.9
	24	35	12.1
	25 or older	51	17.6
Sex	Male	102	35.2
	Female	188	64.8
Marital status	Single	272	93.8
	Married/Cohabiting	18	6.2
Living situation	Alone	5	1.7
	Not alone	285	98.3
Hometown	Urban	163	56.2
	Rural	127	43.8
Self-assessment of economic situation	Quite poor	27	9.3
	Not very well-off	84	29.0
	Moderate	166	57.2
	Well-off	12	4.1
	Very well-off	0	0.0
	Non-response	1	0.3

- Data from 290 participants (95.1%) were obtained.
- 98.3% of students live together with others (parents, friends, siblings, etc.).
- 38.3% of students evaluated their economic situation as “Quite poor” or “Not very well-off”.



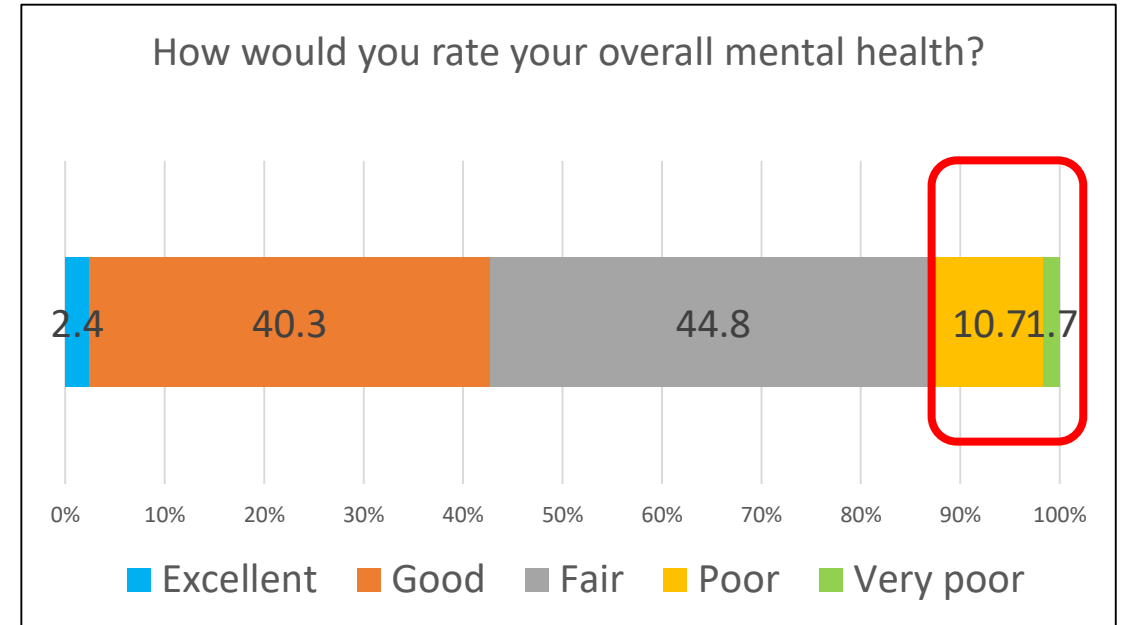
## 2. Mental health

### 1) Thinking too much



➤ 33.4% of students were "often" or "always" thinking too much in the past 30 days.

### 2) Self-rated Mental Health



➤ 12.4% of students evaluated their mental health as "poor" or "very poor".

### 3. Health behaviors

variables	category	%
Fast food consumption in the past 30 days	Never or less than once in the past 30 days	16.6
	1-3 days a month	29.7
	1 day per week	7.9
	2 days per week	11.0
	3 days per week	11.7
	4 days per week	7.9
	5 days per week	5.9
	6 days per week	2.8
	Everyday	6.6
	Having breakfast in the past 30 days	Never
Less than once a week		3.4
Once a week		2.1
2-4 days a week		21.7
5-6 days a week		24.8
Everyday		45.9
Physical activity days (a total of more than 60minutes per day) in the past 7days	Non-response	0.3
	0 day	6.2
	1 day	16.6
	2 days	12.4
	3 days	15.9
	4 days	10.7
	5 days	9.3
	6 days	10.0
7 days	19.0	

23%

29%

51%

### 4. Safety behaviors

variables	category	%
Drinking Alcohol in the past 30 days	Nondrinker	60.3
	0 day	27.6
	1-2 days per week	10.0
	3-5 days per week	1.4
	6-7 days per week	0.7
	0 day	98.6
Smoking in the past 30 days	1-2 days	0.3
	3-5 days	0.3
	6-9 days	0.0
	10-19 days	0.0
	20-29 days	0.0
	All 30 days	0.0
	Non-response	0.7

88%

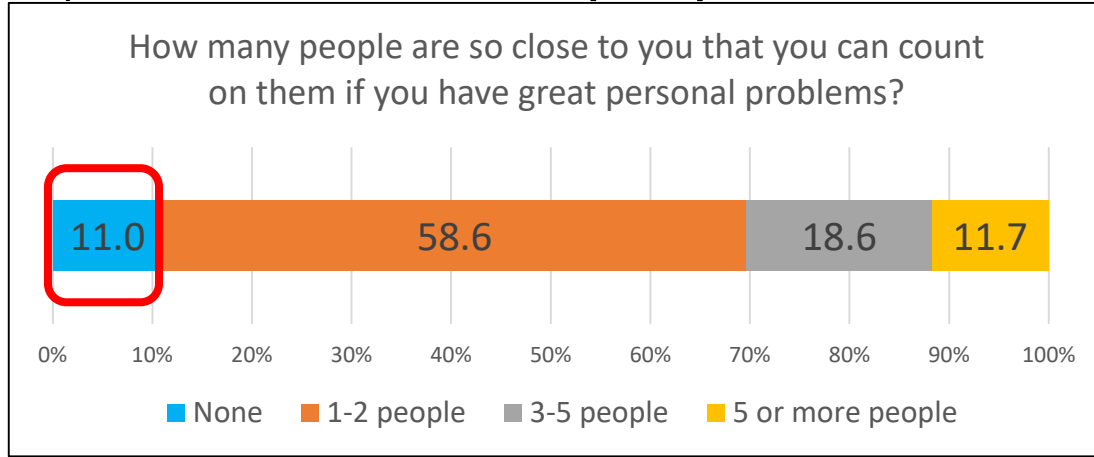
### 5. Self-rated academic performance

variables	category	%
self-rated academic performance	Very poor	0.3
	Poor	2.8
	Fair	52.1
	Good	42.4
	Excellent	2.4

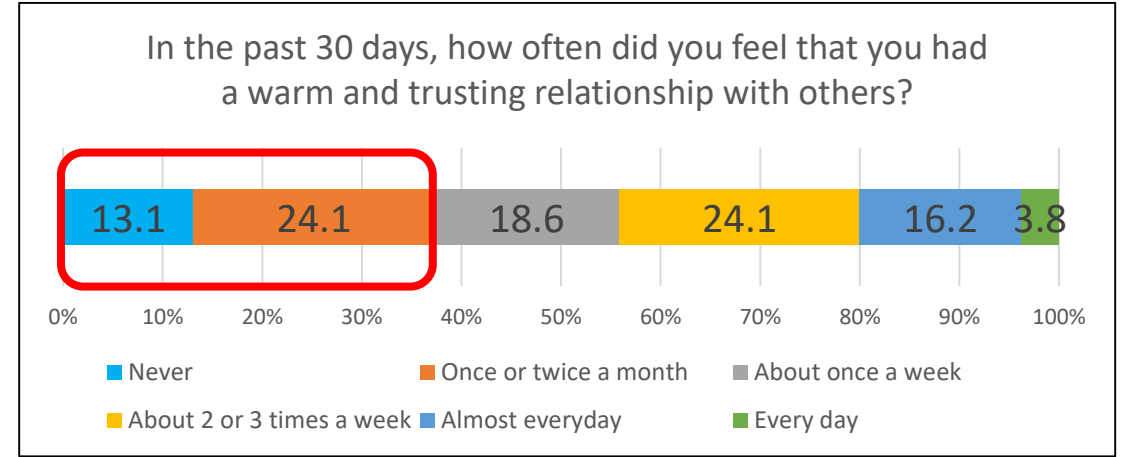
3%

## 6. Social Support and Trust

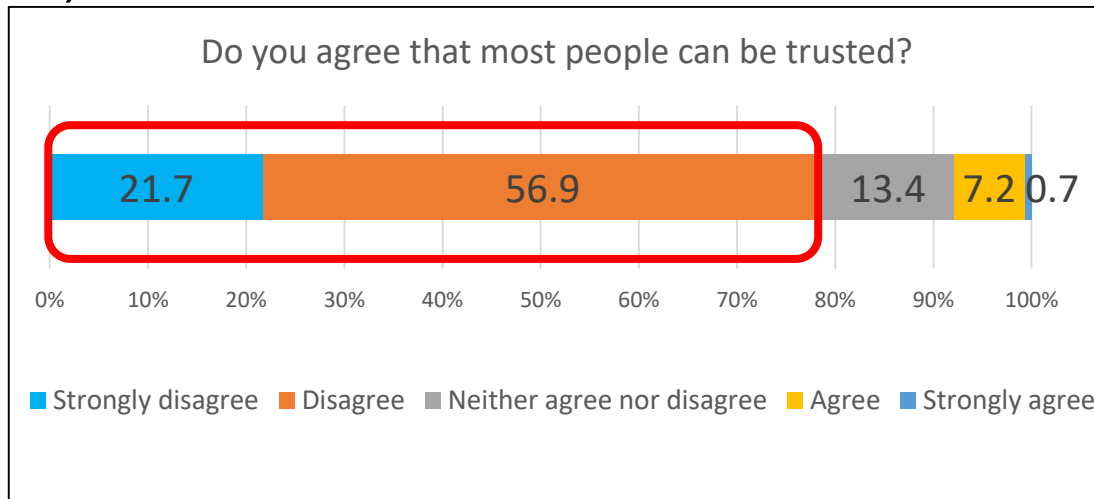
### 1) Number of close people



### 2) Warm and trusting relationship



### 3) Generalized trust



➤ 37.2% of students have a warm and trusting relationship “never” or “less than once or twice a month”.

➤ 78.6% of students disagree that most people can be trusted.

# 7. Factors associated with Mental Health

## 1) Health behaviors

independent variables	Thinking too much <sup>1)</sup>			Self-rated mental health		
	B	95% CI	P value	B	95% CI	P value
Fast food consumption	0.07	0.02 0.11	<0.01	0.03	-0.01 0.06	0.14
Having breakfast	-0.12	-0.21 -0.03	0.01	-0.05	-0.12 0.03	0.23
Physical activity days	0.01	-0.04 0.05	0.69	0.00	-0.04 0.04	0.94

<sup>1)</sup>Omnibus test  $X^2=35.447$ ,  $df=11$ ,  $p<0.001$

## 2) Safety behaviors (Drinking Alcohol, Smoking)

-Non significant relationships

## 3) Self-rated academic performance

independent variables	Thinking too much			Self-rated mental health <sup>1)</sup>		
	B	95% CI	P value	B	95% CI	P value
Self-rated academic performance	-0.07	-0.24 0.10	0.42	-0.47	-0.60 -0.34	<.001

<sup>1)</sup>Omnibus test  $X^2=56.226$ ,  $df=9$ ,  $p<0.001$

\*Control variables: Age, Sex, Hometown, Financial Status

# 7. Factors associated with Mental Health

## 4) Social support and trust

independent variables	Thinking too much			Self-rated mental health <sup>1)</sup>		
	B	95% CI	P value	B	95% CI	P value
Close people	-0.04	-0.18 0.10	0.57	-0.07	-0.19 0.04	0.22
Warm and trusting relationship	-0.02	-0.10 0.06	0.62	-0.09	-0.16 -0.03	0.01
Generalized trust	0.08	-0.05 0.21	0.21	0.04	-0.69 0.14	0.50

<sup>1)</sup>Omnibus test  $X^2=24.193$ ,  $df=11$ ,  $p=0.012$

\*Control variables: Age, Sex, Hometown, Financial Status

# 7. Factors associated with Mental Health (in the final model)

Factors associated with "Thinking too much"

Variables	B	95% CI	P values
Age			
20	0.30	-0.38 0.99	0.39
21	0.46	0.10 0.81	0.01
22	0.22	-0.08 0.53	0.15
23	0.13	-0.21 0.48	0.45
24	0.11	-0.26 0.49	0.56
25 years old or older	Reference		
Sex			
Male	-0.13	-0.35 0.09	0.24
Female	Reference		
Hometown			
Urban	0.17	-0.04 0.38	0.11
Rural	Reference		
Financial status	-0.23	-0.38 -0.08	<0.01
Fast food consumption	0.06	0.02 0.11	<0.01
Having breakfast	-0.12	-0.20 -0.03	0.01

Omnibus test  $X^2=35.287$ ,  $df=10$ ,  $p<0.001$

Factors associated with "Self-rated mental health"

Variables	B	95% CI	P values
Age			
20	0.56	0.02 1.11	0.04
21	0.32	0.04 0.60	0.03
22	0.16	-0.08 0.41	0.19
23	0.10	-0.17 0.36	0.48
24	0.53	0.23 0.82	<.001
25 years old or older	Reference		
Sex			
Male	0.03	-0.14 0.20	0.72
Female	Reference		
Hometown			
Urban	0.08	-0.09 0.24	0.35
Rural	Reference		
Financial status	-0.12	-0.24 -0.004	0.04
Self-rated academic performance	-0.45	-0.58 -0.32	<.001
Warm and trusting relationship	-0.08	-0.14 -0.02	0.01

Omnibus test  $X^2=63.519$ ,  $df=10$ ,  $p<0.001$

# Discussion

- Factors associated with mental health problems(thinking too much, self-rated mental health)

Low financial status

Low academic performance

Unhealthy dietary behaviors

Less warm and trusting relationships

Same as the previous research

- 70% of students say they have less than 2 people who are so close to them. The 2 universities in this research do not have a lot of leisure activities such as sports and culture clubs for students.
- This may make students have less opportunities to develop relationships with others. Feeling lonely is associated with an increased risk of certain mental health problems.
- It is important to support
  - building a foundation for daily life (adequate financial situation, healthy dietary habits)
  - for students with poor grade
  - making an opportunity for students to have social interaction each other

# Discussion

➤ 7.9% of students agree that most people can be trusted.

Previous research shows median of 53% of adults (18 to 29) generally believe most people can be trusted in 14 developed countries (Pew research center, 2020).

**Trust in other people among Cambodian university students is relatively low.**

➤ Negative effect of the civil war

-People were constantly spied day and night.

-It was necessary to hidden one's own identity to survive.

-Current education from the family: not to share the personal things to others.

➤ Further studies are needed to explore the factors regarding social support and trust in order to think about how to promote mental health care services in the school.



# Limitations

- Sampling bias

  - Sample: 4<sup>th</sup>-year students from two universities

- Limited variables

  - Mental health: thinking too much, self-rated mental health

  - Social support and trust:

    - Generalized trust, excluding the trust by category such as parents, friends, etc.

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