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**Capstone Research Proposal - Exploring the
 correlation between stereotypical gender norms and
 early adolescent mental health in Indonesia.**

Thisséas Coissard

Campus Fryslân, University of Groningen

CFBGR03610: Capstone

Anggriyani W. Pinandari, MPH [with Dr. Pelin Gul]

22 June, 2025

Abstract

Background: Adolescence is a crucial period for mental health, with over 50% of mental disorders developing during this period. Literature posits that conformity to stereotypical gender traits (GST) and roles (GSR) may lead to increased mental health problems among adolescents. In Indonesia, mental health remains a significant concern, with one in three adolescents reporting mental health problems between 2020 and 2021. However, there is still a gap in research exploring how adolescents' beliefs about gender stereotypes may affect their mental well-being. To shorten this gap, this research project aims to investigate the correlation between GST, GSR, and adolescent depressive symptoms in Indonesia, hypothesizing that those who conform to gender norms are more likely to experience mental health challenges, such as depression.

Objective: The objective of this study is to assess and determine the correlation between GST, GSR, parental closeness, feelings of unsafety in the neighbourhood, and depression symptoms in early adolescent boys and girls in Bandar Lampung, Denpasar and Semarang in Indonesia.

Methods: This research project implemented a cross-sectional study design using secondary data collected from a sample of 4,684 students that participated in the Global Early Adolescent Studies in Indonesia baseline survey. Statistical analysis was conducted using univariate and bivariate analysis using a Chi-square test with a confidence interval of 95% and a p-value of 0.05. Additionally, multivariable analysis was conducted using logistic regression analysis with a confidence interval of 95%.

Results: The study found that adolescents with high Gender Stereotypical Trait beliefs were 1.82x times more likely to report depressive symptoms than those with low GST beliefs. But on the other hand, adolescents with high Gender Stereotypical Role beliefs were slightly less likely to report depressive symptoms than those with low GSR beliefs. Strong parental/caregiver connectedness was significantly associated with lower depressive symptoms, and early adolescents who reported high levels of unsafety in their neighborhood were more likely to experience depressive symptoms.

Conclusion: Conformity to stereotypical gender traits is significantly associated with increased risk of depression among early adolescents in Indonesia. The findings underscore the need for early educational interventions that challenge stereotypical gender norms and promote supportive family and safe environments.

Keywords: Stereotypical Gender Traits (GST), Stereotypical Gender Roles (GSR), Gender Norms, Mental Health, Depressive Symptoms, Indonesia, Global Early Adolescent Studies (GEAS)

Chapter I - Introduction

Introduction

Adolescence is a pivotal developmental period for establishing a healthy lifestyle and acquiring skills that will influence individuals' long-term health outcomes. This period is crucial as young individuals begin to forge their personality traits and habits related to diet, physical activity, substance use, and sexual behavior, all of which can impact their future well-being (Salam et al., 2016). However, this period is also crucial for mental health, since over 50% of mental disorders tend to develop during this period (WHO, 2014). Existing literature suggests that conformity to stereotypical gender traits and stereotypical gender roles, leads to more psychological problems in adolescents. For example, teenage boys who conform to traditional ideas of masculinity are more likely to indulge in risk-taking behavior, while girls who continue to conform to traditional ideas of femininity are more likely to suffer from psychological distress (Shakya et al., 2019). In addition, research shows that socio-economic and demographic factors may also affect adolescent mental health (Pandia et al., 2021).

In spite of the multiple studies published throughout the years on this topic ([Google scholar, 2025](#)), the potential connection between adolescents' perceptions of stereotypical gender traits/stereotypical gender roles and their mental health has not been adequately established. This study aims to shorten the gap between these two variables, providing additional knowledge that could be used to develop appropriate policies. More particularly this research project investigated the correlation between adolescents' perception of stereotypical gender norms and their mental health in Indonesia, for which one fourth of its population falls within the adolescent age range. Furthermore this research project investigated the correlation of socio-economic and demographic factors with mental health. The research project was based on results from a cohort baseline study conducted in 2018 under the Global Early Adolescent Studies in Indonesia (GEAS-ID).

Problem Formulation

The following research question that was explored in this study: how do perceptions of stereotypical gender traits/stereotypical gender roles correlate with the mental health of early adolescents in Indonesia?

Objectives

The primary objective of this research project is to examine the correlation between the perception of stereotypical gender traits/stereotypical gender roles and adolescent mental health among early adolescent boys and girls in Bandar Lampung, Denpasar and Semarang in Indonesia. The secondary

objective is to analyse and discuss the correlation between adolescent mental health and other factors such as caregiver connection and unsafety at the neighborhood, on the same population.

Research Benefits

This research project aims to generate knowledge on the possible correlation between perceptions of stereotypical gender traits/stereotypical gender roles and early adolescent mental health in Indonesia. In addition it aims to support the establishment of such correlation and the development of positive gender norms that would promote gender-equitable behaviours.

Chapter II - Literature Review

1. Adolescent Mental Health Burden

Adolescence is a crucial period for developing a healthy lifestyle and learning skills that could determine an individual's health in the future. It is during this period of development that individuals begin to form personality characteristics and habits such as diet, physical activity, substance use, and sexual behavior. How they learn about and engage with these factors, will protect or endanger their well-being in the coming years (Salam et al., 2016). As the population of adolescents worldwide is increasing, particularly in developing countries, investing in health interventions that encourage healthy behaviors is worthwhile. By promoting habits for healthy lifestyles during this critical period of development, adolescents can minimize their adverse physical and mental health outcomes in the future (Salam, 2016).

Mental health issues represent a worldwide health challenge affecting individuals of all ages (Solmi et al., 2021). The World Health Organization (WHO) states that understanding and addressing adolescents' mental health is a priority, as more than 50% of mental disorders begin during this developmental period (WHO, 2014). There are nearly 15% of adolescents aged 10 to 19 around the world that have experienced a mental health disorder contributing to 13% of the global burden of disease in this age group (WHO, 2024). Between 2018 and 2019, around 15% of adolescents aged 12 to 17 reported experiencing a major depressive episode, 37% reported persistent feelings of sadness or hopelessness, and nearly 20% seriously considered suicide (Maerlender, et al., 2024). Further research indicates that individuals diagnosed with mental disorders have a life expectancy that is approximately 10-15 years shorter than the general population (Solmi et al., 2021). This highlights how mental health problems can lead to adverse effects not only for individuals experiencing it but also for society as a whole, (Erskine et al., 2016; Ormel et al., 2017).

Indonesia is known as the fourth-most populous country in the world, constituting a population of 280 million people, with adolescents accounting for nearly a quarter (65 million) of the population (Pham, 2024). A study conducted in Indonesia found that on average one in three adolescents experienced mental health problems between 2020 and 2021. They found that anxiety was the most prevalent mental health problem, affecting 26.7% of the adolescents in this group. The other mental health problems were inattention and/or hyperactivity issues (10.6%), depression (5.3%), conduct problems (2.4%), and post-traumatic stress (1.8%) (Wahdi et al., 2022).

2. Risk Factors Associated with Gender Norms

According to Unicef, *‘Gender norms are the informal rules and shared beliefs that distinguish expected behaviour based on gender identities at particular points in time and in particular social contexts. They are usually internalized during childhood and adolescence and continue to shape gender stereotyping throughout the life course.’* whereas *‘Gender stereotypes are generalizations about the characteristics of a group of people based on gender.’* (Unicef, 2020).

Examples of behaviours considered to not respect male gender norms are e.g., boys doing house chores, looking after their parents, being soft, talking or walking like a girl, playing with dolls or not playing sports. Examples of behaviours considered to not respect female gender norms are e.g., girls not doing household chores, playing football, using bad words, not wearing bra, being brave, funny or playing masculine games (Yu et al., 2017).

Existing literature suggests that conforming to stereotypical gender norms can have adverse health consequences. Adolescent boys who conform to traditional masculine ideals are more likely to take part in risky behavior, and women who conform to traditional female ideals frequently experience more psychological distress. The study affirms that peer interaction and parental influence are responsible for passing on those gender norms. Adolescents who violate their ascribed gender norms are generally socially excluded and harassed and therefore have a higher likelihood of experiencing depressive symptoms in their adolescence that persist into adulthood. Although gender norms impact the health of both males and females on the gender continuum, boys find it especially challenging to oppose these norms. This is because boys are severely sanctioned for expressing femininity while the same is not true the other way around (Shakya et al., 2019).

In a study conducted under the Global Early Adolescent Studies (GEAS) in China, India, US and Belgium, the authors reached a similar outcome as the one by Shakya et al. (2019) showing that although there is tolerance for girls engaging in boys’ activities, it is considered unacceptable for boys to engage in girls’ activities (Yu et al., 2017).

A study conducted in 2009 tried to analyse the so-called gender intensification hypothesis, which posits that when children reach puberty, they increasingly conform to traditional gender roles due to societal pressure, thereby impacting their mental health (Priess et al., 2009). After collecting data from 410 adolescents, researchers concluded that there wasn't enough evidence to support the gender intensification hypothesis, and that societal influence in adolescents is not that impactful. They instead believed that parental education and the way a child is raised have a much greater effect on their gender-role development. The study found that around the age of 15, individuals identifying as a more feminine person, experienced more depressive symptoms, while those who identified as more masculine experienced fewer depressive symptoms. This was explained by the rationale that masculine traits are associated with more positive qualities such as higher self-esteem, perceived competence, and self-efficacy (Priess et al., 2009).

Another study conducted in Australia reported that endorsement of more egalitarian gender-role attitudes was associated with better mental health for both adolescent males and females. Among females, more egalitarian gender-role attitudes were correlated with reduced hyperactivity and improved prosocial behavior (King et al., 2019). In contrast, those endorsing stereotypical feminine ideologies related to body objectification experienced higher levels of depressed moods, and for males that conformed to stereotypical masculine norms, such as toughness and suppression of emotions, experienced poorer mental health outcomes. The paper argued that awareness of gender roles begins in early childhood, but that gender intensification—where individuals internalise stereotypical gender roles— occurs more often in adolescence; thus, it is crucial to promote gender-egalitarian behaviour within educational curricula to improve individuals mental well-being (King et al., 2019).

A study conducted in Indonesia and investigated how gender norms may correlate with gender-based violence in early adolescence, reported a positive correlation between these two variables (Mahendra et al., 2021). Appropriate sexual education programmes for students but also for social agents and caregivers were recommended by the authors to address unequal gender norms and their effects.

These studies show the importance of investigating the correlation between gender norms and mental health which is the main objective of this research project.

3. Socio-economic and demographic factors that affect adolescent mental health

Relevant articles that investigate associations between socioeconomic and demographic factors with adolescent mental health are summarised below.

In a cross-sectorial study that was performed over 13 years in South Korea (from 2003 to 2016), the authors investigated the association between age, gender, school achievement, economic status perception and the educational level of the parent with adolescent mental health (Kim et al., 2020). In the

paper, suicide is reported as the first death cause among adolescents in Korea. In the course of the years, the suicidal rate and rate of adolescent depression decreased. According to the authors, economic inequality is the main factor that leads to depression. Another important factor was the adolescents' academic achievements, due to the high parental expectations for the adolescents to succeed academically (Kim et al., 2020).

Another study conducted in India in 2016 examined the association between mental disorders and socio-demographic factors among adolescent girls. Some of the factors that had an impact on the mental health of adolescent girls were age, family characteristics (ex. education of the parents and siblings) and the socio-economic status of the family (Smitha et al., 2016).

An older research study conducted in the UK and published in 2012 also reported significant associations between socio-economic status and adolescent mental disorders (ex. mood and anxiety disorders) (McLaughlin, 2012).

A study conducted in Indonesia in 2021 also attempted to examine the association of mental health problems and socio-demographic factors, but this time among adolescents of both genders (Pandia, 2021). Results showed that the prevalence of mental health problems can be influenced by the gender, the location of where individuals live (rural versus urban), and the education level (Pandia et al., 2021).

The GEAS-ID, reports several statistics on socio-economic and demographic parameters of early adolescents relating to the characteristics of the family (e.g., connection between young adolescents and their parents), the school context (e.g., safety at school), neighbourhood characteristics (e.g., safety in the neighbourhood), etc. (Wilopo et al., 2020). The correlation between these parameters and mental health is not described in the report. On the other hand, the level of connection between young adolescents and caregivers, the safety levels at school and in the neighbourhood might impact the mental health of adolescents. This hypothesis requires investigation and is one of the objectives of this research project.

4. Theoretical Framework

Figure 1 below illustrates the overarching variables and background of this study on how gender norms correlate with adolescent mental health. Based on the literature review above, the risk factors associated with gender norms comprise perceived gender stereotypes, help-seeking behavior, and mental health outcomes, are the risk factors linked to adolescent mental health. The mental health burden comprises depression symptoms, dysthymia, panic disorder and social phobia, post-traumatic stress disorder, obsessive compulsive disorder, anxiety, hyperactivity/inattention, emotional symptoms, rule-breaking and aggressive behaviour. In addition, Figure 1 illustrates the socio-economic and demographic factors that affect mental health and comprise the age and sex of the adolescent, place of residence, family characteristics, school context, school achievements, neighbourhood characteristics,

wealth status, income inequality and social status. The arrows in Figure 1 show the association between risk factors associated with gender norms and mental health, and the association between socio-economic and demographic factors and mental health being the objectives of this research project.

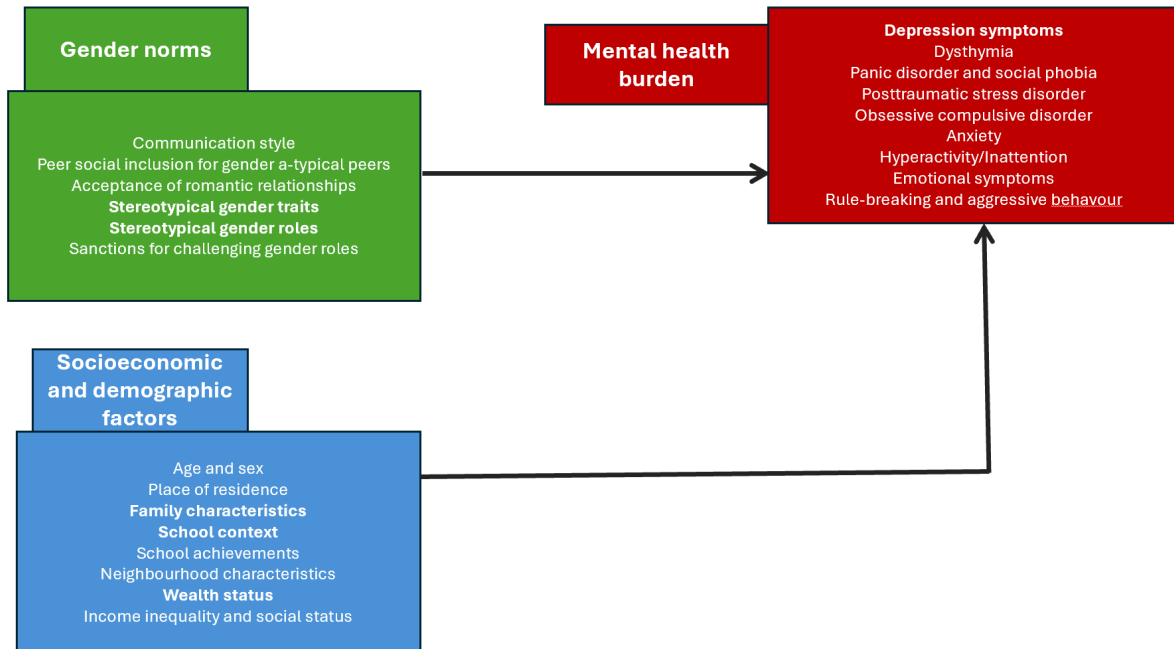


Figure 1. Theoretical Framework (Mahendra et al., 2021; Pandia et al., 2021; Wilopo et al., 2020; Shakya et al., 2019; King et al., 2019; Kim et al., 2020; Yu et al., 2017; Smitha et al., 2016; Priess et al., 2009)

5. Conceptual Framework

The conceptual framework depicted in Figure 2 shows the main variables that were studied in this research project. At the core of the research is mental health in early adolescents as the dependent variable, for which depression symptoms were used as a parameter of measurement. The risk factors associated with gender norms, or independent variables, are the stereotypical gender traits and stereotypical gender roles. Confounding socio-economic and demographic factors that were considered in this research project are the family characteristics, unsafety in the neighborhood. The arrows in Figure 2 show the association between risk factors associated with gender norms and mental health, and the association between socio-economic and demographic factors and mental health being the objectives of this research project.

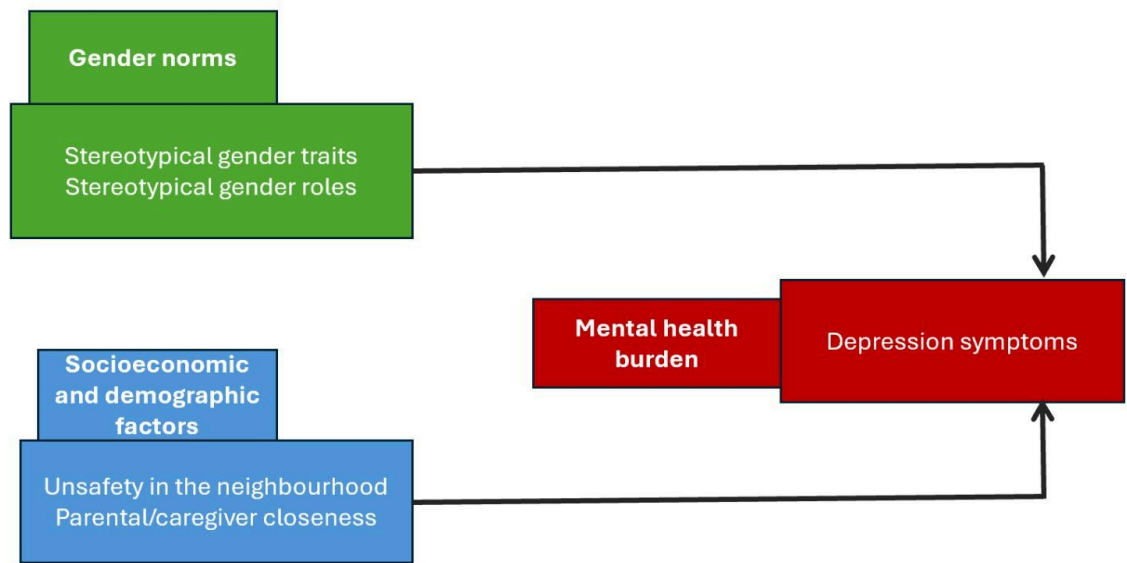


Figure 2. Conceptual Framework

6. Hypothesis & Thesis Statement

There is still a gap in research examining the impact of adolescents' stereotypical gender expectations on their mental well-being. To shorten this gap, this research project investigates the correlation between stereotypical gender traits/stereotypical gender roles and adolescent mental health in Indonesia, hypothesizing that adolescents who conform to gender norms are more likely to experience mental health issues, such as depression. The development of these stereotypical beliefs is often shaped by various environments, including family, school, and society. The constant social pressure for adolescents to conform to gender traits and roles may increase the risk of mental health problems, ultimately influencing their general well-being and quality of life. Furthermore, this research project also examined how socio-economic and demographic factors might play a role in influencing mental health of adolescents.

Chapter III - Research Methodology

1. Research Design

In this research project, a cross sectional study design was employed to examine the correlation between perception of stereotypical gender traits/stereotypical gender roles and mental health in adolescents aged from 10-14 in Indonesia. The following confounding variables were also employed to examine their correlation with mental health: caregiver connection and feeling of unsafety in the neighborhood. After collecting the relevant datasets, a statistical analysis was conducted for the main and confounding variables.

2. Setting

This research project is based on baseline data generated under the GEAS-ID (Wilopo et al., 2020). GEAS-ID is a pioneering research initiative that aims at understanding the health and well-being of adolescents between the ages of 10 and 14. It is being carried out by the Center for Reproductive Health at Gadjah Mada University (UGM) and focuses on areas such as gender norms, mental health, and sexual and reproductive health. GEAS-ID collects data from different urban areas to help improve the lives of early adolescents by informing organisations about interventions, particularly through comprehensive sexuality education programs (Wilopo et al., 2020). The recruitment process for the GEAS-ID was conducted during the 2018-2019 academic year.

The GEAS-ID was conducted in three urban areas: Bandar Lampung, Semarang, and Denpasar. The cities were chosen to represent the diverse cultural, religious, and socio-economic levels in Indonesia. Bandar Lampung, situated in Sumatra Island, is mainly a Muslim city with residents of various ethnic groups. Semarang is the capital of Central Java and has both Javanese and other ethnic groups and Denpasar is in Bali and is known for its Hindu culture. The study was conducted with the help of the Center for Reproductive Health at UGM and local institutions, including the Indonesian Family Planning Association and international institutions such as the World Health Organisation (Wilopo et al., 2020).

The baseline data collection took place from August to October 2018. Baseline surveys were carried out for this purpose. Data collection was made easier by the use of Computer-Assisted Personal Interviews and Computer-Assisted Self-Interviews, which enabled participants with different reading abilities to respond without any challenges (Wilopo et al., 2020).

To address the research question on how perceptions of stereotypical gender traits/stereotypical gender roles correlate with the mental health of early adolescents in Indonesia, the following baseline data from GEAS-ID was used for this study:

- Gender Norms Concept: Stereotypical Gender Traits (GST)

- Gender Norms Concept: Stereotypical Gender Roles (GSR)
- Mental Health: Depression Symptoms
- Family Characteristics: Feels close to caregiver
- Felt unsafe or threatened in the neighborhood

Several secondary questions were used in the GEAS-ID survey to assess stereotypical gender traits, stereotypical gender roles and depression symptoms. The ones that were selected for the purpose of this research project are reported in section “4. Variables” below. For each dataset the sum of the results collected for both genders from the three cities in the GEAS-ID survey were considered.

3. Participants

Participants used for GEAS-ID were early adolescents from Indonesia. To be eligible for the study, participants needed to be aged 10 to 14 years and studying in 7th grade at selected schools that were located in either Bandar Lampung, Denpasar, or Semarang. Furthermore they also needed to agree to participate in the study and have their parental consent (Wilopo et al., 2020).

At the start of the 2018-2019 school year, the GEAS-ID team invited the parents or guardians of all 7th graders to the school to obtain their permission for themselves and their child to take part in the survey. On a later date, all students whose parents consented, received a presentation about the study and were asked if they wanted to participate (Wilopo et al., 2020).

A total of 4,684 students participated in the baseline GEAS-ID. Thereby are the details of the participants. In Bandar Lampung, 1,414 (670 boys and 744 girls) students accepted taking part in the survey achieving a 75.7% response rate. In Denpasar, 1,753 students (854 boys and 899 girls) agreed to take part in the survey achieving a 92.8% response rate. In Semarang, 1,517 students (683 boys and 834 girls) agreed to take part in the survey achieving a 99.3% response rate (Wilopo et al., 2020).

4. Variables

1. Independent Variable: Stereotypical Gender Traits/Stereotypical Gender Roles

This variable represents the degree to which adolescents hold stereotypical gender beliefs. The GEAS conducted a survey with multiple stereotypical gender traits statements and participants had to answer if they agreed with them or not in a likert scale from 1 to 5 (1 being “Disagree a lot” and 5 being “Agree a lot”, they also had the option to put “Refuse to answer”. For the purpose of this study only the Gender-Stereotypical Traits (GST) statements, which depicts male toughness against female vulnerability, and the Gender-Stereotypical Roles (GSR) statements,

which describes the power differentials in household decision-making, were considered (Wilopo et al., 2020). The precise statements and variable characteristics for the perception of stereotypical gender traits/roles are illustrated in Table 1.

Table 1. Table showing the stereotypical gender traits/roles variable, measurement, scale and question number from GEAS baseline survey

Variables	Operational Definition	Scale	Question Number from GEAS Baseline Survey
Stereotypical Gender Traits (GST)	<p>Participant answered their average agreement (5 Linkert scale, agree a lot, agree a little, neither agree nor disagree, disagree a little, and disagree a lot) on these 7 statements about stereotypical gender traits:</p> <ol style="list-style-type: none"> Boys should be raised tough so they can overcome any difficulty in life. Girls should avoid raising their voice to be lady like. Boys should always defend themselves even if it means fighting. Girls are expected to be humble. Girls need their parents' protection more than boys. Boys who behave like girls are considered weak. It's important for boys to show they are tough even if they are nervous inside. <p>The mean score ranges from 1-5. Meanscores ≥ 4 are defined as High GST beliefs, and Meanscores < 4 are defined as Low GST beliefs.</p>	Continuous	GN19, GN20, GN21, GN22, GN23, GN25, GN27
Stereotypical Gender Roles (GSR)	<p>Participant answered their average agreement(5 Linkert scale, agree a lot, agree a little, neither agree nor disagree, disagree a little, and disagree a lot) on these 4 statements about stereotypical gender roles:</p> <ol style="list-style-type: none"> A woman's role is taking care of her home and family. A man should have the final word about decisions in the home. A woman should obey her husband in all matters. Men should be the ones who bring money home for the family, not women. <p>The mean score ranges from 1-5. Meanscores ≥ 4 are defined as High GSR beliefs, and Meanscores < 4 are defined as Low GSR beliefs.</p>	Continuous	GN39, GN40, GN41, GN44

2. Dependent Variable: Depression

Depression is the variable that was used to assess adolescent mental health. The GEAS included 6 statements related to depressive symptoms and the participants had to answer if they agreed with them or not in a likert scale from 1 to 5 (1 being "Disagree a lot" and 5 being "Agree a lot").

(Wilopo et al., 2020). The precise statements and variable characteristics for the adolescent mental health are illustrated in Table 2.

Table 2. Table showing the adolescent mental health variable, measurement, scale and question number from GEAS baseline survey

Variables	Operational Definition	Scale	Question Number from GEAS Baseline Survey
Depression	<p>Participant answered their average agreement (5 Linkert scale, agree a lot, agree a little, neither agree nor disagree, disagree a little, and disagree a lot) on these 4 statements about depressive symptoms:</p> <ul style="list-style-type: none"> a. In general, I see myself as a happy person b. I blame myself when things go wrong c. I worry for no good reason d. I am so unhappy I can't sleep at night e. I feel sad f. I am so unhappy I think of harming myself <p>The mean score ranges from 1-5. Meanscores ≥ 3 are defined as High Depression symptoms, and Meanscores < 3 are defined as Low GST symptoms.</p>	Continuous	IXA1A, IXA1B, IXA1C, IXA1D, IXA1E, IXA1F

3. Confounding Variables: **Parental/Caregiver Connectedness, Unsafety in the Neighborhood**

The confounding variables that were considered for this research project are reported in the GEAS-ID under family characteristics: parental/caregiver connectedness (feels close to caregiver). Here the participants had to answer a statement from a likert scale 1 to 4 (1 being “Not at all” and 4 being “A lot”). The second confounding variable is a socio-demographic characteristic: felt unsafe or threatened in their neighborhood. Her participants had to answer if they agreed with them or not in a likert scale from 1 to 4 (1 being “No, never” and 5 being “Yes, often”). (Wilopo et al., 2020) (see Table 3).

Table 3. Table showing the confounding variables, measurement, scale and question number from GEAS baseline survey

Variables	Operational Definition	Scale	Question Number from GEAS Baseline Survey
Parental/Caregiver Connectedness	<p>Participant answered their average agreement (4 Linkert scale, not at all, not much, somewhat, a lot) on this question about parental/caregiver connectedness:</p> <ul style="list-style-type: none"> - Do you feel close to your main caregiver? (By close, we mean that you can talk to that 	Continuous	IIB4

	<p>person and tell them about personal and important things)</p> <p>The mean score ranges from 1-4. Meanscores ≥ 4 are defined as High Parental Closeness, and Meanscores < 4 are defined as Low Parental Closeness.</p>		
Felt unsafe or threatened in the neighborhood	<p>Participant answered their average agreement (4 Linkert scale, no never, yes rarely, yes sometimes, yes often) on this question about feelings of unsafety in their neighborhood:</p> <ul style="list-style-type: none"> - Sometimes children feel unsafe or threatened when they are in their neighborhood, on the way to school, or in school. For example, afraid of being attacked, bullied or being hurt. Has this happened to you in the last year? <p>The mean score ranges from 1-4. Meanscores ≥ 1 are defined as High Frequency of Feelings of Unsafety, and Meanscores < 2 are defined as Low Frequency of Feelings of Unsafety.</p>	Continuous	VA4

5. Analysis Plan

Data analysis referring to the variables of this research project, i.e. the stereotypical gender traits, stereotypical gender roles, socio-economic/demographic confounding variables and mental health of Indonesian early adolescents were conducted using the STATA SE 18 statistical software. This helped to explore the correlation between stereotypical gender norms and mental health outcomes among early adolescents in Indonesia. The analysis was processed in the following stages:

Following the request of the data for the specific variables to the UGM and their reception, the relevant datasets were cleaned to exclude data with “Refused to answer” responses before data analysis. Any other identified errors in the reporting of the data were also disregarded. After that a meanscore of the average likert-scale scores for each main variable (GST, GSR and Depression) was created. This turned the categorical data from the variables into continuous variables which helped the statistical analysis process.

Before diving into the statistical analysis, a descriptive analysis, using cross-tabulations methods, was used to provide an overall description of the participant responses so that we have a small peak at what the results could be later on. The tables showing the participant responses to the independent variables with Depression can be found in Tables 4, 5, 6 and 7.

After the conduction of the descriptive analysis a multivariable statistical analysis using logistic regression was also conducted to study the correlation between stereotypical gender traits/stereotypical

gender roles, socio-economic/demographic confounders and mental health using logistic regression with a confidence interval of 95%. This analysis provided a much better understanding of how different variables correlate with adolescent mental health.

The results of the statistical analysis were reported in summary tables showing beta coefficients (β), standard error (SE), z-scores, p-values and 95% confidence intervals (CI). Findings were interpreted and analysed in a descriptive way to allow appropriate conclusions and recommendations for additional research in the context of the early Indonesian adolescent population.

Chapter IV - Research Findings and Discussion

1. Research Findings

A.) Univariate Analysis

Univariate analysis was conducted to describe the distribution of the variables. The results of the analysis are shown in Table 4.

Table 4. Characteristics of Respondents Based on GST, GSR
Parental Closeness Unsafety, and Depression

Variable	Category	n	%
GST	High	1,798	50.00
	Low	1,798	50.00
GSR	High	2,097	58.32
	Low	1,499	41.68
Parental Closeness	High	2,316	64.40
	Low	1,280	35.60
Unsafety	High	1,958	54.45
	Low	1,638	45.55

Depression	High	1,695	47.14
	Low	1,901	52.86

Note: n = Number of Respondents, GST = Gender Stereotypical Traits, GSR = Gender Stereotypical Roles

B.) Descriptive Analysis

Cross-tabulations were performed to describe the answers of the participants related to the independent variables (GST, GSR, Parental/Caregiver Connectedness, Felt unsafe or threatened in the neighborhood) with depression. The data is illustrated in the table 5 below.

Table 5. Descriptive Analysis between Depression and the Independent Variables (GST, GSR Parental Closeness Unsafety)

Variable	Depression Level	n	% within Variable	% within Depression
GST – Low	High	729	40.55	20.27
	Low	1,069	59.45	29.73
GST – High	High	966	53.73	26.86
	Low	832	46.27	23.14
GSR – Low	High	716	47.77	19.91
	Low	783	52.23	21.77
GSR – High	High	979	46.69	27.23
	Low	1,118	53.31	31.09
Parental Closeness – Low	High	647	50.55	18.00
	Low	633	49.45	17.60

Parental Closeness – High	High	1,048	45.25	29.14
	Low	1,268	54.75	35.26
Unsafety – Low	High	630	38.47	17.52
	Low	1,008	61.53	28.03
Unsafety – High	High	1,065	54.39	29.62
	Low	893	45.61	24.83

Note: n = Number of Respondents, GST = Gender Stereotypical Traits, GSR = Gender Stereotypical Roles

Looking at the descriptive statistics showcased in Table 5, several trends can be seen regarding the relationship between the independent variables and depression among early Indonesian adolescents. First, participants who endorsed high levels of GST had a higher prevalence of depression (53.73%) compared to those with low GST beliefs (40.55%), suggesting a positive association between GST conformity and depressive symptoms. However, a slightly different trend was observed for GSR. The prevalence of depression among participants with high GSR beliefs was slightly lower (46.69%) than those with low GSR beliefs (47.77%). As for parental closeness, adolescents who had high closeness with their caregivers were less likely to experience depression (45.25%) compared to those with weaker parental closeness (50.55%). Finally, feelings of unsafety in the neighborhood were also strongly associated with depressive symptoms. The prevalence of depression among participants with high unsafety levels was higher (54.39%) than those with low unsafety levels (38.47%).

C.) Multivariate Statistical Analysis: Logistic Regression

To adjust for confounding variables, a logistic regression was conducted using depression as the dependent variable. This helped to analyse the correlations between multiple variables simultaneously. As shown in Table 8 below, the results of the logistic regression seem to confirm the trends seen in the descriptive analysis findings. Participants that had high GST beliefs ($\beta = 0.60$, $p < .001$) and high neighborhood unsafety ($\beta = 0.64$, $p < .001$) are indeed positively associated with depression, and conversely, high GSR beliefs ($\beta = -0.22$, $p = .002$) and parental closeness ($\beta = -0.16$, $p = .024$) were negatively associated with depression.

Table 8. Logistic Regression Predicting Depression

Depression	β	SE	z	p	95% CI for β
Gender Stereotypical Traits	0.60	0.07	8.41	< .001	[0.46, 0.74]
Gender Stereotypical Roles	-0.22	0.07	-3.08	.002	[-0.37, -0.08]
Parental Closeness	-0.16	0.07	-2.26	.024	[-0.30, -0.02]
Unsafety	0.64	0.07	9.20	< .001	[0.50, 0.77]

Note: β = unstandardized coefficient; SE = standard error; CI = confidence interval

2. Discussion

This study aimed to examine the correlation between stereotypical gender norms, using Gender Stereotypical Traits (GST) & Gender Stereotypical Roles (GSR), and mental health, using Depressive Symptoms among early adolescents in Indonesia. Additionally, this study explored the correlation of parental/caregiver connectedness and neighborhood unsafety, as sociodemographic factors, with mental health. The results of this study serve to contribute to the literature surrounding gender norms, gender equality and adolescent mental health, mostly for Indonesian adolescents, but could also be used for explaining the potential connection of stereotypical gender beliefs and mental health. In addition to that, it would also help in the development of policies that would promote gender equality.

The findings of the statistical analysis demonstrate a significant and positive correlation between GST and depression. Meaning that Indonesian early adolescents who held strong GST beliefs were 1.82x times more likely to report depressive symptoms too. It is important to note that actually these results align with previous literature which indicates that conformity to traditional masculinity and femininity norms increases vulnerability to psychological distress (Shakya et al., 2019; Yu et al., 2017), because when internalizing such stereotypical beliefs, it may restrict some natural emotional behaviours. An example of this is emotional expression. Boys who internalize more stereotypical gender beliefs may avoid expressing their emotions, because they believe that such expressions could contradict societal expectations of masculinity. This inner conflict and emotional suppression would then naturally affect their mental health as early adolescents are restricted in fulfilling their needs, and are instead conforming to gender norms that society dictates.

But interestingly, the association between GSR and depression revealed the inverse relationship. Meaning that Indonesian early adolescents who had higher endorsement of GSR were actually slightly less likely to experience depressive symptoms compared to those with low GSR beliefs. One speculative way to explain this, is that the questions regarding the GSR in the survey are referred to adult roles and responsibilities, which may not directly resonate with the everyday experiences of early adolescents. As a result, respondents may have found it difficult to relate to or impersonate themselves in the context of the questions, potentially reducing the accuracy of their responses. But on the other hand, the GST questions were more explicitly tied to early adolescents' beliefs, behaviours, attitudes and scenarios. In this way, participants may have seen themselves more clearly in the GST questions context, leading to higher accuracy of responses. Furthermore, there is also a small chance that the early adolescents did not fully comprehend the GSR questions due to their perceived irrelevance, which may have influenced the results.

Parental closeness was found to be a protective factor against depression, supporting the hypothesis that strong connections with the caregivers/parents can help early adolescents dealing with their mental health state. Respondents who reported having a higher score of closeness to their caregivers were significantly less likely to experience depressive symptoms. In fact, among participants who reported high caregiver closeness, the prevalence of depression was 45.25%, compared to 50.55% among those with lower closeness. This reinforces prior evidence that family support, especially perceived emotional availability from caregivers, plays a crucial role in adolescent psychological well-being (Pandia et al., 2021; Kim et al., 2020). Furthermore, neighborhood unsafety emerged as a strong predictor of depression, showing that early adolescents who reported more frequent feelings of unsafety in their neighbourhood (ex. on their way to school) were significantly more likely to also report higher scores of depression. The prevalence of depression among those who experienced high levels of neighborhood unsafety was 54.39%, compared to only 38.47% among those who didn't have a high frequency of unsafety feelings. These findings are consistent with literature that highlights the detrimental effects of unsafe surroundings, which can lead to chronic stress, fear, and social withdrawal in adolescents (Wahdi et al., 2022).

Chapter V - Conclusion

1. Conclusion

This study found a significant correlation between stereotypical gender beliefs and depression among early adolescents in Indonesia. Early adolescents with high Gender Stereotypical Traits beliefs (GST) were 1.82x times more likely to report depressive symptoms than those with lower GST beliefs. This supports the hypothesis that internalizing stereotypical gender traits (e.g., toughness for boys, emotional restraint) may contribute to mental health problems. Conversely, higher beliefs in Gender Stereotypical Roles (GSR) was slightly negatively associated with depression, possibly due to the lack of adolescents' personal relevance or understanding of these adult roles. Additionally, those with stronger parental/caregiver connectedness were less likely to experience depressive symptoms, and those with higher frequency of feelings of unsafety in the neighborhood had higher scores of depressive symptoms.

2. Recommendations

The main author recommendation is for policymakers to find ways to promote a more gender equitable society and improve early adolescent mental health in Indonesia. One of the steps this study suggests to achieve this, is to implement early school interventions that would raise awareness about society's stereotypical gender norms and why these exist in the first place. These programs should help students understand how they come to have these beliefs in their mind and then explain the psychological consequences of internalizing such beliefs and how it can affect their mental health. Examples of such interventions could be integrating gender equality classes once a month/two-weeks into the school curriculum. Additionally, policymakers should also focus on finding ways to encourage parents and caregivers to be more close with their children and communicate more openly, as the findings of this study have shown that there is a positive association between higher parental closeness and lower depression symptoms. Furthermore, the government should try to prioritize efforts on improving the safety of the neighborhoods and school routes, as this would significantly decrease the feelings of safety of early adolescents and in the end improve their overall mental health. Finally, the author recommends further research to better understand the relationship between GSR beliefs and adolescent mental health. Exploring this connection will provide more clarification on this and will be very helpful to better understand how stereotypical gender norms influence mental health in youth.

Research Timeline

Starting Phase:

- Gather information: Week 1 - Week 3 February
- Narrow down topic: Week 3 - Week 4 February
- Supervisor approval: Week 3 - Week 4 February
- Define research question: Week 3 - Week 4 February
- Define subquestions and methods: Week 4 February - Week 2 March
- Make a plan of action: Week 4 February - Week 2 March
- Adapt plan of action: Week 1 March - Completion of Research Project

Research Phase:

- Literature Review: Week 3 February - Week 3 March
- Research Methods: Week 2 March - Week 3 March
- Gather Data: Week 2 May - Week 1 June
- Analyze Data: Week 1 June - Week 2 June
- Evaluate & edit research: Week 1 March - Completion of Research Project

Writing Phase:

- Manage references: Week 3 February - Completion of Research Project
- Write lit review/background: Week 3 February - Week 2 May
- Write methods: Week 3 March - Week 2 May
- Write results: Week 1 June - Week 2 June
- Write conclusion: Week 1 June - Week 2 June
- Write discussion: Week 1 June - Week 2 June
- Write recommendations: Week 1 June - Week 2 June
- Write introduction, summary/abstract: Week 1 June - Week 2 June
- Evaluate and edit chapters: Week 3 February - Completion of Research Project
- Supervisor evaluation: Week 3 February - Completion of Research Project
- Integrate feedback, fix layout: Week 3 February - Completion of Research Project
- Let others review before submitting: Week 3 June

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