CHAPTER 1

INTRODUCTION

1.1 Background

Education is one of the important sectors to develop a country. According to Indonesian Law Number 12, 2012 Education is a conscious and planned effort to develop all the students potential through the learning process. To see the level of achievement of educational goals, a form of evaluation is needed (Hakim, 2016). This evaluation is carried out to measure the success of students in following the lesson. This evaluation can be seen through exams which is conducted at school from elementary to middle school (Hakim, 2016). An exam is a test that is used as a measuring tool to test the quality ranging from intelligence, ability, learning outcomes, and so on. In elementary school to high school and above, there are various kinds of exams, for example school exams, practical exams, to national exams (Victor, 2020). It is during this evaluation period that individuals make adjustments to the changes that occur quickly and surely. Changes that are fast and not accompanied by good adaptability will cause a fear of not being able to achieve what they want, such as the fear of failure and the fear of not graduating, and this is referred to as anxiety (Cyntya, 2013). Anxiety is an unpleasant feeling of fear accompanied by increased physiological tension, where there is an impulse between threatening situations but must be faced or avoided. Anxiety is the biggest mental disorder in the world and in Indonesia. Efforts that can be made to deal with anxiety are ways

to change students' ways of thinking and perspective, one of which is by increasing students' coping mechanisms. (Arief, 2017).

It is estimated that 20% of the world's population suffers from anxiety and as many as 47.7% of adolescents often feel anxious. Based on the results of a survey conducted by World Mental Health in developed countries, developing countries, and underdeveloped countries, psychiatric disorders are found in every country, but anxiety is the highest. As a result of this, the problem of anxiety is a constant problem encountered in various countries. In Indonesia, the prevalence of mental emotional disorders such as anxiety disorders and depression has decreased from 11.6% to 6% of the population aged over 15 years (Arief, 2017). In addition, the anxiety of students who will face the exam is an average of 85.8% experiencing mild anxiety (Casmi, 2017)Moderate anxiety experienced by junior high school is 94.11% and senior high school is 96.4%. This means that the moderate level of anxiety of high school students is greater than that of junior high school students. While the low level of anxiety experienced by junior high school students is 1. Through a questionnaire via online interview to 10 students at SMAN 1 Giri by HARS Questioner, it was found that 4 students experienced mild anxiety, 3 students experienced moderate anxiety, and 3 students experienced anxiety in facing examination. This research was conducted at SMAN 1 Giri because, until now no one has conducted research related to the relationship between anxiety levels and coping mechanisms in SMAN 1 Giri students who will face the 2022 exam and it can be seen from a preliminary study of some of the existing students who experience anxiety when they will face the exam.

Students face various obstacles in facing exams, namely boredom in the learning process, having to take tutoring outside school hours. These things will cause excessive anxiety in taking the exam. The amount of pressure from various parties makes the anxiety of students increase. The anxiety felt by students varies depending on the problem. Achievement in students sometimes decreases due to lack of motivation in students to study at school. One factor that is considered to often reduce students' motivation to learn is the material from the lesson itself and the teacher who delivers the lesson. In dealing with heavy lessons at school, it will cause excessive stress and anxiety for students (Imam, 2016).

Someone who experiences anxiety will show several symptoms. Anxiety triggers not only physical symptoms, but also psychological. In addition to experiencing symptoms such as palpitations, diarrhea, dizziness, cold sweat, and shortness of breath, anxious people can also have psychological symptoms, such as worry, anxiety, nervousness, or fear. The impact caused by anxiety on students starting from dropping grades, not wanting to hang out with school friends, eating badly, feeling depressed (Sosrosumihardjo, 2015). The level of anxiety that depends on various factors, namely factors that focus on psychological conditions, defend themselves against the environment obtained from development and adaptation to stimuli and situations or stressors encountered are usually called coping mechanisms (Rofi, 2014).

Coping mechanisms include long-term or short-term coping defences to protect oneself in the face of painful self-perceptions. While coping is a change in cognitive and behaviour in an effort to overcome special internal and

external demands that exceed the ability of an individual. If the problem solving is negative, the results can be detrimental and do not solve the problem completely, while if the coping is positive, the expected results are rational and constructive. From the understanding of the coping mechanism, it can be concluded that the coping mechanism is the method used by individuals in solving problems, overcoming changes that occur and threatening situations both cognitively and behaviourally (Sandra, 2021). The formation of the coping mechanism itself is influenced by several factors that influence the coping strategy including physical health, positive beliefs or views, problem solving skills, social skills, social support, material or work, age, gender, and education of the respondent. And the respondent's level of anxiety is also influenced by several factors including the pattern of family coping mechanisms, threats to self-esteem, including those obtained from sources, external fear of losing a loved one, divorce, change in employment status, group pressure, socio-cultural (Hu et al., 2018)

There are various ways to prepare students for the exam. Starting from physical, cognitive, psychological preparation to spiritual preparation, and health education. Efforts are made by the school by providing additional hours of lessons while the efforts of parents such as registering their children to take tutoring outside school hours. This action is taken to provide positive results for students in preparing for an exam (Rofi, 2014). Based on the description above, the researchers are interested in conducting research to analyse the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

1.2 Problem Formulation

Is there any correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022?

1.3 The Objective of study

1.3.1. General Aim

To identify the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

1.3.2 Specific Aim

1. Identified the level of anxiety in SMAN 1 Giri students in 2022.
2. Identified coping mechanisms for students of SMAN 1 Giri in 2022.
3. Analyzed the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

1.4 Expected Result

1.4.1 Theoretical

The results of this study are expected to develop scientific insight regarding the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

1.5.2 Practical

1. Respondents

   The results of this study are expected to provide additional insight and additional knowledge about the correlation between anxiety levels and coping mechanism in

facing examination at SMAN 1 Giri in 2022.

2. Nursing profession

It is hoped that this research will provide input for the nursing profession in developing mental nursing care that will be carried out regarding the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

4. Future researchers

The results of this study are expected to provide information from researchers, especially for nursing science about the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

5. Research Places

The results of this study can be used as information as a reference source for institutions to add knowledge related to research on stress levels with coping mechanisms and become an additional collection of research results and can be placed in the institutional library as a guide to obtain more information.

CHAPTER 2

LITERATURE REVIEW

2.1 Adolescence Concept

2.1.1 Definition of Adolescence

Adolescence is a period of rapid growth and development both physically, psychologically and intellectually. The characteristic of adolescents is that they have a great curiosity, love adventure and challenges and tend to be willing to take risks for their actions without being preceded by careful consideration (Kemenkes RI, 2015). According to the World Health Organization (WHO), adolescents are residents in the age range of 10-19 years, according to the Indonesian Health Regulation Number 25 of 2014, adolescents are residents in the age range of 10-18 years and according to the Population and Family Planning Agency (BKKBN) the age range Teenagers are 10-24 years old and unmarried.

2.1.2 Age Limit

Adolescents Apart from the concept of teenagers, the age limit for teenagers is also inseparable from various views and figures. For the people of Indonesia, individuals who are said to be teenagers are individuals aged 11-18 years and unmarried. Marital status is very decisive in Indonesia, because the meaning of marriage is still very important in society in general. A married person, at any age is considered and treated as a full adult, both legally and in community and family life (Sarwono, 2011).

Although the age range of adolescence can vary depending on the environment, culture and history, according to one development expert,

Santrock, adolescence begins around the age of 10 to 13 years and ends at around the age of 18 to 19 years. The biological, cognitive, and socio-emotional changes that adolescents experience can range from the development of sexual function to abstract thought processes to independence. Santrock distinguishes adolescence into early and late periods. Early adolescence more or less takes place in middle school or late high school and major puberty occurs at this time. Late adolescence occurs more or less in the middle of the second decade of life. Interests, career, Courtship and identity exploration are often more prominent in late adolescence than in early adolescence. Adolescents are individuals who belong to the late adolescence or those aged between 18 to 19 years and are not married (Samio, 2018)

2.1.3 Stages of Adolescence

According to (Labrague et al., 2017) there are three stages of adolescence, namely:

1. Early adolescence (10-12 years)
   a. Feel closer to peers
   b. Looks and feels like being free
   c. Pay more attention to the state of his body and start thinking and imagining (abstract).
2. Middle adolescence (13-15 years)
   a. Feeling like looking for identity
   b. A desire to date or be attracted to the opposite sex
   c. A deep feeling of love arises

d. The ability to think abstractly (imagining) is increasingly developing to fantasize about things related to sexuality.

3. Late adolescence (16-19 years)

a. Shows self-disclosure

b. In looking for friends more selective

c. Have an image (image, situation, role) of himself

d. Can create feelings of love

e. Have the ability to think imaginatively or abstractly

2.1.4 Characteristics of teenagers

According to (Kurebayashi et al., 2012) the characteristics of adolescents are as follows:

a. Experiencing anxiety in life.

b. There is conflict with adults.

c. The desire to try the unknown thing.

d. The desire to try the function of his organs.

e. Likes to fantasize about achievements and careers

f. The emergence of the characteristics of boys and girls.

2.1.5 Adolescent Development and Growth

The development of adolescence according to Utami (2018) is as follows:

1. Physical changes

In adolescence, physical growth is still far from perfect by the time puberty ends, and it is also not completely perfect at the end of early adolescence. There is a decrease in the rate of growth and internal development is more pronounced than external.

2. Social transformation

   Adolescents must adjust to the opposite sex in a relationship that has never existed before and must adjust to adults outside the family and school environment.

3. Moral change

   Adolescents are expected to replace the moral concepts that apply specifically in childhood with generally accepted moral principles and formulate them into a moral code that will serve as a guide for behavior. No less important, now teenagers have to control their own behavior which was previously the responsibility of parents and teachers.

4. Personality changes

   In early adolescence, boys and girls are already aware of good and bad qualities and they judge these traits according to the qualities of their friends. They are also aware of the role of personality in social relationships and are therefore motivated to improve their personality.

   Meanwhile, according to Hurlock (M. Ali & M. Asrosi, in Fadhillah 2016) adolescent development has a fairly broad meaning, including mental, emotional, social and physical maturity. According to him, the task of adolescent development is to try to:

   a. Able to accept his physical state.
   b. Able to accept and understand adult sex roles.
   c. Able to build good relations with members of the opposite sex group.
   d. Achieve emotional independence.
   e. Achieve economic independence.

f. Develop concepts and intellectual skills that are needed to perform the role as a member of the community.

g. Understand and internalize the values of adults and parents.

2.1.6 Factors Affecting Adolescent Growth and Development

Factors influencing growth according to (Mamuaya et al., 2016)

1. Descendants

   Heredity is an important factor that affects the physical character of children, such as height, weight, body structure, hair texture, hair color, eye color, to intelligence and talent.

   Some inherited diseases, for example diabetes, obesity, and others can also be inherited genetically. Even so, environmental factors and parenting patterns can also affect children and complement these genetic factors.

2. Environment

   You could say the environment plays an important role in the development of the baby. Several environmental factors that influence child development include the physical environment, geographical conditions of residence, social environment, and the child's relationship with family and peers.

3. Gender

   The sex of the child is another factor that affects the growth and physical development of the child. Because girls and boys will grow in different ways, especially when approaching puberty.

Boys will later be taller and physically stronger than girls, while girls tend to mature faster during this adolescence. Their body structures also become different from one another. In addition, when entering adolescence, boys and girls will increasingly show interest in different things.

4. Nutrition

Nutrition is an important factor in growth. Because everything needed for the growth and development of your little one comes from the food he eats. Lack of nutrients can cause several diseases that adversely affect their growth and development.

5. Family

The family arguably has a very important influence in determining the way they develop psychologically and socially. Children who are raised in the parenting pattern of loving parents, will make the child as a mentally healthy individual. Meanwhile, children raised from negative family parenting can have a negative impact on the little one. Children can grow up to be emotionally immature.

2.2 The Concept of Anxiety

2.2.1 Definition

Anxiety is one of the psychological factors that cannot be separated from human life. The root word for anxiety in German Indonesian is "angh" which in Latin is related to the words "angustus, ango, angor, anxius, anxietas, angina". Nietzal argues that anxiety comes from Latin (anxius)

from German (anst) which is a word used to describe negative effects and physiological stimuli (Gufron & Risnawati, 2017).

Anxiety is a vague uneasy feeling due to discomfort or fear accompanied by a response (the cause is not specific or unknown to the individual). Feelings of fear and uncertainty as a signal that awakens that warning about danger will come and strengthens individuals to take action to face the threat (Yusuf, 2015).

2.2.2 Symptoms of Anxiety

There are two kinds of anxiety symptoms, namely physical and mental (Fitriani, 2016):

1) Symptoms of physical anxiety are emotions that are characterized by increased autonomic activity, specifically activation of the sympathetic nervous system, including:
   a. Cold fingers.
   b. The heart rate is getting faster.
   c. Cold sweat
   d. Head ache.
   e. Decreased appetite.
   f. Not sleeping well.
   g. Shortness of breath.
2) Symptoms of mental anxiety are subjective feelings of pressure, and cognitions which include:
   a. Afraid
   b. Feeling of being in danger.

c. Can't focus

d. Not peaceful.

e. Want to run away from reality.

2.2.3 Factors Affecting Anxiety

Stuart (2018) revealed that there are factors that influence anxiety, namely:

1) Age

Age affects a person's psychology, the higher the age, the better the level of one's anxiety and ability to deal with various problems.

2) Cultural and Spiritual Values

Culture and spirituality influence the way a person thinks. High religiosity makes someone have a positive view of the problems at hand.

3) Education

A person's low level of education will cause that person to easily experience anxiety. The level of education of a person or individual will affect the ability to think, the higher the level of education, the easier it will be to think rationally and capture new information in solving new problems.

4) Physical State

Individuals who experience physical disorders such as injuries, bodily illnesses, operations, physical disabilities are more prone to stress. In addition, people who experience physical fatigue will also be more prone to stress.

5) Coping Response

Coping mechanisms are used by a person when experiencing anxiety. Inability to deal with anxiety constructively as a cause of pathological behavior.

6) Social Support

Social and environmental support as a source of coping, where the presence of other people can help a person reduce anxiety and the environment affects a person's thinking area.

7) Development Stage

At a certain level of development, the number and intensity of stressors are different so that the risk of stress is different for each development or at the level of individual development, the ability to adapt to stressors is better.

8) Past Experience

Past experiences can affect a person's ability to deal with the same stressor.

9) Knowledge

Ignorance can cause anxiety and knowledge can be used to solve problems.

2.2.4 Anxiety Level

The level of anxiety according to Yusuf (2015) includes:

1) No anxiety

Individuals in normal circumstances, there is no excessive condition of insecurity and not easily offended.

2) Mild anxiety

Mild anxiety is related to tension in everyday life and causes individuals to be alert and increase their field of perception. The ability to see and hear increases. Mild anxiety can motivate learning and generate creativity.

3) Moderate anxiety

Allows one to decide attention to what is important and to set aside others, so that one experiences selective attention but can do something more focused.

4) Severe anxiety

Greatly reduces one's perception land. There is a tendency to decide on something detailed and specific and not be able to think about anything else. All behaviors are shown to reduce tension. The person needs a lot of direction to be able to focus on other areas.

5) Panic level

From anxiety related to fear and feeling terrorized, and unable to do anything even with direction. Panic increases motor activation, decreases the ability to relate to others, distorted perceptions, and loss of rational thinking.

2.2.5 Anxiety Level Measurement

According to Nursalam (2016), the level of anxiety can be measured using a measuring instrument known as the HARS (Hamilton Anxiety Rating Scale), which consists of 14 groups of symptoms, including the following:

Table 2.1 HARS Classification

Classification	
Feelings of anxiety	Anxiety, bad feelings, fear of one's own thoughts and irritability
Tension	feeling tense, lethargic, unable to rest quietly, easily startled, crying easily, trembling and restless Fear: fear of the dark, of strangers, of living alone and of large animals, of traffic and crowds
Sleep disturbances	difficulty falling asleep, waking during the night, not sleeping well, waking up lethargic, and having nightmares
Intelligence disorders	difficulty concentrating, memory decline, and poor memory
Feelings of depression (drowsiness)	loss of interest, reduced enjoyment of hobbies, sadness, awakening in the early hours of the morning and fluctuating feelings throughout the day
Somatic/physical (muscle) symptoms	muscle aches and pains, stiffness, muscle twitching, grinding of teeth and unstable voice
Somatic (sensory) symptoms	tinnitus (ringing in the ears), blurred vision, red or pale face, feeling weak and a prickling feeling
Cardiovascular (heart and blood vessels)	tachycardia (rapid heart rate), palpitations, chest pain, hardening of the pulse, feeling lethargic/weak as if going to faint and the heartbeat disappears/stops for a moment
Respiratory symptoms (breathing)	a feeling of pressure or tightness in the chest, a sense of suffocation, frequent shortness of breath/shortness of breath
Gastrointestinal (digestive) symptoms	difficulty swallowing, stomach twisting, indigestion, pain before and after eating, burning feeling in the stomach, feeling of fullness or bloating, nausea, vomiting, loose consistency of bowel movements, difficult bowel movements (constipation) and weight loss
Urogenital symptoms (urinary and genital)	frequent urination, unable to hold urination, no menstruation (unable to menstruate), excessive menstrual blood, very little menstrual blood,

	prolonged menstrual period, very short menstrual period, menstruation several times a month , premature ejaculation, weak erection, lost erection and impotent
Autoimmune symptoms	dry mouth, flushed face, easy sweating, headache, heaviness in the head, headache, and the hairs stand on end
Behavior/attitude	restless restless, shaking fingers, frowning forehead or forehead, tense/hardened face, short and rapid breathing and red face

Each symptom group is given a numerical rating (score) with a Likert scale approach according to (Nursalam, 2016) as follows:

a. No Anxiety: 0
b. Mild Anxiety: 1
c. Moderate Anxiety: 2
d. Severe Anxiety: 3
e. Very Heavy Anxiety: 4

Scoring the degree of anxiety levels :

a. No Anxiety: <6
b. Mild Anxiety:6- 14
c. Moderate Anxiety: 15-27
d. Severe Anxiety: >27

2.3 Coping Mechanism Concept

2.3.1 Definition of Coping Mechanism

Coping mechanisms are mechanisms that individuals use to deal with accepted changes. Individual coping abilities depend on temperament,

perception, and cognition as well as the background/cultural norms in which they grew up (Nursalam, 2011).

Coping mechanism is a way used by an individual in overcoming and solving a problem. Coping mechanisms are divided into two, namely problem focused coping and problem focused coping

focusing on emotions (emotional focused coping). Problem-focused coping mechanisms are coping that refers to solving problems and stopping stress. Meanwhile, coping mechanisms that focus on emotions are those that are used to relieve individual emotions caused by stress, without trying to change a situation that is a direct source of stress (Sarafino & Smith (2011 in Fasya et al., 2019).

2.3.2 Types of Coping Mechanisms

There are two types of individual coping mechanisms, namely problem focused form of coping mechanism/direct action and emotion focused coping/palliative form. Stuart and Sundeen (1991 in Maryam, 2017). Problem-centered coping mechanisms are:

1. Confrontation is attempts to change the situation or solve problems aggressively by depicting the level of anger and risk taking
2. Isolation, where the individual tries to withdraw from the environment or does not want to know about the problems at hand.
3. Compromise is changing things carefully, asking close family and friends for help or cooperating with them.
4. The emotion-centered coping mechanisms are as follows:
5. Denial is rejecting the problem by saying it didn't happen to him.

6. Rationalization is using reasons that can be accepted by reason and accepted by others to cover up their inability. With rationalization we can not only justify what we do, but also feel it is appropriate to do so fairly.
7. Compensation is showing behavior to cover up incompetence by highlighting good qualities, because of frustration in one area, excessive satisfaction is sought in other fields. Compensation arises because of feelings of inadequacy.
8. Repression is to forget the unpleasant times from his memory and only remember the pleasant times.
9. Sublimation is expressing or channeling feelings, talents or abilities with a positive attitude.
10. Identification is imitating the ways of thinking, ideas and behavior of others.
11. Regression is the attitude of a person going back in time or acting like a child.
12. Projection is blaming others for their own difficulties or taking their blame on others

2.3.3 Coping Mechanism Classification

The coping mechanism based on the classification is divided into two Stuart (1995 in Masitoh & Noor Hidayat, 2018) namely:

1. Adaptive coping mechanisms

   Adaptive coping mechanisms are mechanisms that support the function of integration, growth, learning and achieving goals. The

categories are talking to others, effective problem solving, relaxation techniques, balanced exercises and constructive activities (anxiety is perceived as a warning signal and the individual accepts warnings and anxiety as challenges to solve).

2. Maladaptive coping mechanisms

Maladaptive coping mechanisms are mechanisms that inhibit integration functions, reduce autonomy and tend to dominate the environment. The categories are overeating/not eating, overworking, avoiding and destructive activities (preventing a conflict by evading solutions).

2.3.4 Coping Source

Sources of coping are choices or strategies that help a person determine what can be done and what is at risk. Coping sources are divided into four Yusuf Ah et al, (2015:24), namely:

1. Social support, the involvement of others in solving problems.
2. Personal ability, how an individual perceives the stress of his life whether it is considered light, heavy, easy to solve or unsolvable.
3. Material/financial assets, resources or wealth owned by a person to meet their needs. Families who have more assets tend to be easier to cope with than people who do not have assets.
4. Positive beliefs, individual beliefs to be able to solve a problem and believe that something he is facing will not have an impact on him.

2.3.5 Factors Affecting the Use of Coping Mechanisms

There are various things that can affect an individual's coping, both coming from the individual itself and from outside the individual or from the environment. Nasir & Muhith (2011) say that coping mechanisms are influenced by:

1. Internal factors

   Internal factors are factors that come from within the individual itself including age, gender, personality, education, religion, culture, emotion and cognitive.

2. External factors

   External factors are factors that come from outside the individual, including social, environmental, financial and disease support.

Based on the factors described above, these factors can be explained as follows:

1. Age

   A person's life will fluctuate throughout the human lifetime according to the stage of development. When a person develops, humans will pay more attention to how to interact with their environment, they will experience various emotions such as trust, security and comfort. When humans feel less familiar with their environment, fear will appear. In line with increasing age, a person will be able to deal with various problems that befall him.

2. Gender

Every individual has a different way of dealing with stress and pressure. One of the factors that influence coping is gender. Women tend to respond less to stressful and threatening situations than men. Men usually have better coping with changes that occur around them when compared to women. Men more often use problem-focused coping, while women seek social support more often and women also use emotion-focused coping mechanisms more often.

3. Environment/place of residence

The environment will greatly affect the individual's personality, because a person performs daily social interactions with his environment. In addition, support from the environment, especially support from the family will also affect a person's thinking about what he is experiencing.

4. Religion

Religion or belief has a strong enough influence in influencing the formation of an individual's coping. Religion or belief can influence individual attitudes and behavior concerning the procedures for thinking, behaving, creating and behaving that cannot be separated from belief because belief is included in the construction of individual personality. The relationship between religion and coping mechanisms is to teach individuals to assess each stressful event, develop skills in dealing with stress and use these skills in daily life.

2.3.6 Coping Mechanism Measurement

The questionnaire used to measure the coping mechanism is the Brief Cope questionnaire made by CS Carver (1997) which consists of 28 question items which are divided into 14 parts of the two types of coping, namely the type of problem focused coping; active coping, planning, positive refraning, behavioral disanggamentd and use of instrumental support, meanwhile from the type of emotion focused coping: acceptance, humor, religion, using emotional, support, self distraction, denial, venting, substance use and self blame from both coping These are then categorized into adaptive and maladaptive coping. The results of the coping mechanisms with a total coping score of at least 28 and a maximum of 112, if the results of the coping mechanisms total score 70 for maldaptive coping mechanisms and the total score > 70 for adaptive coping mechanisms.

Table 2.2 Brief Cope Classification

Number Question	**Classification**	
1 and 19	*Self-distraction*	Coping by diverting the problem
2 and 7	*Active Coping*	Coping with method takedecision by taking action to reduce stress
3 and 8	*Denial*	Coping by rejecting the stress
4 and 11	*Substance use*	How to relieve stress using alcohol/drugs
5 and 15	*Using emotional Support*	Coping with method get endorsement emotional or moral of others
6 and 16	*Behavioral disengangement*	Coping by giving up on the problem Faced

9 and 21	*Ventilation*	Coping by expressing expression Feeling
10 and 23	*Using instrumental support*	Coping by seeking help and advice from others to reduce stress
12 and 17	*Positive reframing*	Coping by taking the positive side of problems encountered
14 and 25	*Planning*	Coping by thinking about the problem
18 and 28	*Humor*	coping by making jokes
20 and 24	*Acceptance*	Coping by accepting the situation he's going through
22 and 27	*Religion*	Coping by getting closer to Lord
13 and 26	*Self blame*	Coping by blaming yourself

Source CS Carver (1997)

Table 2.3 Distribution of Brief Cope coping mechanisms by classification

Statement	**Positive**	**Negative**
Problem Focused Coping	- *Active Coping* - *Planning* - *Using instrumental support* - *Self-distraction*	- *Behavioral disengagement*
Emotion Focused Coping	- *Religion* - *Positive reframing* - *Acceptance* - *Humor* - *Using emotional support*	- *Denial* - *ventilation* - *Substance use* - *Self blame*

Source CS Carver (1997)

2.4 The Correlation Between Anxiety Levels And Coping Mechanism Of Students In Facing Examination

Coping is seen as a balancing factor that can help individuals adapt to stressful and stressful conditions. Coping mechanisms are mechanisms that individuals use to deal with accepted changes. Individual coping abilities depend on temperament, perception, and cognition as well as background. (Masitoh & Noor Hidayat, 2018)

In the results of Imam (2016)'s research which has been carried out with a number of respondents of 58 students, it can be explained that students at SMA Muhammadiyah 1 Surakarta when they will face the national exam use maladaptive coping patterns in women more, namely with 17 subjects (29.3%), compared to men. which only 7 subjects (2.1%). In the adaptive coping pattern, there were more women with 25 subjects (43.1%), compared to men with 9 subjects (5.5%).

Nasir & Muhith (2011) say that the coping mechanism is influenced by internal factors and external factors. Internal factors are factors that come from within the individual itself including age, gender, personality, education, religion, emotional and cognitive culture. While external factors are factors that come from outside the individual including social support, environment, finance and disease. The most influential external factor on the coping mechanism is the social support obtained.

2.5 Synthesis Table

Table 2.4 Synthesis Table

Number.	Title, Author and year	Method (Design, Sample, Variable, Instrument,Analysis)	Result
1.	Levels Of Anxiety With The Student Coping Mechanism Class Xii Sman 3 Batam Center In Facing National Examination (Arwita Avriyanda, Dedy Asep and Sri Mala Dewi Simbolon, 2019)	**Desain**: quantitative analytical survey with cross sectional approach **Sample:** *n*: 172 respondents **Variable**: The Independent Variable in this study is Levels Of Anxiety, The dependent variable in this study is Coping Mechanism **Instrument**: Coping scale using Likert scale Favorable Items ,HRS-A (Hamilton Rating Scale For Anxiet) **Data analysis:** chi-square test	1. There were no anxious students (0%), 28 students with mild anxiety (16.3%), 100 students with moderate anxiety (58.1%), 41 students with severe anxiety (23.8%) and 3 students (1.7%). 2. students with maladaptive coping mechanisms were 96 people (55.8%) and students with adaptive coping mechanisms were 76 people (44.62%).
2.	The Relationship between Coping Patterns and Anxiety Levels for Class Xii Students Who Will Face the National Examination at SMA Muhammadiyah 1 Surakarta (Imam, 2016)	**Desain**: quantitative analytical survey with a coss-sectional approach **Sample:** *n*: 58 respondents **Variable**: The independent variable in this study is the pattern of coping, Dependent variable in this research is Anxiety Level	1. Based on Table 1 shows that the researchers obtained the results that at the age of 17 years as many as 46 subjects (79.3%) and at the age of 18 years as many as 12 subjects (21.7%). Based on Table 2 shows that the male sex as many as 16 subjects (27.6%) and female sex as many as 42 subjects (72.4%).

		Instrument: JCS questionnaire (Jalowiec Coping Scale.) , T-MAS (Taylor Manifest Anxiety Scale **Data analysis:** chi-square test	2. Based on Table 2, it was found that there were more maladaptive coping patterns in women with 17 subjects (29.3%), compared to men with only 7 subjects (2.1%). In the adaptive coping pattern, there were more women with 25 subjects (43.1%), compared to men with 9 subjects (5.5%). Based on Table 3, it was found that at the level of anxiety, women experienced more anxiety, with a total of 20 subjects (34.5%), compared to men who only had 7 subjects (8.6%). In level Anxiety who experienced no anxiety found men with 11 subjects (18%), while women with 22 subjects (38.9%).
3.	Anxiety Levels in Class Xii Students of SMA Negeri 5 Ambon in Facing the National Examination (Sammy. A. Walasary ,Anita E. Dundu ,Theresia Kaunang , 2015)	**Desain**: quantitative analytical survey with cross sectional approach **Sample:** *n*: 150 respondents **Variable**: The independent variable in this study is the level of anxiety. **Instrument**: Hamilton anxiety rating scale (HARS) **Data analysis:** SPSS version 16.0	There are differences in the distribution of anxiety by gender (Table 1). Of the 40 male respondents, the most experienced mild anxiety, namely 22 respondents (55%), then moderate anxiety, namely 15 respondents (37.5%), no anxiety, namely 3 respondents (7.5%), and no one experienced severe anxiety while the female respondents, which amounted to 110, experienced the most mild anxiety, namely 55 respondents (50%), then moderate anxiety was 45 respondents (40.9%),

			severe anxiety was 8 respondents (7.3%), and there is no anxiety in 2 respondents (1.8%).
4.	The Relationship between Anxiety Levels and Coping Mechanisms in Facing the Objective Structured Clinical Examination (Osce) Semester II Students of Stikes General Achmad Yani Yogyakarta (Daeng, 2017)	**Desain**: This study uses a non-experimental quantitative method, with a descriptive correlational design and a cross sectional approach **Sample:** *n*: 98 respondents **Variable**: The independent variable in this study is the level of anxiety, Dependent variable in this research is coping mechanism **Instrument**: Hamilton anxiety rating scale (HARS) **Data analysis:** univariable analysis and bivariable analysis using the lambda . coefficient	1. Based on table 4.1, it can be seen that the characteristics of students according to gender are mostly female, amounting to 55 students (69.6%) and based on age the most are 18-19 years, totaling 50 students (63.3%). 2. Based on table 4.2, it can be seen that the majority of students did not experience anxiety with a total of 35 students (44.3%), experiencing severe anxiety 2 students (2.5%). 3. Based on table 4.3, it can be seen that the highest percentage of adaptive students is 59 students (74.7%), while 20 students are maladaptive (25.3%).
5.	Psychological health, stressors and coping mechanism of engineering students (Ajit Singh Negi, Ashu Khanna & Rajat Aggarwal , 2019)	**Desain**: quantitative analytical survey with cross sectional approach **Sample:** *n*: 78 respondents **Variable**: Independent variables in this study are Psychological health, stressors;	It was found that 70% students always felt stress due to long hours of sitting in front of computer, 58% of students were always worried about their future prospect, 57% of students were always under financial constraint, 47% of students were always

		The dependent variable in this study is the coping mechanism **Instrument**: Depression Anxiety Stress Scale-21 (DASS-21), a standard psychometric test to measure the levels of stress, anxiety and depression of male and female engineering students. **Data analysis:** univariable analysis and bivariable analysis using the lambda . coefficient	worried about their health, 46% of students were not able to fix their priorities in life and 32% of students were always worried about academics. Hence, the top six stressors of M.tech and Ph.D. students were working hours in the computer, future/career prospect, finances, health, fixing priorities in life, academics, etc.
6.	Impact of a Yoga and Meditation Intervention on Students' Stress and Anxiety Levels (Virginia Lemay, PharmD, John Hoolahan, PharmD, Ashley Buchanan, DrPH ,2019)	**Desain**: quantitative analytical survey with cross sectional approach **Sample:** *n*: 78 respondents **Variable**: The Independent Variable in this study is the Impact of a Yoga and Meditation Intervention on Students' Stress; The dependent variable in this study is anxiety levels **Instrument**: Perceived Stress Scale (PSS), and the Five Facet Mindfulness Questionnaire(FFMQ), Beck Anxiety Inventory(BAI) **Data analysis:** SAS software, 2018 (SAS Institute Inc, Cary, NC)	Seventeen (85%) of the 20 students who volun-teered to participate were retained for the duration of the study. The other three students were not able to attend every session because of scheduling issues, sothey were not included in the analysis. The mean age of the participants was 20.7 years, with a range of 19 to23 years. Thirteen participants were female (76%). Themajority were third-year (35%) with nine of the studentsenrolled in the Doctor of Pharmacy (PharmD) program(53%) and eight enrolled in other programs at URI. Other programs represented included engineering, arts and sciences, environment and life sciences, education, business, and health studies. The majority of partici- pants

reported some level of previous yoga (88%) and meditation experience (77%). Pharmacy and non-pharmaceutical macy students were well matched, with pharmacy students reporting higher levels of stress and anxiety atbaseline, though these numbers failed to reach significant-cancel

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESES

3.1 Conceptual Framework

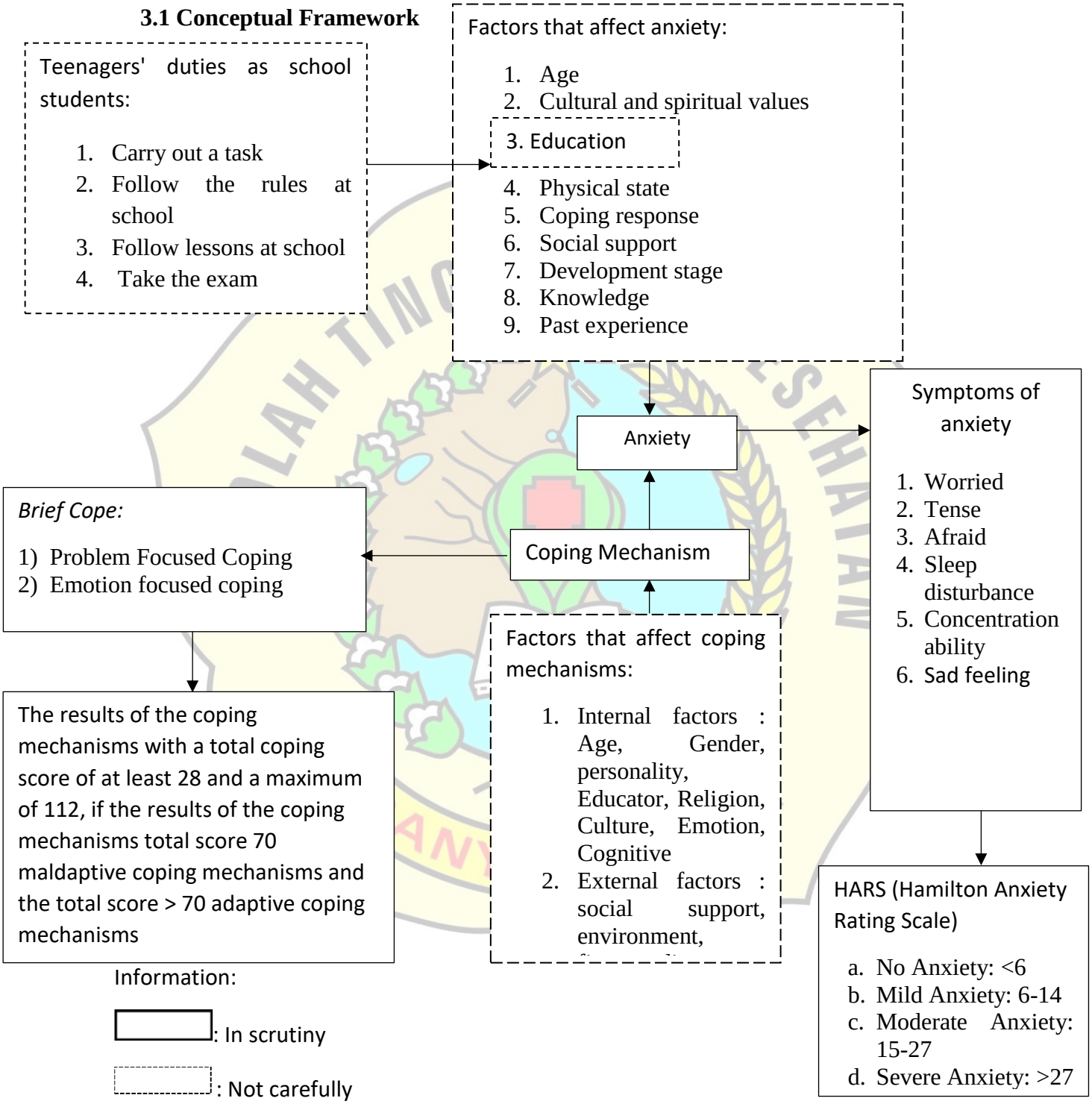

Chart 3.1 Conceptual Framework of the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022

3.2 Research Hypothesis

Hypothesis is a question of assumptions about the relationship between two or more variables that are expected to answer a question in research. Each hypothesis consists of a unit or part of the problem (Nursalam, 2013).

The hypothesis in this study is as There is a the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Types of Research and Research Design

4.1.1 Types of Research

This type of research is a strategy to achieve research objectives that has served as a guide or closure for researchers in the entire research process (Nursalam, 2016). The type of research used by this researcher is a non-experimental research design with a "correlation study" which examines the relationship between variables. Researchers can search, explain a relationship, estimate, and test based on existing theories. Correlative relationship refers to the tendency that the variation of a variable is followed by other variables (Nursalam, 2016).

4.1.2 Research Design

Research design is a scientific way to obtain data with specific purposes and uses or a frame of reference for the study of the relationship between variables (Sugiyono, 2017). In this study, the author uses a cross-sectional research design, which is a type of research that emphasizes the time of measurement or observation of independent and dependent variable data only once at that time (Nursalam, 2016).

4.2 Framework

The framework is a work chart for the design of research activities to be carried out (Nursalam, 2013).

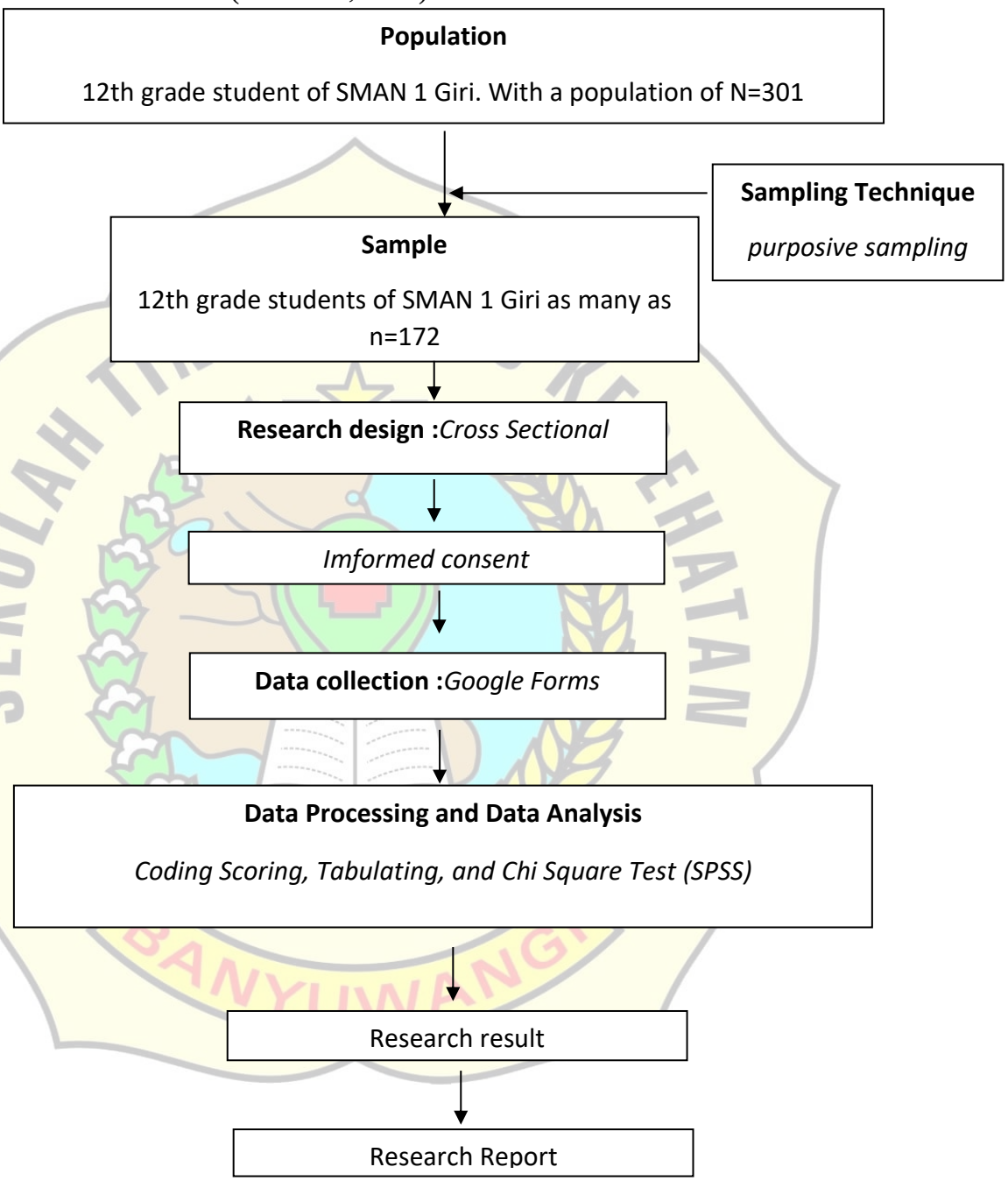

Chart 4.1 Framework: the correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

4.3 Population, Sample, and Sampling Technique

4.3.1 Research Population

The population in the study is the subject (eg humans, clients) who meet predetermined criteria (Nursalam, 2016). The population that will be used in this study is grade 12 students at SMAN 1 Giri, totaling 301 people.

4.3.2 Research Sample

The sample consists of an affordable part of the population that can be used as research subjects through sampling (Nursalam, 2016). The sample in this study was some of the students of SMAN 1 Giri who experienced anxiety when facing the 2022 exam totaling 172 respondents. then in determining the sample size of this study using the formula:

1. Sample Size

$$n = \frac{N}{1 + N(d)^2}$$

Information:

n: sample size

N: Population size

d: significant level (0.05) Nursalam (2013)

2. The size of the sample taken

$$n = \frac{301}{1 + 301(0{,}05)^2}$$

$$n = \frac{301}{1{,}2525}$$

$$n = 171{,}9 \; dibulatkan \; menjadi \; 172$$

3. Sample Criteria

a. Inclusion Criteria

Inclusion criteria are general characteristics of research subjects from a target population that is affordable and will be studied (Nursalam, 2016).

The inclusion criteria in this study consisted of:

1) Students in grade 12 of SMAN 1 Giri
2) Physically and mentally healthy
3) Willing to be a respondent

b. Exclusion criteria

Exclusion criteria are eliminating or removing subjects who do not meet the inclusion criteria from the study for various reasons (Nursalam, 2016). The exclusion criteria in this study consisted of:

1) Students who are unable to complete the questionnaire completely
2) The data collection process may not be represented, for example, respondents who are sick or have permission

4.3.3 Sampling Technique

Sampling is the process of selecting a portion of the population to be able to represent the population. Sampling techniques are the methods taken in taking samples, in order to obtain samples that are truly in accordance with the overall research subject (Nursalam, 2016).

The sampling used in this research is non-probability sampling. The non-probability sampling approach used is purposive sampling, which is a sampling technique by selecting a sample among the population in accordance with what the researcher wants (objective/problem in the study), so that the sample can represent the characteristics of the population that have been known previously (Nursalam, 2016) .

4.4. Variable Identification

Variables are behaviors or characteristics that give different values to something (objects, people, etc.). The characteristics possessed by members of a group (people, objects, situations) are different from those of the group. In research, variables are characterized as degrees, sums and differences. Variables are also concepts from various abstract levels which are defined as a facility for measurement and or manipulation of a study (Nursalam, 2016).

4.4.1 Independent Variable (Independent Variable)

An independent variable is a variable that affects or its value determines another variable. A stimulus activity manipulated by the

researcher creates an impact on the dependent variable. Independent variables are usually manipulated, observed, and measured to determine their relationship or influence on other variables. In nursing, the independent variable is usually a stimulus or nursing intervention given to the client to influence the client's behavior (Nursalam, 2016). In this study the independent variable is the level of anxiety.

4.4.2 Dependent Variable (Bound Variable)

The dependent variable is a variable whose value is determined by another variable. The response variable will appear as a result of the manipulation of other variables. In behavioral science, the dependent variable is the observed behavioral aspect of an organism that is subjected to a stimulus. In other words, the dependent variable is a factor that is observed and measured to determine whether there is a relationship or influence of the independent variable (Nursalam, 2016). In this study the dependent variable is the coping mechanism.

4.5 Operational Definition

An operational definition is a definition based on the observed Characteristics of the thing being defined. It is these observable (measurable) characteristics that are the key to operational definitions. Observable means that it allows researchers to make careful observations or measurements of an object or phenomenon which can then be repeated by others (Nursalam, 2016).

Table 4.1 Operational Definition: the correlation between anxiety levels and coping mechanism in facing examination 2022 at SMAN 1 Giri.

No	Variable	Definition	Indicator	Measuring instrument	Scale	Score
1.	Independent variable: level of anxiety	Anxiety level is a state, a mood characterized by physical tension, worry and the assumption that something bad will happen when facing an exam.	Symptoms of anxiety 1. Worried 2. Tense 3. Afraid 4. Sleep disturbance 5. Concentration ability 6. Sad feeling	HARS Questionnaire	Ordinal	1. Not anxious = <6 2. Mild anxiety = 6-14 3. Moderate anxiety = 15-27 4. Severe anxiety = >27
2.	Variable dependent: Coping mechanism	Coping mechanisms are mechanisms that individuals use to deal with accepted changes	Brief Cope's coping mechanism indicators are established to define categories: 1) Problem Focused Coping 2) Emotion focused coping	*Cope Brief Questionnaire*	Nominal	Maladaptive : 70 Adaptive : >70

4.6 Research Instruments

The research instrument is a tool used to obtain information from respondents in terms of reports about their personalities or things that are known (Nursalam, 2013). In this study, the instruments used to measure the

level of anxiety and coping mechanisms of the students of SMAN 1 Giri in facing the exam are:

4.6.1 Anxiety Level Instrument

In this study, the instrument used to measure the level of anxiety was the Halminton Anxiety Rating Scale (HARS) questionnaire which consisted of 14 standard questions. The validity and reliability tests carried out on the HARS instrument showed that the instrument was able to reveal the level of anxiety about employee productivity and the consistency of respondents in filling out the instrument was reliable. The validity of the HARS instrument is indicated by in the Corrected Item-Total Correlation section, all questions have a positive value and are greater than the 0.05 requirement. while the reliability is indicated by the value of Cronbach's Alpha is 0.793 with the number of items 14 items greater than 0.6, then the questionnaire used is proven to be reliable (0.793>0.6). So HARS is recommended to measure the level of anxiety in adolescents(Kautsar, 2016)

4.6.2 Coping Mechanism Instruments

The questionnaire used to measure the coping mechanism is the Brief Cope questionnaire made by CS Carver (1997) which consists of 28 question items which are divided into 14 parts of the two types of coping, namely the type of problem focused coping. Total score 70 for maldaptive and the total score > 70 for adaptive .The results of the validity test that was carried out on 30 respondents using the Pearson Product Moment formula obtained results from the Brief Cope

questionnaire consisting of 28 questions, all of which were declared valid with r_{count} (0.366 – 0.826) r_{table} (0.361). The results of reliability testing have been carried out and the value of = 0.746 for the Brief Cope questionnaire. The alpha value is greater than the constant value (0.6) so that the questionnaire is declared reliable (Rinda, 2016).

4.7 Research Location and Time

4.7.1 Research Locations

This research was conducted at SMAN 1 Giri.

4.7.2 Research Time

The research study took place in January 2022. Further data management in March 2022.

4.8 Data Collection or Retrieval Process

4.8.1 Data Collection

Data collection is a process of approaching the subject and the process of collecting the characteristics of the subject required in a study. The steps in data collection depend on the research design and the instrument technique used (Nursalam, 2016).

4.8.1 Data Collection Process

Researchers must perform five tasks in the data collection process. These tasks are related and carried out simultaneously, in other words not sequentially. These tasks include selecting subjects, collecting data consistently, maintaining control in research,

maintaining integrity or validity, and solving problems (Nursalam, 2016).

The data collection technique in this study was measurement using a questionnaire on the respondents. The steps of data collection are as follows.

1) Before conducting the research, the researcher first asked for a preliminary research study letter from the Banyuwangi STIKes Institution which was then given to the Principal of SMAN 1 Giri.
2) The researcher coordinated with SMAN 1 GIRI regarding the application for permission to take initial data and research permission.
3) The researcher gives a data request letter at SMAN 1 Giri
4) The SMAN 1 Giri party gave a permit for initial data collection and provided a contact person for the curriculum section
5) The researcher gave a questionnaire sheet to the respondents.
6) The researcher gave a questionnaire using Google Form to the curriculum party via WhatsApp.
7) The curriculum provides questionnaires in the form of Google Forms to respondents
8) Researchers recap and process the results of the research.

4.9 Data Analysis and Data Processing

4.9.1 Data Analysis

Data analysis is a very important part to achieve the main objective of the research, which is to answer research questions that reveal phenomena (Nursalam, 2016). Before analyzing the data, the data that has been collected in sequence will undergo a process of editing, coding, scoring, and tabulating.

1. *Editing*

   *Editing*is an attempt to re-examine the correctness of the data obtained or collected (Aziz Alimul H, 2016). Editing in this study is to check the completeness of the contents of the questionnaire statement, the suitability of the scores listed by the researcher.

2. *Coding*

   Coding is coding the data intended to translate data into codes which are usually in the form of numbers (Jonathan Sarwono, 2015).

   Coding on the independent variable anxiety level

   a. No Anxiety: 0
   b. Mild Anxiety: 1
   c. Moderate Anxiety: 2
   d. Anxiety Weight: 3
   e. Very Heavy Anxiety: 4

Coding on the dependent variable of the coping mechanis

a) Maladaptive coping mechanisms : 1

b) Mdaptive coping mechanisms : 2

3. *Scoring*

Scoring is data obtained from scores according to the scale (Jonathan Sarwono, 2015).

2) Anxiety level

a. No Anxiety: <6

b. Mild Anxiety: 6-14

c. Moderate Anxiety: 15-27

d. Severe Anxiety: >27

3) Coping Mechanism

a) Maladaptive coping mechanisms : score 70

b) Mdaptive coping mechanisms : score > 70

4. *Tabulating*

Tabulating is an activity to describe respondents' answers in a certain way, such as presenting data in a table consisting of several lines and columns. Tables can be used to present several variables from observations, surveys, or research so that the data is easy to read and understand (Jonathan Sarwono, 2015).

4.9.2 Data Processing

a. Univariate Analysis

This analysis is used to provide an overview of the research data. Education and knowledge data is required in the form of a

frequency distribution table to only produce the distribution and percentage of each variable.

$$X = \frac{n}{N} X100\%$$

Information:

X=percentage value

n = value obtained from each group

N = number of respondents

b. Bivariate Analysis

Bivariate analysis was carried out on two variables that were suspected or correlated. In this study, bivariate analysis was conducted to determine the relationship between anxiety levels and coping mechanisms. To find out the relationship between the two variables, statistical tests were carried out. The statistical test used is the chi square test by first entering it into the contingency table according to the following steps.To test the hypothesis, Kai Square Test is used with the Chi Square Test formula, namely:

Formula : $x^2 = \frac{(Fo-Fh)^2}{Fh}$

Description :

x^2 : value of chi square

Fo : the frequency obtained from the sample or the observed frequency or the results of observations

Fh : the expected frequency in the sample as a reflection of the expected frequency in the population

The expected frequency (Fh) can be calculated by the formula:

$$Fh = \frac{\text{Total Row}}{N}$$

The hypotheses to be tested in this study are:

Ho : There is The correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

Ha : There is a The correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022.

The significance level used is a = 5% and the degrees of freedom for the Chi Square distribution are:

Df = (I-1).(j-1)

Description :

I : number of rows

A : number of columns

The test decision criteria are:

Ho is accepted if = X^2 count < X^2 table

Ha is rejected if = X^2 count > X^2 table

Table 4.3 Analysis of Independent Variables and Dependent Variables

Aim	Variable	Measurement Scale	Statistical Approach
Demographic variable data identification	1. Age 2. Gender 3. Tribe 4. Religious 5. Residence 6. Parent's profession 7. Parent's income	Ratio Ordinal Nominal Nominal Nominal Nominal Ordinal	Descriptive Statistics
The correlation between anxiety levels and coping mechanism in facing examination at SMAN 1 Giri in 2022	Anxiety level 1. Worried 2. Tense 3. Afraid 4. Sleep disturbance 5. Concentration ability 6. Sad feeling Coping mechanism 1. Problem Focused Coping 2. *Emotion focused coping*	Ordinal Nominal	*Chi Square Test*

4.10 Research Ethics

In conducting this research, it is necessary to apply for permission to the Principal of SMAN 1 Giri to obtain preliminary approval, taking into account ethics, the number of etihics: NO:022/01/KEPK-STIKESBWI/1/2022,which include:

4.10.1 *Informed consent* (Approval Sheet)

Informed consent is information that must be given to the subject in full about the purpose of the research to be carried out and

has the right to freely participate or refuse to become a respondent (Nursalam, 2016).

4.10.2 *Anonymity* (without a name)

The subject does not need to include his name on the data collection sheet, he only needs to write a number or code to ensure the confidentiality of his identity. If the nature of the researcher does demand to know the identity of the subject, the researcher must obtain prior approval and take steps to maintain confidentiality and protect the answer (Wasis, 2015).

4.10.3 *Confidentiality*(confidentiality)

Confidentiality is an ethical problem in a research which is carried out by guaranteeing the confidentiality of research results, both information and other issues. All information that has been collected is guaranteed to be confidential by the researcher, only certain data groups will be reported on the research results (Aziz, Alimul H, 2016).

4.10.4 *Non Maleefficiency (No Harm)*

Non Maleefficiency is a principle which means that every action taken on a person does not cause physical or mental harm (Abrori, 2016).

4.10.5 *Veracity* (Honesty)

Be honest when collecting data, literature, methods, research procedures, to publication of results. Be honest about the shortcomings and failures of the research process. Not recognizing

work that is not his job(Abrori et al., 2016). Researchers do not increase or decrease the results when collecting data.

4.10.6 *Respect for Person* (Respect for Human Dignity and Dignity)

Respecting and respecting people there are two things that need to be considered, namely researchers must consider deeply the possible dangers and misuse of research and protect respondents who are vulnerable to research hazards.(Abrori et al., 2016). Researchers do not force if the respondent wants to resign.

4.10.7 *Beneficience* (Maximizing Benefits and Minimizing Risks)

The ethical imperative to seek the maximum benefit and minimize losses and risks for the subject and minimize research errors. In this case, the research must be carried out properly and accurately, and the respondents are safe and healthy(Abrori et al., 2016). Researchers in maintaining the accuracy and accuracy and safety of researchers conduct a re-examination of the research instruments that will be used by respondents so that errors do not occur in the future.

4.10.8 *Justice*

This value is reflected in professional practice when nurses work for the right therapy according to law, practice standards and the right beliefs to obtain quality health care. For example, when the official nurse is alone and when a new client comes in and there is also a nursing client who needs the help of a nurse, the nurse must

consider the factors in these factors and then act in accordance with the principle of justice.