Anticipated Guilt in Reducing Irresponsible Driving Among Youth People

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Abstract— **The purpose of this study was to investigate whether anticipated guilt can increase the intention to drive safely among adolescents. They were selected as the population of this study because adolescents are the age group most affected by traffic accidents. To achieve the research objectives, in this study the literature from marketing management, psychology and transportation are used in order to be able to build the necessary hypotheses. The data was analyzed using the Structural Equation Modeling (SEM) technique using the Macro Process Hayes. The results show that anticipated guilt managed to increase drive safely intent among adolescents. Theoretical as well as practical contributions of the study were discussed.**

Keywords— *anticipated guilt; responsibility; drive safely, adolescents.*

I. INTRODUCTION

In 2018, two young women, Gita Wahyuni (22) and Nurul Hidayat (22) took a ride in the middle of the crowded Surabaya City. Gita, who rode the motorcycle, held the steering wheel in her right hand and her cell phone in her left hand, traveling at a speed of about 60 kilometers per hour. Losing focus, the vehicle swerved and they hit a metal pole on the side of the road. Gita and Nurul died immediately [1]. This incident was very unfortunate because the driver's careless actions not only cost their own lives but may also have risked others'.

Transportation is considered as a basic need because it is essential in daily activities including in supporting human mobility [2]. On the one hand, transportation is very beneficial for humans, but on the other hand, transportation is also a source of problems that can even cause loss of life. In the United States, it was found that 9 out of 10 drivers use a cellphone during their trip. This is the cause of traffic accidents as many as about 70,000 cases per year and killing hundreds of lives [3]. In developing countries including Indonesia, with a relatively large number of two-wheeled vehicles, motorcycle accidents contribute 50% to the total traffic accidents [4]. In fact, according to the World Health Organization (WHO), the main cause of death for youth (15-24) is traffic accidents [5].

There are various ways that can be conducted to reduce negative public behavior, one of which is by using public service advertisements that highlight guilt. Anticipated guilt is able to increase people's willingness to make donations to charities [6], encourage consumers to buy green products [7] and even motivate people to practice social distancing during the ongoing Covid-19 pandemic [8]. Guilt itself is a negative emotion experienced after doing something that is normatively unacceptable [9]. Guilt can also be experienced even before someone makes a mistake or is called anticipated guilt. According to Baumeister, et al. [10], the anticipation of guilt is much more effective than guilt itself in directing one's behavior because it has preventive nature. Although it is an important concept, research on the impact of anticipating guilt on safe driving behavior is rarely done.

This study aims to investigate the effects of anticipated guilt on the intention to use cell phone while driving. Safe driving can be in the form of non-alcohol driving, obeying traffic signs, using driving equipment (e.g., helmets, jackets, etc.) and without using a cellphone. The use of cellphones was chosen as the context of this study because of the high number of accidents caused by this irresponsible behavior among youth. This study is important because one of the main causes of death for youth aged of 15-24 is caused by traffic accidents according to WHO [5]. To achieve the objectives of this study, we will review previous studies, collect data and test data and interpret the results of data testing.

II. LITERATURE REVIEW

2.1 Anticipated guilt and compliance

Social marketers always attempt to encourage people to comply with socially desirable behaviors by using social marketing campaigns [11, 12]. The desired behaviors include quitting smoking, no-

littering behavior, participating in the Family Planning program and driving safely [2]. Social marketing campaigns can contain positive or negative emotions, which are used to encourage people to engage in positive behaviors or to avoid negative ones [11]. Guilt, fear, regret, and shame, are included as negative emotions [13].

Guilt is defined as an individual's unpleasant emotional state related to his refusal of his actions, failure to act, circumstances, or intentions [10]. Freedman, et al. [14] stated that guilt is a factor that can affect compliance without any pressure. Freedman, et al. [14] argue that when individuals become aware of their behavior, there will be a tendency to make up for it, either by punishing themselves or by engaging in positive behavior. For example, Chang [15] found that people who anticipate feeling guilty for not helping others are more likely to help others when there is an opportunity. However, those who do not anticipate guilt have a low tendency to help others. These findings support the results of similar studies investigating guilt anticipation and its relationship to adherence to positive social behaviors.

Safety driving is a positive behavior. However, there are still many, especially youths who practice unsafety habits when driving, causing great risks to themselves and others [16]. Based on the abovementioned discussion, it can be concluded that if an individual is stimulated with the anticipation of guilt, then the individual has a tendency to adhere to the principles of safety driving including by not using cell phones while driving.

2.2 The mediating role of responsibility

Before influencing compliance, the anticipation of guilt first affects one's sense of responsibility. According to Miceli and Castelfranchi [17], a sense of responsibility is necessary in inducing guilt. In the context of donation, for example, one may feel guilty for not giving therefore the individual feels responsible for the others' difficulties. However, in the case of anticipation of guilt, one already feels responsible for the other person's predicament before he even gives help. This would direct the individual to give help [15]. Previous research has found that anticipating guilt for not giving help has made people feel responsible for other people's difficulties [18]. Thus, one might expect that the anticipation of guilt makes people feel responsible for other people's difficulties. The hypotheses we built are:

Hypothesis 1: Guilt anticipatory messages positively affect sense of responsibility.

The feeling of responsibility is a predictor of attitudes and behavior to do positive things [9]. For example, when people feel responsible for others' plights, they have a stronger desire to help than when

they feel skeptical [18]. In the context of social distancing, when someone feels responsible and has the opportunity to reduce the spread of Covid-19, that person tends to practice social distancing. However, when they do not feel responsible, or have nothing to do with other people's difficulties, the desire to practice social distancing is also low [8]. Thus, in the context of safety driving, the intention to use cell phones while driving decreases when people feel responsible for the safety of themselves and others. Based on the description above, we propose these hypotheses:

Hypothesis 2: A sense of responsibility negatively affects the intention to drive while using a cell phone.

Hypothesis 3: The relationship between the anticipated guilt and the intention to drive while using a cell phone is mediated by the feeling of responsibility.
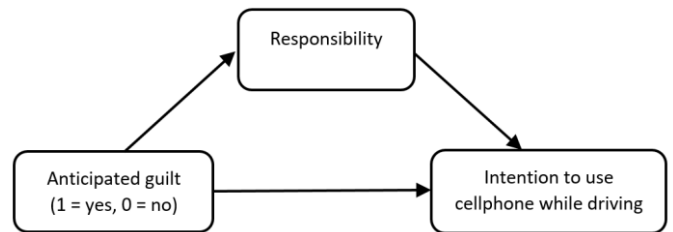

Figure 1. The research model.

III. METHODS

3.1 Samples and data collection

Respondents in this study were adolescents with various educational backgrounds in Kupang City, the capital of East Nusa Tenggara province. They are willing without coercion to complete the questionnaire, have the ability and experience to ride a motorcycle, and do not aware of the hypotheses developed in this study. These requirements must be met to ensure unbiased answers from the respondents. The respondents were not rewarded for participating while they were allowed to stop contributing in cases when they feel uncomfortable with the questions.

Respondents received an invitation to participate in an online survey in which there is an URL link that will direct them to the survey page. They are free either to accept or to decline the invitation. Respondents were informed that the purpose of this scientific research was to find out their views on safe riding. The sample was taken based on the convenience sampling principle where the total number of respondents reached 185 people.

The respondents were divided into 2 (two) experimental groups. First group saw public service advertisements containing anticipated guilt content

while the second group did not see the content. After that the respondents were instructed to answer questions related to the existing research variables. At the end of the online survey, they were asked to fill out demographic data such as age, gender and education level. Respondents' names and cell phone numbers were not asked to ensure confidentiality so as to motivate respondents to give honest answers.

3.2 Measures

The questions were adapted from previous studies that already passed validity and reliability tests. Guilt manipulation checks were adapted from Chang [15]. Responsibility construct was adapted from Basil, et al. [18]. The items to measure intention to use cell phones while driving were adapted from [19]. All continuous variables were measured using a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). Guilt was dummy coded as 1 = guilt condition, 0 = no guilt condition.

3.3 Analysis technique

This is a quantitative study that aims to find out the existence of the relationship between one variable and another. Therefore, the analytical tool used was Structural Equation Modeling (SEM). Macro Process Hayes software was used to simplify SEM calculations.

IV. RESULTS

4.1 Descriptive Statistics

The statistics of the continuous constructs were depicted in the Table 1. All continuous constructs are deemed to be reliable based on the Cronbach Alpha values [20]. Since anticipated guilt is a categorical variable, Cronbach Alpha value, mean, standard deviation and correlations between variables are not presented in the table.

Table 1. AVE, Descriptive Statistics and Correlations

Variable	α	Mean	SD	1
1. Responsibility	.80	4.18	.93	
2. Intention to use cell phone	.74	3.75	.86	.25**

**Correlation is significant at the 0.01 level (2-tailed)

4.2 Hypothesis testing

In order to examine the research model, guilt → responsibility → intention to drive while using cell phone, the data were examined with a mediation analysis using bootstrap technique with 5,000 resamples Hayes [21; Model 4].

Analysis on manipulation check questions showed that in guilt condition the respondents felt more guilt

($M = 4.36$, $SD = .79$) than in non-guilt condition ($M = 4.00$, $SD = 1.02$;); $t(154.67)$ 2.56, $p = .011$). This indicates that the manipulation was succesful.

The results showed that anticipated guilt (1 = yes, 0 = no) positively affected responsibility ($\beta = .36$, $p = .01$), indicating that when the participants saw a guilt message, they were more likely to feel responsible than those who saw a non-guilt message. This supports our first hypothesis. Later, the feeling of responsibility was associated negatively with the intention to use cell phone while driving ($\beta = -.28$, $p < .01$). The results approve our second hypothesis. This indicates that responsible people tend to avoid driving while using cellphones. Guilt did not have direct relationship with no-cell phone driving intention ($\beta = -.02$, $p = .84$), however it connected indirectly with no-cell phone driving intention ($\beta = -.10$, $CI = -.19$; -.02). This supports our last hypothesis.

V. DISCUSSION

This study reveals the indirect effect of anticipated guilt on the intention to reckless drive. Anticipated guilt has proven to increase the feeling of responsibility which eventually decreases the intention to drive while using cellphone. Thus, this study provides theoretical contribution to the literature by proposing the mediating role of responsibility in such relationship.

Compliance to social norms and public policies is highly desirable for governments. In the case of traffic accidents, since adolescents are the most affected aged group [3]. The findings of the present study could be a remedy for the issue. Governments and policy makers could employ anticipated guilt content in social marketing campaign to encourage responsible driving behaviors among youth people. Social media are feasible to facilitate such campaigns.

There are several limitations detected in the present study. First, this is a cross sectional study where data were collected in a one-shot practice. This could be an issue when anticipated guilt effects take place in a different time manner across individuals. A longitudinal study could be conducted by future studies to address this issue. Second, this study did not account for any personality differences that may affect how the participants respond to anticipated guilt manipulation [8]. For instance, people with chronic belief in just world trait think that people get what they deserve in this just world [22]. Therefore, if a person engages in a traffic accident, the first reaction is to blame the person for not being careful. This would rule out the effect of guilt manipulation. Future studies may address this issue by incorporating personality traits as control variables.

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