VOLUME 2 • 2023

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The Undergraduate Research Journal of Micronesia features undergraduate research and writing about Micronesia by students from the region.

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Published by University of Guam Press
Richard F. Taitano Micronesian Area Research Center (MARC)
303 University Drive
Mangilao, Guam 96923
(671)735-2153
www.uog.edu/uogpress
www.uogpress.com

For submission guidelines and further information, please email researchjournal@triton.uog.edu.

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About the Cover
The cover artwork entitled *Frozen Still* is a digital painting that artist Zyrhese B. Santos submitted to UOG Press's Your Art Matters competition, which invited youth to use their preferred artistic medium to make a statement about Guam's high suicide rate. Santos described that she used a warm color palette to represent the flame inside her that seeks to escape from the void in her head. While the spears keeping her in place are meant to convey feelings of entrapment within that void, the piece also serves as a reminder to those in similar situations that they are never alone in their experience.

Introduction

The Undergraduate Research Journal of Micronesia (URJM) was launched in 2017 to provide "an opportunity for undergraduate students to showcase their academic writing and join a larger academic conversation about their place in the world. It supports the work of undergraduates in Micronesia, who partake in the rigorous processes of researching and writing, and it gives value to their unique and important voices and perspectives," as articulated by its first editor, Dr. Kisha Borja-Quichocho-Calvo.

While that inaugural volume focused on the multi-disciplinary breadth of those "important voices and perspectives," this volume turns its attention to the voices of students within the discipline of Psychology. As editors, Dr. Yoshito Kawabata and I initially decided on working with the capstone papers in his Psychology classes – Research Methodology in the Behavioral Sciences and the Senior Honors Thesis – because of the inclusion of community voices and needs as part of each researcher's design. However, as the context in which we were editing these papers changed dramatically, we decided then that the themes in this volume could provide insight to help readers make sense of global change. Themes on mental health, gender identity, and environmental responsibility were seemingly disparate, yet at the core of each study was underscored a curiosity about how the world shapes us and how we, in turn, shape the world – crucial questions to unpack and reflect on in the midst of a pandemic.

Students in my research writing class learn from day one that the roots of good research start with the concerns of the author but that the best research moves outward from those roots, organically positioning itself within the concerns of a community of readers. It is in the spirit of this research class that the editors of this second volume of the URJM bring you the best kind of research, the kind that honors the intersection of author and community, a relationship that, in times of anxiety, fear, and isolation, is so profoundly necessary. And while too many years separate this second volume from the first, the editors value the back-and-forth conversations and relationships we had with each researcher, a process slowed down by the pandemic. These conversations helped the research evolve and coalesce into the papers you have before you. It is through this research inquiry and editing process that each of these authors has invited you to think critically alongside them, to serve as both reader and community member, to enter in and continue their conversations.

Teresita L. Perez
Agana Heights, Guam
April 2023

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Open for Recycling: The Interactions Between Situation and Personality Concerning Positive Waste

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This paper was prepared for Dr. Yoshito Kawabata's Fall Intersession 2017 PY413 and PY491 classes.

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Open for Recycling: The Interactions between Situation and Personality Concerning Positive Waste Management

Abstract

This research aimed to discover the relationship between social learning and positive recycling behavior with the moderating variable of personality. The study focused on conscientiousness and openness and observed how social learning affected pro-recycling behavior by manipulating vignettes. The study implemented the Five Factor Model of Personality and Social Learning Theory to explain its reasoning and findings. The demographic for the present study consisted of 43 University of Guam students aged 18 years old and above. Participants were given questionnaires containing the Big Five Inventory and one-of-two versions of vignettes—one vignette demonstrating a person performing pro-recycling behavior and the other vignette demonstrating a person performing non-pro-recycling behavior. The present study proposes that participants exposed to the pro-recycling vignette will answer questions about recycling in a pro-recycling manner. Furthermore, the present study proposes that high levels of conscientiousness and openness will lead to a stronger relationship between the influence of social learning and pro-recycling behavior.

Keywords: recycling, pro-recycling behavior, Big Five Inventory (BFI), situational vignettes

After civilizations abandoned hunting and foraging for food, and instead approached agriculture and industrialization, humans have made monstrous impacts on their environment, as they consume colossal amounts of natural resources. According to Schandl et al. (2016), humans had consumed three times the natural resources on Earth in the year 2000 compared to the year 1970. Moreover in 2013, the United States of America was reported to have discarded 52.8% of its waste and only recycled 34.3% of its waste, demonstrating that recycling is not a very pertinent issue in their current political agenda (United States Environmental Protection Agency, 2015). In a similar light, Guam, a territory of the United States of America, was reported to have a recycling rate of 17.85% in 2012, which is nearly half of the recycling rate in the United States of America (Guam Environmental Protection Agency, 2014).

The lack of positive waste management in the United States of America and Guam is regrettable, as recycling is important for not only Earth's wellness, but also for human health. For example, according to Stanford University (2000), recycling materials reduces the production of greenhouse gasses—gasses which are noted to increase the effects of global warming. According to MacMillan (2016), global warming leads to

the endangerment and potential extinction of numerous living species, such as coral bleaching; increased instances of natural disasters, such as hurricanes and droughts; and the proliferation of various diseases due to air pollution. Therefore, as these facts demonstrate, natural resource conservation by recycling materials is important for the continuation of human life and the preservation of Earth. Accordingly, the research behind what encourages people to recycle resources is an important aspect for consideration.

Because recycling behavior is important to overall human wellness, an aspect environmental psychologists study is how human behavior affects the environment and how the environment affects human behavior. In a meta-analysis, researchers review how environmental psychologists attempt to encourage behaviors that affect the environment positively, as they suggest a framework to institute positive environmental behavior which is as follows: "(1) identification of the behavior to be changed, (2) examination of the main factors underlying this behavior, (3) design and application of interventions to change behavior to reduce environmental impact, and (4) evaluation of the effects of interventions" (Steg & Vlek, 2009, p. 309). As described by Steg and Vlek (2009), environmental psychologists aim to support positive environmental behavior by attempting to change human behaviors unfavorable to the environment, and this could be accomplished via Social Learning Theory.

Social Learning Theory

An important concept of how social influence facilitates learned behavior is the Social Learning Theory. The Social Learning Theory postulates that people can observe others to gain new behaviors, and this is accomplished through modeling and reinforcement (Bandura, 1977). First, the concept of modeling in Social Learning Theory posits that people learn how to act favorably in situations by observing others' behaviors. To clarify, if a person observes that the "model" performed an action and was rewarded for that action, the observer is more likely to follow the model's behavior. Another aspect behind Social Learning Theory is reinforcement, which postulates that while reinforcement is not essential to modeling, it is still conducive to observational learning. In summary, Social Learning Theory suggests that people learn new behaviors through observational learning, more specifically, through modeling and reinforcement.

Social Learning and Pro-environmental Behaviors

Social Learning Theory, and social influence in general, is important when considering how people learn and continue to engage in pro-environmental and pro-recycling behaviors. In a study by Abrahamse and Steg (2013), the researchers discovered that modeling is fairly effective for inducing a behavioral change in participants compared to their group. Furthermore, an example of social learning is presented from an experiment by Cialdini et al. (1990), in which participants observed an actor either actively littering or passively walking in either a clean or littered environment. Cialdini et al. discovered that people were more likely to litter in an environment if they had observed another individual litter in the same environment and if the environment was already filled with litter. Therefore, in this case, littering was the modeled behavior. However, this study had several limitations. One pressing limitation was that while researchers noted what conditions would cause people to recycle, they did not note if similar results could be created from having an actor collect litter from the ground.

Moreover, another research study from Cialdini (2003) demonstrated that modeling

and reinforcement, even via media, were effective in influencing people in engaging in environment-related behaviors. Cialdini noted that television advertisements were effective in instilling pro-recycling behaviors in individuals. In his experiment, injunctive norms, which are behaviors in which people perceive to be approved by society, were compared with descriptive norms, which are behaviors in which people believe certain behaviors are common, in television advertisements featuring pro-recycling behaviors. Cialdini found that television advertisements featuring injunctive norms were the most effective in persuading people to engage in pro-recycling behavior. However, the main limitation of this study was that while television ads were proven to be effective in influencing people to perform pro-recycling behaviors, other forms of media were not considered. In essence, Cialdini's experiments demonstrated that social behaviors toward positive waste management behaviors affect individuals, so social influence should be considered along with personality characteristics when determining which type of individuals are more likely to engage in positive environmental behaviors. However, more experimentation and research should be done to eliminate the limitations of Cialdini et al. (1990) and Cialdini's (2003) experiments by presenting a situation where an actor is actively recycling and using other forms of media to appeal to individuals.

While Social Learning Theory is important to consider in the scope of environmental psychology and the effect it has on pro-environmental and pro-recycling behavior, the studies of Cialdini et al. (1990) and Cialdini (2003) were limited, as they did not consider other factors that might have influenced participants to act in a way that leaned positively towards waste management and environmental concern. While social learning is an important aspect in influencing who recycles, it does not answer who is more apt to recycle by observing and following behaviors through modeling and reinforcement. Another important factor to consider when finding the role of social learning in pro-recycling behaviors is personality.

Five Factor Model of Personality

To elucidate why personality is an important factor when researching pro-recycling behaviors, one must first define what is meant by personality in the scope of this study. For the purpose of this research, the Five Factor Model of Personality was used. Researchers have noted that the Five Factor Model (FFM) of Personality is inclusive, reliable, and valid in terms of categorizing personality traits in individuals, as both the Big Five Inventory (BFI), which is a self-report measure based on the Five Factor Model of Personality, and peer ratings have shown to correlate significantly when determining a participant's personality (McCrae & Costa, 1987). McCrae and Costa (1987) used the Big Five Inventory to measure the Five Factor Model of Personality's five orthogonal factors: "(1) Openness to experiences, (2) Conscientiousness—undirectedness, (3) Extraversion—Introversion, (4) Agreeableness—Antagonism, and (5) Neuroticism" (p. 81). In summary, the Five Factor Model of Personality is effective in determining a person's personality factors as it is a fairly reliable measure of personality.

Personality and Pro-Environmental Behaviors

Meanwhile, in the scope of how positive environmental behavior relates to personality, researchers have often turned towards demographics and personality to discover who are the likeliest to participate in positive waste management. In one study, researchers correlated

positive self-reported waste management with demographic information, political views, and personality (Swami et al., 2011). In their study, the researchers found that the personality trait of conscientiousness was positively correlated with positive waste management. Meanwhile, a limitation to this study was that the majority of participants were of Caucasian descent, thereby limiting demographic diversity and potentially skewing the data and not allowing the results from this research to be readily generalized for a wider population. Moreover, Swami et al. (2011) used the Ten Item Personality Inventory (TIPI), which is noted to be less reliable compared to a larger item scale, such as the Big Five Inventory (BFI) of Personality (Gosling et al., 2003). Therefore, the usage of the TIPI could have led to skewed data due to lower reliability compared to larger-scale item inventories. In summary, the study of Swami et al. (2011) regarding demographics and personality factors was important in establishing a significant correlation between certain characteristics but was also limited in terms of participants and the usage of a less-reliable personality measure.

In a similar light to the research of Swami et al. (2011), Wuertz (2015) sought to discover which personality characteristics from the Five Factor Model of Personality were correlated with regard for the environment. In Wuertz's study, participants' results from the Big Five Inventory were correlated with the General Ecological Behavior Scale, Environmental Concern Scale, and the Self-Reported Proenvironmental Concern Scale. Wuertz discovered that high levels of openness strongly correlated with environmental concern and positive environmental behavior for all three scales. Meanwhile, conscientiousness was weakly correlated with positive environmental concern and behavior. This result is in contrast to the research findings of Swami et al. (2011), where high conscientiousness was strongly correlated with positive waste management behavior. This disparity could be due to, as mentioned previously, the use of the TIPI instead of the BFI, since the TIPI is less reliable. Simultaneously, similar to the study of Swami et. al. (2011), the data might have been skewed due to the participants involved, as Wuertz was unable to record demographic data for the participants. To summarize Wuertz's study, the researcher had used the BFI to measure personality traits and then correlated those results with three scales that measured for environmental concern and behavior. Wuertz (2015) demonstrated that people who score highly in openness are likely to be more concerned for the environment and engage in environmentally positive behaviors.

The Present Study

With the research from Swami et al. (2011), Wuertz (2015), Cialdini et al. (1990), and Cialdini (2003), the likeliest step for furthering the research is to involve both personality facets and social learning to solve the main limitation in discovering which people are the most likely to model pro-recycling behavior. This study aimed to discover the interactions between certain personality characteristics and social learning regarding pro-recycling behavior. The observations that were relevant to this study were using the Big Five Inventory to determine personality characteristics and situational vignettes to expose participants to either pro-recycling behavior or non-pro-recycling behavior.

It is important to consider several differences from the present study to the studies of Swami et al. (2011), Wuertz (2015), and Cialdini et al (1990). First, Swami et al. (2011) measured positive waste management behavior, and Wuertz (2015) measured environmental concern. However, the present study measured only pro-recycling behavior, which is included in the

concepts of both positive waste management and environmental concern. Second, Cialdini et al. (1990) investigated how people are more prone to engage in littering if the participants had observed actors littering prior. Conversely, the present study proposed that those who are exposed to pro-recycling behavior will answer positively to questions regarding recycling behavior.

As mentioned, considering both personality characteristics and social learning, the first hypothesis for the present study was that the mean differences between the two groups, one exposed to a pro-recycling vignette and the other exposed to a non-pro-recycling vignette, would be significant. The group exposed to the pro-recycling vignette would select answers where recycling was viewed favorably. The second hypothesis for the present study was that the personality characteristics of conscientiousness and openness would be positively correlated to pro-recycling behaviors.

Method

Participants and Recruitment

Forty-three participants were recruited from visiting University of Guam classrooms and buildings and giving interested participants a link to the questionnaire. If the instructor permitted, participants for this research were given extra credit for their classes. The participants were aged 18 to 43 years old. There were 28 female and 15 male participants. There were 15 Asian participants, 23 Pacific Islander participants, 3 mixed-race participants, and 2 other-race participants, with "other race" referring to participants who were not African, Asian, Caucasian, Pacific Islander, or mixed-race.

Materials

Participants were given a Google Forms link via the handout sheets. The Google Forms link contained a survey consisting of a consent form, cover letter, demographic questionnaire, self-report items from the Big Five Inventory, and either a non-pro-recycling vignette or a pro-recycling vignette.

The Big Five Inventory

Participants were presented with self-report items that gave researchers information about their personality traits. The Big Five Inventory used in the present study originates from the appendix of John and Srivastava (1999). Only items that score for openness and conscientiousness were included in the questionnaire. This method of gathering data has been proven to be reliable (McCrae & Costa, 1987) and has been used before when gathering data about personality traits in relation to environmental concern (Wuertz, 2015). The Big Five Inventory was chosen instead of shorter personality inventories since shorter personality inventories were demonstrated to be less reliable than longer inventories (Gosling, et al., 2003). After doing reliability statistics, the Cronbach's alpha for the BFI regarding conscientiousness was 0.725, which indicated acceptable internal consistency reliability. Meanwhile, the Cronbach's alpha for the BFI regarding openness was 0.627, which also indicated acceptable internal consistency reliability.

Vignette

Participants were provided with one version of two alternate vignettes at random. One version of the vignette was as follows: "Alex and his friend are walking through the UOG parking lot from the HSS building where a recycling bin is located, as Alex is parked at the overflow parking

lot. Alex and his friend see an aluminum soda can on the ground, but his friend ignores the can. Alex's friend leaves the can in the ground. Alex and his friend drive off" (see Appendix). The alternate version of the vignette is changed, as Alex's friend decides to recycle the aluminum can. After each vignette, the participant answered the question: "How likely are you to recycle if you were Alex in this situation?" The options for answers were a Likert scale from 1 (not likely) to 5 (very likely). In addition, two self-report ratings from Larsen (1995) were included, which state, "I only generate a small amount of waste, so I don't believe I am responsible for clean up," and "People should share the responsibility of cleaning up the environment." The self-report ratings also included a scale with options from 1 (Strongly Disagree) to 5 (Strongly Agree). The vignette gauged how likely a person is to recycle based on seeing another person recycle with the presence of a friend. Unfortunately, after conducting reliability statistics, the Cronbach's alpha was determined to be 0.201, which signifies that the questions do not have consistent internal reliability.

Procedure

Participants were sent a Google Forms questionnaire containing the cover letter, the consent form, and the measures for the experiment. After participants read the cover letter section, gave informed consent, and answered the demographic questionnaire, they began to answer the measures. The order of the questions for the first measure, the Big Five Inventory, was randomized for each participant. After answering the BFI, participants read either a pro-recycling or non-pro-recycling vignette and answered one question and two self-report measures. The arrangement for the measures was similar for every participant in the following ways: (1) Big Five Inventory (2) vignette describing variable situations and (3) one question and two self-report items about pro-recycling behaviors. A statistical analysis was used to analyze the data by using SPSS. A correlational study was conducted between personality facets and pro-recycling behaviors, while a t-test was conducted to find the means of pro-recycling behaviors between the control group and the experimental group.

Results

Correlations and Regressions

A bivariate correlational analysis was conducted on the data to observe if there were any significant relationships between two variables, namely personality characteristics and pro-recycling behaviors. Table 1 displays the relationship between all variables, with the average of all scores for conscientiousness and the average of all scores for openness. There were no significant relationships between personality characteristics and questions about pro-recycling behavior. The correlations between items and personality facets are presented in Table 1. The correlations display the strength of relationships between items. The R Square value was found using linear regression. ConAVG and OpenAVG with the question "How likely are you to recycle if you were Alex in this situation" had an R Square value of 0.016 and is displayed in Table 2. ConAVG and OpenAVG with the self-report item "People should share the responsibility of cleaning up the environment" had an R Square value of 0.064 and is displayed in Table 3. ConAVG and OpenAVG with the self-report item "I only generate a small amount of waste, so I don't believe I am responsible for clean up" had an R Square value of 0.002 and is displayed in Table 4. No statistical significance was found among the correlations and regressions.

Mean Differences

An independent-samples t-test was conducted to compare the means of pro-recycling behavior between the control group and the experimental group. Table 5 displays the group statistics and mean differences between the two groups, while Table 6 displays the independent-samples t-test. The independent variable was the use of vignettes, and participants were randomly assigned into two groups, either the pro-recycling vignette group or the non-pro-recycling vignette group. The dependent variable was pro-recycling behavior, which was measured with the question and self-report items, "How likely are you to recycle if you were Alex in this situation?", "People should share the responsibility of cleaning up the environment," and "I only generate a small amount of waste, so I don't believe I am responsible for clean up."

For the question "How likely are you to recycle if you were Alex in this situation?", Survey A (non-pro-recycling group) had a mean of 3.43, while Survey B (pro-recycling group) had a mean of 4.05. For the self-report item "I only generate a small amount of waste, so I don't believe I am responsible for clean up," Survey A had a mean of 4.2381, while Survey B had a mean of 3.7273. The question "How likely are you to recycle if you were Alex in this situation?" was reaching 2-tailed significance between the two groups, as p=0.053. The self-report item "I only generate a small amount of waste, so I don't believe I am responsible for clean up" was also reaching 2-tailed significance between the two groups, as p=0.138.

Discussion

According to the results, the present study did not demonstrate that the personality characteristics and pro-recycling behavior had a correlational relationship, which is contrary to the findings of Swami et al. (2011) and Wuertz (2015), who found that conscientiousness and openness are positively and strongly correlated with positive environmental behavior and attitudes. The present study could have neglected to find any significant relationships between personality characteristics and pro-recycling behavior due to its demographics, as the study of Swami et al. (2011) consisted of mainly Caucasian participants and a larger sample size. Moreover, the results found from the study of Swami et al. (2011) could have been produced only because they had used the Ten Item Personality Inventory, compared to using the Big Five Inventory. Meanwhile, a relationship reaching significance was found between the two experimental groups and items regarding pro-recycling behavior. For the first item "How likely are you to recycle if you were Alex in this situation?" the participants who received Survey B, the questionnaire with the pro-recycling vignette, were more inclined to answer positively and respond that they are more likely to engage in the pro-recycling behavior. This could be because the influence of having a person displaying pro-recycling behavior would influence participants to answer in a pro-recycling manner to the question, which is similar to the results of Cialdini et al. (1990), where they discovered that people are more prone to litter if they had observed another person littering. However, with the third item "People only generate a small amount of waste, so I don't believe I am responsible for clean up," the participants who received Survey A, the questionnaire with the non-pro-recycling vignette, were more inclined to answer positively and respond that they would engage in the pro-recycling behavior. This could be because the third item asked participants more about the morality of pro-recycling behavior instead of actual behaviors, as the first item asked participants about their intended behavior. Meanwhile, the p values produced are only marginal (p=0.053) for the first item and (p=0.138)

for the third item but more significant results could be reported by using a larger sample size.

According to the results, the first hypothesis, that the main effect of social influence would have influenced participants to select pro-recycling answers, was proven to be supported in some regards, as the group who was introduced to the pro-recycling vignette was more likely to answer in a pro-recycling manner to the question, “How likely are you to recycle if you were Alex in this situation?” Meanwhile, the second hypothesis was not supported, as it stated that the personality characteristics of conscientiousness and openness would be positively correlated with pro-recycling behaviors; however, the results indicated that there was no significant relationship between personality characteristics and pro-recycling behavior. In summary, the results indicated that while personality itself is not significant in discovering who is more apt to recycle, situation is possibly a strong predictor as to why people recycle.

Implications

The present study has multiple implications for governmental and pro-environmental organizations in Guam. This study could help organizations decide how they want to encourage more people to engage in pro-recycling behaviors. Because situation is a factor in affective pro-recycling behavior according to the results, organizations can focus on making commercials and public service announcements that appeal to people’s desire to act in a positive social way and influence individuals to either recycle more or litter less. Because personality was not found to be significant in this study, instead of focusing on appealing to specific demographics, organizations can focus on a wider audience by demonstrating to audiences that recycling is a fun, prosocial behavior.

Limitations

The present study experienced several pressing limitations. The main limitation was the sample size, as the sample size was too small and unvaried. There were only 43 participants in total, 21 participants for Survey A and 22 participants for Survey B. If the present study had more participants, it is possible that more significant results between personality characteristics and pro-recycling behaviors could have been found. Furthermore, participants were mostly of Asian and Pacific Islander ethnicity and college-aged students, which could have skewed the data, as the results from this study would not be generalizable to a larger population. Moreover, the use of vignettes was not reliable for this study, as previous studies about pro-recycling behavior employed the use of television advertisements and not written materials (Cialdini, 2003). Lastly, the scale used to measure pro-recycling behavior by Larsen (1995) was not used in its entirety, which may have skewed the data, as items not used from the scale could have influenced participant thoughts and answers. Different results could have arisen if the entire scale had been used.

Future Research

More research can be conducted regarding the relationship between pro-recycling behavior and personality characteristics and situations. Firstly, one could use other forms of media instead of vignettes, such as television advertisements, similar to the study of Cialdini (2003), or use real actors. Moreover, one could use different “models” to observe how that would influence behaviors. For example, the present study used a friend to influence pro-recycling behavior, but a stronger relationship between other “models” and pro-recycling behaviors could be found. Examples of other “models” would be an authority figure or a romantic partner. However most importantly, future research should have a larger

and more varied sample of participants to find more significant relationships. By having more participants, one would also be able to conduct a study using moderating variables, where one could research if, when participants observe the pro-recycling vignette where the character's "model" acts out pro-recycling behavior, this would lead to higher levels of pro-recycling behavior when answering questions about recycling behavior, such that this association is stronger when a person has higher openness and/or conscientiousness.

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Tables

Table 1. *Correlations between Items and Personality Facets*

Variable	1	2	3	4	5	6
1. How likely are you to recycle if you were Alex in this situation?	-					
2. People should share the responsibility of cleaning up the environment	0.224	-				
3. I generate a small amount of waste, so I don't believe I am responsible for cleanup	0.015	0.233	-			
4. Conscientiousness Average	-0.115	0.220	-0.019	-		
5. Openness Average	-0.053	0.130	0.037	0.017	-	
6. Vignette Average	0.676**	0.501**	0.721**	-0.038	0.018	-

**p<0.01.

Table 2. *Regression Model Summary for the Dependent Variable: "How likely are you to recycle if you were Alex in this situation?"*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.126[a]	0.016	-0.036	1.067	0.016	0.306	2	38	0.738

[a] Predictors: (Constant), OpenAVG, ConAVG

Table 3. *Regression Model Summary for the Dependent Variable: "People should share the responsibility of cleaning up the environment."*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.354[a]	0.064	0.015	0.348	0.064	1.306	2	38	0.283

[a] Predictors: (Constant), OpenAVG, ConAVG

Table 4. *Regression Model Summary for the Dependent Variable: "I only generate a small amount of waste, so I don't believe I am responsible for clean up."*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.42[a]	0.002	-0.051	1.15126	0.002	0.034	2	38	0.967

[a] Predictors: (Constant), OpenAVG, ConAVG

Table 5. *Mean Differences: Group Statistics*

Variable	Group	N	Mean	Std. Deviation	Std. Error Mean
How likely are you to recycle if you were Alex in this situation?	Survey A	21	3.43	1.207	0.263
	Survey B	22	4.05	0.785	0.167
People should share the responsibility of cleaning up the environment	Survey A	21	4.86	0.359	0.078
	Survey B	22	4.86	0.351	0.075
I only generate a small amount of waste, so I don't believe I am responsible for clean up	Survey A	21	4.2381	1.13599	0.24789
	Survey B	22	3.7273	1.07711	0.22964
Conscientiousness Average	Survey A	21	3.3069	0.50906	0.11109
	Survey B	22	3.3434	0.50151	0.10692
Openness Average	Survey A	21	3.2905	0.38846	0.08477
	Survey B	20	3.2400	0.66760	0.14928
Vignette Average	Survey A	21	4.1746	0.63787	0.13919
	Survey B	22	4.2121	0.49916	0.10642

Table 6. *Independent Samples Test*

Variable		F	Sig.	t	Df	Sig (2-tailed)	Mean Difference	Std. Error Difference
How likely are you to recycle if you were Alex in this situation?	Equal variances assumed	8.486	0.006	-1.9906	41	0.053	-0.617	0.309
	Equal variances not assumed			-1.976	34.123	0.056	-0.617	0.312
People should share the responsibility of cleaning up the environment.	Equal variances assumed	0.014	0.905	-0.060	41	0.952	-0.006	0.108
	Equal variances not assumed			-0.060	40.810	0.952	-0.006	0.108
I only generate a small amount of waste, so I don't believe I am responsible for clean up	Equal variances assumed	0.045	0.833	1.514	41	0.138	0.51082	0.33749
	Equal variances not assumed			1.512	40.588	0.138	0.51082	0.33791
Conscientiousness Average	Equal variances assumed	0.120	0.732	-0.237	41	0.814	-0.03656	0.15413
	Equal variances not assumed			-0.237	40.840	0.814	-0.03656	0.15418
Openness Average	Equal variances assumed	1.339	0.254	0.298	41	0.768	0.05048	0.16956
	Equal variances not assumed			0.294	30.242	0.771	0.05048	0.17167
Vignette Average	Equal variances assumed	2.431	0.127	-0.215	41	0.832	-0.03752	0.17421
	Equal variances not assumed			-0.214	37.886	0.832	-0.03752	0.17522

Appendix

Vignette

Version 1 (Non-pro-recycling):

"Alex and his friend are walking through the UOG parking lot from the HSS building where a recycling bin is located, as Alex is parked at the overflow parking lot. Alex and his friend see an aluminum soda can on the ground, but his friend ignores the can. Alex's friend leaves the can in the ground. Alex and his friend drive off."

Version 2 (pro-recycling):

"Alex and his friend are walking through the UOG parking lot from the HSS building where a recycling bin is located, as Alex is parked at the overflow parking lot. Alex and his friend see an aluminum soda can on the ground, and his friend puts the aluminum can into the recycling bin. Alex and his friend drive off."

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Perceptions of Suicide Among Emerging Adults of the Chuukese Population

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Perceptions of Suicide among Emerging Adults in the Chuukese Population

Abstract

This research study explored the perceptions of and reasons for suicide among emerging adults in the Chuukese population in Guam. The research investigation gathered six participants who identified as emerging adults (ages 18 to 24) with Chuukese ethnic backgrounds. The study utilized a qualitative methodology, and data was obtained through interviews. All participants were asked interview questions regarding perceptions on suicide from a personal and cultural standpoint, as well as the response to, warning signs of, and protective factors against suicide, unique to emerging adults of Chuukese descent. Findings revealed that culture, close relationships, family, and gender played a large role in suicide attempts and completions among Chuukese individuals.

Keywords: suicide, Chuuk, perceptions, factors, culture, close relationships, family, gender, emotion, substance use

Suicide studies are prominent globally. In many regions, researchers have already identified causal and protective factors to suicide, and consequently, developed and improved existing suicide prevention and intervention programs. Despite suicide being a thoroughly investigated issue in larger populations, research pertaining to suicide in Micronesia is scarce. While there are a number of articles available, they are outdated, and this affects the validity of the discovered factors relating to suicide in this region. This lack of research poses a gap in our understanding of the prevalence of suicide among individuals in Micronesia.

In Ran's (2007) study titled "Suicide in Micronesia: A Systematic Review," the highest number of deaths by suicide were reported among younger populations. A closer analysis of the data presented the distribution of which group of individuals held the highest rate of suicidality among those in Micronesia at the time of study. Ran (2007) discovered gender differences: more males than females constituted the suicide deaths in the region. A further breakdown of ethnic populations displayed 12 female and 182 male suicides for individuals of Chuuk state (Ran, 2007). As for age, Ran (2007) discovered that males between "15 and 24 years of age" were disproportionately affected, which put young males as having the highest suicide deaths globally. Because the researcher took a quantitative approach to investigate suicide in the

region, there was no opportunity for individuals to share personal feelings and unique experiences about suicide occurring in their community.

The model utilized as the framework for this study is the social-ecological model. Defined by the Centers for Disease Control and Prevention (2018), the model focuses on the functions between the "individual, community, and societal factors," providing a framework on specific factors that put people at risk for violence or protect them from experiencing violence. The model is broken down into four levels: the individual, close relationships, the community, and societal factors. The first level identifies the demographics of the individual, and examples of these factors are age, gender, and history that increase likelihood of violence; the second level focuses on the close relationships of the individuals and how these relationships have affected past experiences and influenced behavior; the third level pertains to the social settings (the social and physical environment) of the individual; the fourth and final level recognizes what societal factors inhibit or motivate the individual to participate in that behavior (Centers for Disease Control and Prevention, 2018). With this model, the researcher proposed that respondents' perceptions will highlight contributing factors of suicide among the emerging adults in the Chuukese population. Beginning to identify individual, community, and societal factors will contribute to our understanding of suicide among emerging adults with Chuukese ethnic backgrounds.

Literature Review

Culture and Suicide

Culture plays a substantial role in influencing suicidality. In a study delineating suicide and its presence in the Western culture, Pridmore and McArthur (2009) explored the cultural roots and transmission of suicide in Western culture. Researchers analyzed emotions from ten prominent suicides within mythical Greece to 61 CE and compared these emotions to ten suicides from 1994 to 2008. They examined if the emotions were stated in statements by suicidal individuals in clinical practice (Pridmore & McArthur, 2009). Results demonstrated that for both time periods, "loss of a loved one," "other losses and public disgrace," as well as "shame, guilt, fear, anger, grief and sorrow" were experienced by individuals with suicidal behaviors (Pridmore & McArthur, 2009). This finding underscored the prevalence of common risk factors to suicide even among differing cultures (Pridmore & McArthur, 2009). In another study, Chu et al. (2014) explored subtypes of suicidality within ethnic minority groups. It was determined that the two subtypes of the sample were "psychiatric" and "nonpsychiatric," and individuals under the nonpsychiatric distinction experienced sociocultural risk factors of suicide including "discrimination, family conflict, and low acculturation" (Chu et al., 2014). This finding posits that individuals within specific cultures may have higher attempts of suicide through negative events taking place in their sociocultural dimension. These findings highlight the presence of cultural differences in suicidality.

Close Relationships and Suicide

Close relationships, or lack thereof, have been studied extensively with suicidality. One study utilizing supportive relationships as a moderating variable in the relationship between depressive symptoms and suicidal ideation was conducted by researchers of the Centre for Cognitive Ageing and Cognitive Epidemiology (Murray et al., 2016). In assessing 319 individuals receiving counseling services, it was discovered that supportive relationships weakened the relationship between depressive symptoms and suicidal ideation, meaning that having close relationships lowered

the risk of suicide for depressed individuals (Murray et al., 2016). Another study involving close relationships among women undergoing psychiatric treatment was conducted by Mandal and Zalewska in 2012. The researchers explored traumatic events that occurred in childhood, close relationships, and traumatic events in adulthood (Mandal & Zalewska, 2012). Participants who had attempted suicide were found to have a history of negative interpersonal experiences, such as the loss of close romantic relationships and social rejection (Mandal & Zalewska, 2012). Findings highlight the essential role close relationships play in suicidality.

Family and Suicide

Many studies have assessed the role of family relationships in suicide among emerging adults. In one study, researchers collected narratives from New England families with a complex family environment, who were also bereaved by a suicide death of a close family relative. A specific portion of the narrative discussed the quality of communication between family members who have experienced a suicide within the family. Findings reported that in the presence of open communication there was an opportunity for growth and resilience to take place, while the lack of clear communication left individuals feeling indifferent to the effects of losing someone to suicide (Ratnarajah et al., 2014). Another study explored family cohesion and social self-concept in the relationship between depression and suicide ideation (Au et al., 2009). Researchers found that having solid family support weakens the association between depression and suicide ideation (Au et al., 2009). A study conducted by Kuhlberg et al. (2010) addressed "family factors," "cultural factors," and "individual factors" among Latina adolescents with suicide-attempt histories. In determining the relationship between these factors, research found an underscoring of family involvement in suicide prevention and intervention programs that were culturally appropriate (Kuhlberg et al., 2010). It was also highlighted that reducing parent-child conflict and encouraging closer family bonding would be a determinant for lower suicide attempts (Kuhlberg et al., 2010).

Gender and Suicide

Existing studies have presented men as facing negative emotionality, which contributes to high suicide rates among this gender. For example, a study conducted by Rasmussen et al. (2014) focused on suicide vulnerability among suicides of 10 men from the various counties in Norway between the ages of 18 and 30. Through in-depth interviews, it was revealed that the suicide victims felt shame and anger towards the negative circumstances in their lives that they felt they were unable to overcome (Rasmussen et al., 2014). Another study focusing on the sociodemographic profile on suicide revealed men to have higher prevalence rates of suicide (Ribeiro et al., 2018). Moreover, a study focused on the relationship between gender role conflict and suicidality in adolescent and emerging adult males among college males between the ages of 18 to 24 (Galligan et al., 2010). Males who actively chose not to share their emotions had a lower tendency to develop protective factors against suicide (Galligan et al., 2010). Thus, males are presented to be disproportionately affected by negative mental health outcomes that contribute to high suicide rates.

Emotion and Suicide

One's emotionality is also seen as a contributing factor to suicide. In an article written by Rasmussen and colleagues (2014), an exploratory study was conducted on the suicidal history of 10 men of emerging adulthood. Through the analysis of in-depth interviews, two prominent

themes were found: “weakened competence to deal with shame” and feeling “trapped in anger” (Rasmussen et al., 2014). These negative emotions can contribute to suicidal behavior.

Substance Abuse and Suicide

Substance use has been consistently linked with suicide risk. One study focused on substance abuse and suicide risk among adolescents (Pompili et al., 2012). Through the review of literature about the relationship between suicide and substance abuse behaviors, a development of preventive programs was suggested (Pompili et al., 2012). In association with the fact that there was a strong relationship between suicide and substance abuse, it was found that these individuals were characterized as having struggles in their interpersonal sphere, as well as lacking emotional support and resilience (Pompili et al., 2012).

The Present Study

Through a qualitative methodology, this study focused on the perceptions of, and contributing factors to suicide among emerging adults in the Chuukese population. By conducting in-depth interviews, the researcher aimed to gain insight about suicidality among the target population, and themes and factors regarding suicidality were collected through transcriptions. Overall findings can aid mental health practitioners and community members in efforts to decrease the prevalence of suicide in Micronesia.

The elements of culture, close relationships, family, gender, emotion, and substance use were identified through transcriptions relating to suicide for emerging adults of Chuukese descent.

Methodology

Participants

Participants of the study comprised of six emerging adults who self-identified as Chuukese. Participants were between the ages of 18 and 29, the identified ages for emerging adults. Participant #1 was 26 years old, participant #2 was 22, participant #3 was 19, participant #4 was 19, participant #5 was 25, and participant #6 was 24 years old. All individuals experienced living in Chuuk at some point in their lives. As mentioned, individuals of Chuukese descent present the highest rates of suicide in all of Micronesia, which brings reason to the purposive nature in selecting participants. These participants were necessary for proving the prediction of the accuracy of themes discovered in the research. Recruitment for participants was made possible through an individual who served as a gatekeeper for the Chuukese emerging adult community.

Materials

The materials utilized for research study were the demographics questionnaire (see Appendix A) and the interview questions (see Appendix B). The demographics questionnaire consisted of questions pertaining to age, sex, ethnicity, place of birth, length of stay in Guam, and, if the individual moved to Guam, when he or she moved. The interview questions addressed perceptions on suicide from a personal and cultural standpoint, as well as the response to, warning signs of, and protective factors against suicide, unique to emerging adults of Chuukese descent. All questions were constructed to address the themes initially projected within the study. These themes were culture, close relationships, family, gender, emotion, and substance use. A voice recording application on

the principal investigator's cellular device was used to record demographic information, as well as the interview.

Qualitative assessment

In-depth interviews were held with six participants who agreed to participate in the research study. Questions asked of the participants are listed in Appendix B.

Procedures

The process of participant recruitment for the study was made possible through a single individual who served as the gatekeeper to emerging adults of Chuukese descent. Communication with participants was possible through the online messaging application WhatsApp. In the beginning of participant recruitment, the gatekeeper provided an invitation to the University of Guam's Chuukese organization's weekly meeting. In attending the meeting, the principal investigator discussed with members of the organization the premise of the research study and opened participation at the conclusion of the meeting. Participants were not immediately collected, as many were discussing availability and considering participation. The day after the invitation was extended in the organization's meeting, the gatekeeper provided a list of names and contact information of those who expressed interest in the study. After having notified those who had expressed interest, a total of six participants had agreed to take part in the study.

Data collection occurred through in-depth interviews with the recruited participants. No set time limit was made for the participants' responses. The interview time was based on the availability of both the principal investigator as well as the participant. Scheduling occurred by communication over WhatsApp. The principal investigator, prior to the interview time, reserved an available conference room within the University of Guam's RFK Library. Each participant met with the researcher in a reserved conference room during the scheduled interview time.

To begin the interview process, a cover letter and general consent form (see Appendix C and Appendix D, respectively) were given to each participant. Each form was read aloud to each participant to inform them of the basic premise of the research investigation as well as the data collection process. Because the interviews were to be audio-recorded and transcribed verbatim, an audio-consent form (see Appendix E) was given to the participants prior to verbally administering the demographics questionnaire. A copy of the signed consent form was kept by the principal investigator, but the participants received the cover letter and a copy of the consent form. Due to the sensitive nature of the interview questions, each participant was required to fully understand the scope of the research questions, which pertained to suicide. In giving consent, each participant acknowledged the intensity of the interview questions; however, from the beginning of the interview process, participants were given the option to discontinue the interview process at any point in time, even if they signed the consent form beforehand.

Participant responses to demographic questions as well as interview questions were audio-recorded and transcribed verbatim. The interview was semi-structured; the principal investigator stated the question, and the participant gave his or her response. There were occurrences where the participant needed clarification for the question, and it was immediately clarified to them. A minimal amount of probing also took place in the interview to gain a deeper understanding of the topic being discussed. Immediately after the interview process, each individual was debriefed on the available

counseling and psychological services in the event they had felt emotional distress caused by the study (see the Debriefing Form in Appendix F). The verification of themes found within the interview questions was assessed by a team of two undergraduate students who had existing knowledge of operational definitions relating to the research investigation. Researchers used selective coding to find themes among each sentence ID of the participants' responses to the open-ended interview questions. The themes that were searched for among the transcriptions included culture, close relationships, family, gender, emotion, and substance use. Researchers aimed to see an acceptable interrater reliability percentage when all interviews were completely transcribed and coded.

The advantage of utilizing interview questions, compared to simple survey instruments, was that the researcher was able to elicit data that was more in-depth, and information collected was reflected through the themes. The responses to the questions brought a deeper understanding, compared to simple numeric values found in quantitative methods. Conducting interviews was also cost-efficient, as participants were only required to verbally respond to the demographic and interview questions.

Results

The following themes/categories were selected: culture, close relationships, family, gender, emotion, and substance abuse. The last two categories were added upon the agreement of both the principal investigator and co-researcher after witnessing the themes' frequent presence among the interviews. Each theme/category also had underlying sub-themes, which gave definition to each theme and helped both the principal investigator and co-researcher apply each category to the sentence IDs.

For the theme/category of culture, the sub-themes were "taboo, not wanting to talk about it, suicide as a sensitive topic," "silence," "aspect of respect, not talking about personal issues that are not theirs," "cultural expectations," "involving Chuukese culture, being open in discussion," "strict, fixed agenda," and "cultural response to suicide." For close relationships, the sub-themes were "involvement with romantic partner," "involvement with peers, discussion with general members of Chuukese community," "involvement with friends," and "involvement with parents." For family, the sub-themes were "family's response to suicide/suicidal individual," "lack of family cohesion," "presence/need for support, to be open," "family conflict," and "pressure." For gender, the sub-themes were "discussion of males and suicide," "high expectations for males to fulfill goals projected by family members and society," and "practice of males not sharing and keeping everything in." For emotion, the sub-themes were "anger" and "depression, feeling defeated, no way out." Lastly, for substance abuse, the sub-themes were "consuming any form of drugs/alcohol as recreation," "consuming any form of drugs/alcohol in the process of suicide attempt/completion," and "consuming any form of drugs/alcohol in excessive amounts."

Coding themes

To code the themes, the principal investigator and co-researcher analyzed the transcriptions of each interview. Various colors were assigned to each category/theme to understand which theme was found in each sentence ID. To begin the coding process, both the principal investigator and co-researcher individually coded the transcriptions to determine which sentence ID signified which theme. After the first interview, both individuals discussed the results of coding the transcription and further clarified the definitions of the themes/categories, given there were any disagreements or mismatches. The coding for that transcription was then amended, and the first transcription resulted in a 100% interrater reliability. The remaining five transcriptions, however, were coded individually

by the principal investigator and co-researcher, with each researcher blind to which sentences were coded by the other. Matched sentence IDs, or agreements, were represented with zero (“0”) and mismatched sentence IDs, or disagreements, were represented with ones (“1”).

Agreement/Matched IDs: “0”

Disagreement/Mismatched IDs: “1”

Total # of mismatched IDs from all transcriptions= subtract from total # of matched IDs

After the remaining five transcriptions were coded by both individuals, the principal investigator analyzed both transcriptions and identified which statements were matches and which statements were mismatches. Following this procedure was the calculation of the percentage of interrater reliability.

Inter-rater reliability

To determine inter-rater reliability, the principal investigator and the inter-rater partner coded the sentences of each transcription. The first interview was determined to have 100% matches; the coding of the first transcription was an opportunity for the principal investigator to discuss the definitions and meanings of the themes, overall strengthening the chances of attaining high inter-rater reliability. The remaining five transcriptions were coded individually by the principal investigator and the partner rater, with each being blind to what the other rater coded for each sentence. Each sentence coded served as a sentence ID. After the principal investigator and inter-rater partner coded the six transcriptions, the principal investigator compared each coded sentence. Sentences coded by the principal investigator determined if sentences would be a match or a mismatch. The color used to highlight the sentence by the inter-rater partner had to be similar to the color used by the principal investigator in highlighting that specific sentence. This was considered a match. If a sentence was not highlighted with the color similar to the principal investigator’s, it was considered a mismatch. Sentences that were coded by one individual but not the other were also considered sentence mismatches. After both individuals coded the transcriptions, the principal investigator added all the mismatch sentences of each transcription. This number was then subtracted from the total number of sentence IDs. The difference served as the sentence ID matches and was used to divide the total number of sentence IDs. The quotient would be the inter-rater reliability. The equation for interrater reliability is below.

$$\textit{Inter-rater Reliability:}\ \frac{\textit{Total \# of matched sentence IDs}}{\textit{Total \# of sentence IDs}}$$

The standard for inter-rater reliability was offered by Portland Community College (2013) in their presentation titled “Inter-rater Reliability.” This minimal agreement was utilized as the standard for this study. Here, the standard minimal agreement for five-to-seven categories is 75%; therefore, the reliability found in this study had to be at or about 75% to be acceptable.

Data Analysis

The total theme/category count is as follows: Culture = 81; Emotion = 29; Close relationships = 35; Family = 29; Substance use = 7; and Gender = 23. The category/theme that was most prominent was culture (81 coded sentence IDs), followed by close relationships (35 coded sentence IDs), family and emotion (both with 29 coded sentence IDs), gender (23), and substance abuse (7). The complete breakdown of the themes found within each participant interview is listed in Table 1.

Table 1

Coded Sentence IDs for Theme/Category by Participants

Themes	Participants					
	P1	P2	P3	P4	P5	P6
Culture	13	12	13	11	17	15
Close Relationships	11	12	5	3	0	4
Family	11	4	9	3	1	1
Gender	9	0	2	1	2	9
Emotion	7	2	7	3	9	1
Substance Use	2	1	0	2	2	0
TOTAL			204			

The total number of sentence IDs of all six transcriptions was 204; the number of mismatches was 62, and the total number of matches was 142. The breakdown of each participant's number of disagreements is found in Table 2.

Table 2

Total Sentence ID Disagreements per Participants

Participants	# Sentence IDs
P1	0
P2	7
P3	19
P4	9
P5	17
P6	10
TOTAL	**62**

The findings presented that the total percentage for inter-rater reliability was 70%, which was below the 75% minimal agreement percentage. This suggests that the standard for inter-rater reliability was not met, and there was weak agreement between the principal investigator and the inter-rater partner.

$$\textit{Interrater Reliability: } \frac{142}{204} = .696 \approx 70\%$$

Discrepancies in coding may have contributed to the low inter-rater reliability found in the study. One factor relates to the structure of the responses, or the sentence IDs, as the style of the respondent may have affected what sentence was considered a sentence ID. Initially, the sentence ID was to be referred to a complete sentence, marked by a period to indicate its completion. The responses of the participants, however, took a run-on like nature, leaving breaks between phrases as separated by ellipses. This then resulted in the differing application of themes among each sentence ID. Another factor to discrepancies in coding was that the themes listed were similar to each other, which can also be attributed to the type of interview question. Throughout the coding of sentence IDs, several themes such as "family" and "culture" were represented in the same sentence ID. Definitions of the themes as well as their sub-themes may have been similar to one another, which called for the theme's clarification. In creating the questions within the framework mentioned earlier in the study, a specific theme was expected within the answer, but the content may have been interpreted differently by the co-researcher. One last factor for the discrepancies in coding involves identifying more than one theme within a sentence ID. As mentioned, definition of a sentence ID is a full sentence that is stopped by a period. For both researchers, two themes may have appeared in one sentence, making it difficult to distinguish which sentence ID was being referred to.

Despite the inter-rater reliability being below the minimal agreement percentage, results of the interviews did indeed provide insight about suicide among emerging adults of Chuukese descent. This is evidenced in the researchers' finding that all proposed themes were utilized among the six transcriptions.

Culture

Culture, being the most dominant theme, was found in the practices, beliefs, and customs of the Chuukese people. Suicide was referred to across all interviews as something that was "not talked about." Further examination exposed the culture of silent acceptance, in which individuals know the certain phenomena is taking place but are not working towards helping to prevent it. Participants revealed that when a suicide occurs in the community, individuals do not talk about it as a sign of respect to the privacy of the mourning family. Participants also referred to religion within their culture, as the dominant religion is Catholicism. Participants believed that to complete suicide was an act of Satan, and in response, the individual who completed suicide would not be given a proper burial or have a rosary dedicated to them. Some participants also shared the belief of the "ghost of suicide," which appears when one pokes fun at tying the rope around the neck. This

ghost was believed to be responsible for the tightening of the rope until the individual is no longer able to breathe. Overall, majority of the respondents shared responses that were related to the theme of culture.

Close Relationships

In identifying important relationships, the interviews highlighted the role of peers, friends, leaders, members of the Chuukese community, romantic partners, and parents as potential risks for conflicts contributing to suicide. Participants mentioned in the interviews that although they had spent leisurely time with a suicide victim or suicidal individual as friends, they did not know of suicide warning signs or that their friend was capable of attempting suicide. In some cases, however, a specific close relationship was what some suicidal individuals saw as the only outlet for help. As for community members and esteemed leaders of society, participants mentioned that suicide risk increases when these members of the community choose to shun the individual, instead of listening to them explain their feelings. The conformity to the rules of the culture makes it difficult for individuals who want to live away from cultural expectation.

In the discussion of romantic relationships and parental involvement, these two relationships were mentioned to be the primary source of conflict prompting suicide. Dealing with conflict with a romantic partner, a failed relationship, a cheating partner, or the inability to keep a partner in the relationship may lead an individual to attempt and complete suicide. Regarding parents, participants revealed that parents are the safe connection children run to. The conflict is found here, however, when individuals are unable to be more open to their elders and to family members, especially to their father and mother. This may relate to the cultural taboo of not being able to openly discuss matters that bother the individual.

Family

As the importance of parental involvement is mentioned in the previous theme, the theme of family focuses specifically on family conflict, the lack of and need for social support/cohesion, and the family's response to suicide. It was discovered that with high family conflict, wherein most family members are against one family member, rates of suicide attempts are high. The interviews found social support from the family as a protective variable against suicide attempts. Additionally, suicide ideation was shared to stem from the home, as participants mentioned suicide as something not discussed thoroughly with family.

Gender

The prevalence of suicide among emerging adults of Chuukese descent is more common in males. Interviews revealed that males in the Chuukese community are expected to have a "machismo" attitude and expression towards the community; any sign of weakness or sharing of feelings was not normal for men. Participants shared that as a result, men are known to withhold their emotions and resort to self-harm to express themselves. Another pressure males faced is being a leader and following the expectations of the Chuukese culture. Despite the individual not wanting a leadership role, the individual may be pressured into fulfilling it against personal wishes. It is also notable that the freedom given to males (as opposed to females) further opens the possibility for males to find ways to complete suicide.

Emotion

The dominant emotions found in association with suicide were anger and depression. Anger was intertwined with substance abuse: as the individual uses more of the substance, their tendency to be more angry prompts them to inflict self-harm. As for depression, participants mentioned that

suicidal individuals listened to sad songs (an apparent deviant behavior) and had the tendency to remove themselves from social groups to be alone.

Substance Use

The role of substance use in suicide among the study's population was connected by the responses of participants. Participants shared that substance use occurs in times of leisure, emotional turmoil, and before and during suicide completion. With substance abuse being utilized for leisure, it can be unclear as to whether one is using leisurely or when they are trying to drown out their feelings through the different types of substances. Additionally, a majority of participants mentioned suicide victims were under the influence while trying to complete suicide. Future research can examine the role of substance in suicide more carefully.

Discussion

Francis Hezel, a prominent researcher of various sociocultural factors in Micronesia, has also conducted multiple studies examining suicide within Micronesia. In determining that Chuukese individuals had the highest rates of suicide between 1960 and 1987, Hezel (1989) identified the causes of suicide by the island groups. Chuuk has exhibited greater numbers of suicide rates among the other Micronesian islands, and this prompts a better look at specific cultural mechanisms unique to Chuuk, which can shed light on the occurrence of suicide. Regarding culture, Hezel (1989) discussed how negative feelings towards a parent or older authority contributed to suicide within the Micronesian culture. Exclusive to Micronesia, Hezel (1989) points to a pattern of the suicides resulting from avoiding shame, especially when the individual has done something to offend or disrupt the family.

Regarding close relationships, Hezel (1989) highlighted case studies where reasons for suicide involved misunderstandings and problems between the victim and parent(s) or sibling(s). This finding also ties in with the theme of family and its role in suicide in Micronesia, in which Hezel (1989) contends that suicide stems from tensions within the family for long periods of time. Lastly, on gender, Hezel (1989) reports the phenomena of suicide as prevalent among males more than females, presenting a ratio of 11:1 in his findings.

Results of this study reveal existing elements that contribute to the suicide rates among Chuukese emerging adults. The themes developed for the research explained the role of culture, close relationships, families, and gender and the occurrence of suicide among individuals of Chuukese descent. The use of the social-ecological model fits the findings of the study, as factors derived from the model's four levels (the individual, their close relationships, social settings, and societal factors) were represented in the interviews about suicide among Chuukese emerging adults.

The culture of silence is an element that stands as the foundation of the culture, and it was present from the steps of participant recruitment until the interview process. When the premise was explained and the invitation to take part in the study was given out, individuals were noticeably hesitant in volunteering to share their insight on such a sensitive topic. In the interview process, participants were hesitant in their responses, as if participants had more information but chose not to reveal them. Another point of interest would be the nonchalant manner of sharing the occurrences of suicide. More specifically, participants appeared with a normal affect even as they described the high frequency of suicides and the close relations between the participants and the individuals who had completed suicide. This finding can be explored in future research.

Limitations

Despite the study finding significant factors that contribute to suicide among Chuukese emerging adults, there are several limitations. The first issue involves the ethical nature of the research. As the present study focuses on the topic of suicide, discussing this topic had potential to disturb the mental health state of the participants during the discussion on their perceptions of suicide.

A second issue pertains to the face validity of the interview questions. Participants asked several times to repeat and clarify questions; future researchers can simplify the questions for better comprehension. The third issue relates to the results and how they may have been compromised by extraneous factors beyond the control of the researcher. Not all participants had grown up in Chuuk but in Guam instead, and this could have greatly affected the means of interpreting suicide among the different cultures. The fourth issue involves the recruitment of study participants. Without the help of the gatekeeper, having respondents and overall data collection would not have been possible. Finally, the responses given by the participants may not be generalizable to the whole community of Chuukese emerging adults since participants are in Guam, and other factors may take place.

Suggestions for Future Research

As demonstrated in earlier sections, little is known about the prevalence of suicidality (or negative mental health outcomes) in Micronesia. Narrowing down the factors to suicide among the target population can lead to a larger awareness about the pervasiveness of suicide within this population, improvements within sectors based on suicide risks, and suicide intervention and prevention methods. As predicted themes were proven throughout the study, a greater conception of suicide among Chuukese emerging adults can be shared with the community. Research based on this community will help address the silently accepted issue of suicide within the Chuukese community. The dissemination of these findings can spur development in research, and findings can be implemented in various sectors (i.e. education systems, public health institutions) in the community.

These findings present several suggestions for future research. Researchers can continue to investigate the prevalence of these negative mental health outcomes to help discover risk factors that may contribute to the high suicide rates. Research may be conducted on each of the themes found to have substantial significance in the study. Confounding factors, as well as extraneous themes pertaining to suicide not mentioned in the study, can also be addressed in future research. Quantitative studies can be conducted to explore associations between risk and protective factors and suicide. All research efforts can be implemented to assist in combating suicidality in Micronesia.

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Appendix A

Demographics

1. What is your age?

2. Please indicate your sex.

    ____ Male

    ____ Female

3. What is your ethnicity?

4. Place of birth ______________________________

5. Length of stay on Guam

6. If you moved to Guam, when did you move?

Appendix B

Interview Questions

1. What is your culture's perceptions of suicide?

2. What are your personal perceptions of suicide?

3. Is suicide something members of your culture discuss openly about?

    o If yes, what is the context of discussion?

    o If no, why is it not discussed?

4. What factors within your cultural background contribute to people completing suicide?

5. When a suicide occurs in the community, how do people of Chuukese descent respond to the suicide?

6. According to "Suicide in Micronesia: A Systematic Review" (2007), men of Chuukese descent have the highest rate of suicide completions in the Micronesia. Why do you think men of Chuukese descent are vulnerable to this?

7. What do you think are the warning signs for a person who will attempt suicide?

8. What are protective factors that keep individuals from completing suicide?

9. What do you think will lessen or eliminate the occurrence of suicide for people of your cultural background?

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Influences of Parent and Peer Attachment on Adolescent Substance Use in the CNMI

Author's Note

This paper was prepared for Dr. Yoshito Kawabata's Spring 2018 PY 495H Senior Honors Thesis at the University of Guam. I would like to thank my instructor Dr. Yoshito Kawabata and my senior honors thesis committee member, Dr. Debra T. Cabrera for their support and guidance throughout this journey and for making this research experience possible.

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Influences of Parent and Peer Attachment on Adolescent Substance Use in the CNMI

Abstract

The purpose of this study was to examine parent and peer variables and how they related to adolescent substance use. According to Tornay and colleagues (2013), parent and peer factors have been linked to attitudes and influences in adolescent substance use. The social bonding theory is discussed to explain the associations between specific variables mentioned in this study. The sample consisted of 1,883 high school students from five different schools in the Commonwealth of the Northern Mariana Islands (CNMI). Each school was located in the islands of Saipan, Tinian, and Rota. With the support of the literature review, it was hypothesized that (1) high levels of mother attachment are associated with low chances of adolescent substance use, (2) high levels of father attachment are associated with low chances of adolescent substance use, and (3) high levels of attachment with non-delinquent peers are associated with low chances of adolescent substance use. The three substances analyzed included marijuana, alcohol, and tobacco. Quantitative measures were used to test the hypotheses.

Keywords: adolescent substance use, parent attachment, peer attachment, peer attitudes and influences, Pacific islands, CNMI, social bonding theory

Adolescence is known to be one of the most liberating, yet one of the most challenging times in an individual's life. Traditional values and childhood relationships are often tested by unfamiliar and enticing ways of life, values, and relationships that are introduced during this period of development (Heavyrunner-Rioux & Hollist, 2010; McKay, 2015). Substance use is one example of an unfamiliar and enticing way of life, and most experimentation with this begins during adolescence (Tornay et al., 2013). Adolescent substance use has been identified as a current global concern (Hoffman, 2017).

The World Health Organization's Profile on Mental Health in Development illustrated the alarming rates of substance abuse among the CNMI population (Buettner et al., 2013). It was addressed that although rates of substance abuse are prevalent among adults, they are not as high as in the youth population. Among the high school population, 69.8% of students reported alcohol use during their lifetime, and 41.1% of students reported having had an alcoholic drink in the past 30 days (Buettner et al., 2013, p. 15). Within 30 days prior to the survey, 25.5% of high school students reported having an incident of heavy drinking, or binge drinking. Tobacco-related findings revealed that 31.1% of high school students reported current cigarette use, and 5.9% of students reported daily cigarette use of more than 10 cigarettes (Buettner, et al., 2013, p. 15).

Drug use was also found to be prevalent among high school students with marijuana being the most popular. 54.9% of students reported ever using marijuana, and 31.9% reported that they currently still use it (Buettner et al., 2013, p. 15).

The CNMI State Epidemiological Outcomes Workgroup (2010) also presented important findings on alcohol, tobacco, and other illicit drug use. In 2009, 24.6% of students reported consuming their first alcoholic drink before age 13 (CNMI State Epidemiological Outcomes Workgroup, 2010). CNMI Department of Public Safety reported a total of 134 juvenile criminal offenses that involved alcohol in 2008. Tobacco usage is also an issue within the Western Pacific region, including the CNMI, with its population reported to have the highest rates of smoking in the world (CNMI State Epidemiological Outcomes Workgroup, 2010, p. 21). 23.6% of students reported they smoked a whole cigarette for the first time before age 13 (CNMI State Epidemiological Outcomes Workgroup, 2010, p. 21). In 2009, 31.9% of students reported that they currently use smokeless tobacco (chewing tobacco snuff, or dip) during one or more days in the past 30 days.

Lastly, the epidemiological profile reports numbers in 2009 regarding marijuana. 18.6% of students reported that they had tried marijuana for the first time before the age of 13, and 30.8% of students reported that they currently used marijuana one or more times in the last 30 days (CNMI State Epidemiological Outcomes Workgroup, 2010, p. 27). For lifetime use, 57.1% of students reported using marijuana one or more times during their life. Marijuana has been recognized as a gateway drug to stronger drugs, which may lead to life-threatening situations and health problems (CNMI State Epidemiological Outcomes Workgroup, 2010).

Parent Attachment in Adolescence

According to Tornay and colleagues (2013), parents and peers hold a significant influence on adolescent substance use. In these relationships, adolescents will experience influences that may guide them to abstain from troubling behaviors and substance use or tempt them further. The social bonding theory has been commonly used to examine youth delinquency and youth substance use. Heavyrunner-Rioux and Hollist (2010) explained that in the context of substance use, the social bonding theory assumes that youth will be able to withstand the urges to experiment with substances when they have strong bonds with significant people in their lives, such as parents and nondelinquent peers, with this theory believing that substance use could put these relationships at risk. Previous studies have found that substance use is more likely to occur when there is a weak level of attachment or no attachment at all between a youth and his or her parents (Heavyrunner-Rioux & Hollist, 2010). This finding also applied to other relationships with teachers and nondelinquent peers, in which a lack of strong bonds weakens the buffering effect against delinquency and substance use. Often, as the buffering effect begins to weaken, it becomes replaced by an attachment to peers who have attitudes that favor delinquency, which could eventually lead to adverse outcomes, such as substance use.

Parental factors have been proven to provide a buffering effect against peer influences of substance use (Tornay et al., 2013). Numerous family variables such as parental attachment and parental knowledge have been significant direct influences on adolescent substance use (Tornay et. al., 2013). Characteristics of parental attachment include the level of knowledge a parent has of the adolescent's activities, whereabouts, and associations (Tebes et al., 2011), and the level of parental support, closeness, and involvement in

the adolescent's life (Tornay et al., 2013). Parental attachment is defined as the level of closeness an adolescent has with his or her parents, and the level of frequency an adolescent shares thoughts and spends time with his or her parents (Heavyrunner-Rioux & Hollist, 2010).

A study done by Tornay and colleagues (2013) assessed whether the level of parental monitoring and substance use among Swiss adolescents were associated. Results revealed that high parental monitoring decreased the common use of the substances tobacco, alcohol, cannabis, and ecstasy (Tornay et al., 2013). The two most strongly associated statements were parents' knowledge of where their adolescent was and with whom. High parental monitoring also decreased the likelihood of an adolescent having substance-using peers in half compared to those with low parental monitoring (Tornay et al., 2013). Results showed that high parental monitoring reduced the presence of all four substances, even when controlling gender, age, socioeconomic status (SES), family structure, and relationship satisfaction with mother, father, and friends. Overall, for the four substances examined, there was a decrease in use as parental monitoring increased.

Additionally, Choquet and colleagues (2008) studied the associations between perceived parental control and emotional support with current use of alcohol, tobacco, and cannabis in relation to family structure. Regarding gender differences, they found that the influence of parental control was stronger among females than males. Parental control was more associated with substance use in females than males for alcohol, cannabis, and tobacco use (Choquet et al., 2008). Parental emotional support was also distinct in females but relatively low in males. The study's multivariate model showed that no matter what substance, parental control is more influential than parent emotional support (Choquet, et al., 2008).

Peer Attachment, Attitudes, and Influences in Adolescence

During adolescence, exposure to peers is inevitable (Allen et al., 2012). Although these relationships provide both positive and negative impacts, peers are an essential factor in an adolescent's life. Like child-parent relationships, in relation to the social bonding theory, adolescents will try to stay away from influences that could possibly damage bonds with close friends. Peer attachment may come with possible difficulties and consequences. Adolescents' close friends have a significant impact on their substance use (Zaharakis et al., 2018). Adolescents value that connection and closeness with peers, causing them to follow and accept the attitudes of their peers. Unfortunately, adolescents are commonly known to grow attached to friends who may have negative influences (Mckay, 2015).

The influence of peers on an adolescent has reached a great deal of attention in the research community. Since close friends and peers are extremely significant in adolescence, these relationships become some of the most crucial variables to include in studying adolescent delinquency and substance use. Previous research that has studied both the negative influence and positive influence of peers and adolescent substance use has established this association (Zaharakis et al., 2018). There is an interaction between personal variables, such as family influences, and environmental variables, such as close friends' influences, that produce behavior (Mason et al., 2013). These variables have been associated with adolescent substance use.

One study done by Zaharakis et al. (2018) investigated the associations between school attitudes, close friend influences, and cannabis use engagement and the influence of gender on these relationships. It was hypothesized that negative attitudes toward school would increase the chances

of adolescent cannabis use through friends with delinquent behavior. The findings showed that school and friend influences have an impact on substance use. As the attachment for school weakens, the attachment to deviant friends strengthens (Zaharakis et al., 2018). Once influenced to use, friends can serve as a reinforcement for such delinquent acts and behaviors. An implication was addressed that creating healthier close friend groups, rather than deviant ones, could serve as a protective factor. As a result, it was suggested from the findings that close friends can either serve as a risk factor for cannabis involvement or buffer against it.

Coyle and colleagues (2016) conducted a study that focused on the positive influence of peers. The goal of the study was to examine the link between positive peer influence and indicators of substance use (Coyle et al., 2016). This link between positive peer influence and substance use indicators was compared between abstinent adolescents and adolescents who use. Key findings indicated that there was a positive peer influence present on adolescent substance use (Coyle et al., 2016). There was a moderate negative correlation between positive peer influence and indicators of substance use and behaviors. This study suggested that positive peer influence can reduce adolescents' engagement in substance use.

According to McKay (2015), during this period of development, adolescents gradually detach from their parents and grow closer to their peers. In this process, they commonly become less dependent on parental influences and more influenced by peers (McKay, 2015). Research has also revealed that a risk factor for adolescent substance use is substance use activity by other peers and attitudes (Mason et al., 2013). In a study done by Heavyrunner-Rioux and Hollist (2010), they expected that when there is a high association with delinquent peers and prevalence of pro-delinquent attitudes, there will be a high level of substance use. Results showed that the strongest predictors were those under the social learning measures. There were consistent significant associations between the substance use and delinquent peers and pro-delinquent attitudes.

Importance of Research in CNMI and Pacific Region

After reviewing the statistics, it is clear that there is a problem with substance use in the CNMI. The mental health profile and epidemiological profile illustrate significant numbers of substance use, delinquent behavior, and growing health concerns. Of the 134 alcohol-related cases, several of these criminal offenses included disturbances, violent crime, burglary, robbery, theft, and property offense (CNMI State Epidemiological Outcomes Workgroup, 2010). Crimes and abuse that involve methamphetamine have appeared on the news multiple times in the CNMI (CNMI State Epidemiological Outcomes Workgroup, 2010). In 2010, The World Health Organization [WHO] (2011) Western Pacific Country Health Information Profiles reported that the leading causes of death in the CNMI included cancer, strokes, respiratory arrest, and heart disease (p. 297). These non-communicable diseases, like heart disease and cancer, are reported to now affect persons younger than 50 (WHO, 2011). The number of deaths by heart attacks and strokes have been growing and may be a result of untreated diabetes and hypertension. Evidence has also been obtained that methamphetamine use is a contributing factor to heart attacks and strokes (WHO, 2011).

Owen (2010) discussed the role of family and the matrilineal society of Guam, highlighting women in Guam had an influence in decision making for the family and strong leadership. Furthermore, lineage and landownership were also passed through a woman's family (Owen, 2010). A woman's role in the family may suggest that a mother can provide an impact in the decisions a family member makes in life.

There is an abundance of research on influences of parent and peer attachment on adolescent substance use, but unfortunately, these studies are often only conducted in the United States (Hoffman, 2017). The present study focused on the Pacific Island region and its population, the Commonwealth of the Northern Mariana Islands (CNMI). Since published work on population studies in the CNMI is rare, this study can shed light on important issues and ultimately improve current prevention efforts and interventions while creating new ones.

The Present Study

The goal of this study was to examine parent and peer variables and how they influence and relate to adolescent substance use. With support of the literature that examined similar variables, the researcher hypothesized that (1) high levels of mother attachment are associated with lower chances of adolescent substance use, (2) high levels of father attachment are associated with low chances of adolescent substance use, and (3) high levels of attachment with non-delinquent peers are associated with lower chances of adolescent substance use. Secondary data collected in 2000 was used to test these hypotheses.

Method

Participants

A total of 1,883 participants from five high schools in the CNMI were represented in the secondary data used in this study. Schools that participated were located in the islands of Saipan, Tinian, and Rota. Three schools were public high schools, each located in Saipan, Tinian, and Rota, and two schools were private schools, both located in Saipan. The schools provided their support and cooperation by giving the researcher full access to teachers, staff members, and students.

A focus group was created to identify potential participants for pre-testing the survey. This focus group consisted of high school students who were familiar to the researcher and who also provided signed parent consent forms. A draft of the survey was also reviewed by teachers familiar to the researcher. There was a total of 10 students and five teachers who pre-tested the survey.

Multiple methods were used to inform parents and guardians about the study and receive their consent. Teachers distributed parent consent forms to students. After signed parent consent forms were collected, a list of names of students who were not allowed to participate in the study was organized and given to teachers. Announcements in English and Chamorro were broadcasted by radio to remind students to give their consent forms to their parents or guardians. These consent forms were also on public bulletin boards. School D had included information about the study in their school newsletter. The overall response rates for all five schools ranged from 74% to 97.6%.

Full cooperation and participation of teachers was key in carrying out the survey administration stage. Meetings were scheduled with the researcher and teachers from each school to distribute written instructions and discuss survey administration procedures. For the scheduled day that the survey was administered, a specific class period was chosen to administer the survey. The survey was administered simultaneously in all schools to prevent students from talking about it with others, to provide a space for students to answer questions truthfully, to keep all students and responses anonymous, and to aid students in completing the survey in an appropriate time frame.

During the designated class period, teachers first distributed the cover letter, instructions, survey instrument, and envelopes. Next, teachers read and explained the forms and instructions to the students. At the end of the class period, students

were directed to place their survey into the envelope given to them, close it, and return the materials to the teacher.

Measures

Variables chosen for this study were from a CNMI Youth Survey data set collected in the year 2000.

Demographic Variables. To ensure clear findings, gender was used as a covariate to control due to the connection it has with substance use. Prior studies have shown that gender has been found to have different effects on youth substance use (Mason et al., 2013). The interaction between gender and peer factors suggests that females and males receive different benefits and consequences from their social groups. This may mean they are influenced by their peers differently. Gender has also been seen with parent factors such as control and rules on substance use and attachment. Other demographic variables that were controlled during this study were age, race, ethnicity, type of school (private or public), grade level, family structure, mom and dad's education, and number of siblings at the same school. The following controlled variables were chosen based on selected controlled variables in related studies.

Parent Attachment. Two primary predictor variables of interest were mother attachment and father attachment. Mother and father attachment, also known as parent attachment, is characterized by the level of knowledge a parent has of his or her adolescent's activities, whereabouts, and associations (Tebes et al., 2011) and the level of parental support and involvement in the adolescent's life (Tornay et al., 2013). Parental attachment also includes the level of closeness an adolescent has to his or her parents, as well as the level of frequency an adolescent shares thoughts and spends time with his or her parents (Heavyrunner-Rioux & Hollist, 2010). Mother attachment was assessed through students' responses to three items that captured if a mother-child attachment was present. Approximately three items from the data set were selected to measure mother attachment (See Appendix). The items were (1) Mother understands me, (2) I share thoughts with mother, and (3) I do things with mother (watch TV, go shopping, go on picnics, etc.).

There were approximately three items selected from the data set for father attachment measures (See Appendix). Father attachment was assessed through students' responses to three items: (1) Father understands me, (2) I share thoughts with father, and (3) I do things with father (watch TV, go shopping, go on picnics, etc.). The following statements for mother and father attachment had five possible answers that were represented as "1" (always), "2" (often), "3" (sometimes), "4" (rarely), and "5" (never). Respondents were instructed to leave boxes specifying mother or father blank if that person was deceased.

Peer Attachment. Peer attachment was the third predictor variable that was characterized by the level of trust and respect, communication, and need to feel closer to peers (Pace et al., 2010). Approximately five items from the data set were selected to measure peer attachment (See Appendix). This predictor was assessed through students' responses to the following items: (1) I respect friends' opinions, (2) Friends stick by me, (3) Friends think of me as a friend, (4) I fit in well with friends, and (5) Friends take an interest in my problems. Each statement had five possible answers that were represented as "1" (strongly agree), "2" (agree), "3" (disagree), and "4" (strongly disagree).

Substance Use Inside and Outside School. Six dependent variables for substance use included whether adolescents used the following substances inside or outside school: pot (marijuana), alcohol, and tobacco (See Appendix). The items chosen focused on the behavior in school and outside school during the current school year ("Have you

smoked marijuana?", "Have you consumed alcohol?", "Have you taken more than one puff of a cigarette?") Each question had two possible answers, "yes" or "no." Each variable was represented into "0," meaning "no," or the substance has not been used inside or outside school, and "1," meaning "yes," or the substance has been used inside or outside school.

Analytic Approach

The IBM SPSS software was used for data input and to conduct all analyses. Logistic regression was used to examine the influence of mother, father, and peer attachment on each substance use while controlling for gender.

Results

Table 1 shows the logistic regression results for the outcome variable of smoking pot in school. Mother attachment was found to have a p-value greater than .1 with a negative direction of -.058. High levels of mother attachment were not associated with lower chances of adolescent substance use. High levels of father attachment were associated with lower chances of adolescent substance use. Father attachment had a p-value below .01 with a negative direction of -.155. Peer attachment was associated with higher chances of adolescent substance use. The p-value was below .05 and had a positive direction of .459. Gender had a p-value less than .001 with a direction of .781.

The logistic regression results for the second outcome variable – drinking alcohol in school – is also shown in Table 1. There was no association between mother attachment and adolescent substance use. The p-value was less than .1 but greater than .05 with a negative direction of -.130. There was no association between father attachment and adolescent substance use. Father attachment had a p-value greater than .1 with a negative direction of -.063. Results showed no association between peer attachment and adolescent substance use with a p-value greater than .05 and a positive direction of .303. Gender had a p-value less than .05 with a direction of .346.

Table 1 shows the logistic regression for the last outcome variable of in school substance use, smoking cigarettes in school. There was no association between mother attachment and adolescent substance use. Results showed that mother attachment had a p-value greater than .1 with a negative direction of -.048. High levels of father attachment were associated with lower chances of adolescent substance use with a p-value below .01 and a negative direction of -.164. Peer attachment was associated with higher chances of adolescent substance use with a p-value below .001 and positive direction of .440. Gender had a p-value greater than .1 and a direction of -.103.

Table 2 shows the logistic regression for three outcome variables regarding substance use outside of school. For smoking pot outside school, there was no association between mother attachment and adolescent substance use. Results showed a p-value greater than .1 and a negative direction of -.05. Higher levels of father attachment were associated with lower chances of adolescent substance use. There was a reported p-value below .05 and negative correlation of -.134. Peer attachment was associated with higher chances of adolescent substance use with a p-value below .001 and a positive direction of .459. Gender had a p-value of less than .001 and a direction of .781.

Logistic regression results for the outcome variable of drinking alcohol outside school are also shown in Table 2. Results showed that there was no association between mother attachment and adolescent substance use with a p-value greater than .1 and a negative direction of -.101. Father attachment was found to be associated with lower chances of adolescent substance use. Father attachment had a p-value less than .001 and

a negative direction of -.223. Peer attachment was associated with higher chances of adolescent substance use. Peer attachment was reported to have p-value less than .05 and a positive direction of .303. Gender had a p-value less than .001 and direction of .523.

Table 2 shows the logistic regression for the final outcome variable, smoking cigarettes outside school. Mother attachment was reported to have no association with adolescent substance use. The p-value was reported to be greater than .1 with a negative direction of -.071. High levels of father attachment were associated with adolescent substance use. Father attachment had a p-value below .01 and negative direction of -.167. High levels of peer attachment were associated with higher chances of adolescent substance use. Peer attachment had a p-value less than .001 with a positive direction of .423. Gender had a p-value that was greater than .1 and direction of -.123.

Discussion

Guam and the Mariana Islands consist of a close-knit people that have an established collectivist society. Growing up in Guam, this researcher has experienced the value placed on close relationships with immediate family, extended relatives, and friends along with the positive and negative impacts these relationships have on an individual's decisions and behaviors. According to Owen (2010), certain cultural values such as family and inafa'maolek, or extended family and community partnerships, are essential to the people in this society. Close relationships with family and friends weigh heavily on the Pacific Island culture and impact an individual's choices and behaviors. An individual may be swayed to make certain decisions that may prioritize the attitudes and beliefs of the person with whom the individual is maintaining a relationship.

The purpose of this study was to explore parent and peer variables and how they are connected with adolescent substance use. There were three predictor variables involved in this study: mother attachment, father attachment, and peer attachment. Substance use was comprised of six variables: smoked pot in school, drank alcohol in school, smoked cigarettes in school, smoked pot outside of school, drank alcohol outside of school, and smoked cigarettes outside of school. These six variables were chosen to investigate and compare substance-using behavior inside and outside of school. Mother, father, and peers were chosen as predictor variables due to the significant influence parents and peers have in an adolescent's life, decisions, and behaviors. The results of the present study support findings of previous literature reviews and also shed light on possible protective and risk factors among the adolescent community in the CNMI.

Mother Attachment and Adolescent Substance Use

It was hypothesized that high levels of mother attachment would be associated with lower chances of adolescent substance use. From the results of the study, it has been shown that mother attachment was not associated with adolescent substance use. Mother attachment might not be a strong predictor for lower chances of adolescent substance use. The results of mother attachment and adolescent substance use may support previous literature reviews suggesting that mothers are not one of the most influential factors of reducing adolescent substance use. Other possible variables may need to be considered when studying mother variables and adolescent substance use. Findings may assume that adolescents grow more attached to peers and are more influenced by them.

Because the Pacific region is a matrilineal society, it was assumed that mothers would be the most influential people throughout a child's life. The

findings bring to question if another figure in the family may actually hold a stronger influence over the child than the mother. Although the findings for mother attachment do not show any significance, it does not mean that the social bonding theory does not support it and does not mean that mother variables are not important for substance use. This may be an indicator that further investigation is needed.

Father Attachment and Adolescent Substance Use

For the father attachment predictor variable, it was hypothesized that high levels of father attachment would be associated with lower chances of adolescent substance use. Comparing these results with the results of mother attachment, father attachment is more strongly linked to reducing adolescent substance use. Five-of-six outcome variables were shown to have p-values that were less than .05. After looking at the results, the implication can be made that increasing parent attachment is crucial, especially attachment with fathers. With these findings, further examination can determine the possibility that fathers are more physically and emotionally present than mothers.

The social bonding theory proves the hypothesis for father attachment. Findings of father attachment support the assumption that youth will be able to withstand the urges to experiment with substances when they have strong bonds with significant people in their lives, such as parents and nondelinquent peers, and that substance use could put these relationships at risk. From looking at these results of mother attachment and father attachment, other variables should be considered during future investigation, such as parents' education, parents' history of substance use, parents' rules and ways of monitoring of substance use, and family structure.

Peer Attachment and Adolescent Substance Use

Findings for peer attachment can be interpreted that peers do play an important role, but more so in a negative way. Peer attachment was shown to be extremely influential throughout five outcome variables. It was hypothesized that high levels of peer attachment would be associated with lower chances of adolescent substance use. The findings under peer attachment showed significant p-values and a positive direction for each outcome variable. This supports prior studies discussing that close friends and peers are extremely significant in adolescence. With this in mind, it can be concluded that increasing peer attachment will most likely increase the chances of substance use.

Social bonding theory does not support the hypothesis for peer attachment, but social learning theory and social cognitive theory do. The findings under peer attachment illustrate the amount of time an adolescent spends with peers inside and outside of school. Albert Bandura's social learning theory posits that individuals learn by watching, following, and copying those around them (Samek & Rueter, 2011). This theory expands to the social cognitive theory, which posits that learning can be achieved directly through an individual's personal experiences and experiencing how others behave (Heavyrunner-Rioux & Hollist, 2010). Through the social learning and cognitive theory, adolescents learn the rewards and consequences system directly and indirectly in their peer groups and through others' attitudes and behaviors (Heavyrunner-Rioux & Hollist, 2010). This can conclude that the amount of time spent with peers can ultimately serve as a risk factor for adolescent substance use.

Gender and Adolescent Substance Use

Although gender was assigned as a covariate in this study, there were still interesting findings. Prior studies have shown that gender has been found to have different effects on youth substance use (Mason et al., 2013). There is a relationship between gender and peer factors, such as the suggestion that females and males receive different benefits and consequences from their social groups, which may mean they are influenced by their peers differently. This has also been seen with parent factors such as control and rules on substance use and attachment. Out of the six outcome variables, four variables had p-values below .05 and .01. These results may support previous literature that discusses the influences of gender on adolescent substance use.

Limitations

There were two limitations to this study. One limitation was that the data lacks substances and drugs that are frequently used by adolescents today such as e-cigarettes and prescription drugs. New products are rapidly being created that have caught the attention of the adolescent community, and their effects on adolescents are still unclear. The second limitation was that the data was collected in the year 2000. Since the data was collected almost 20 years ago, predictors of adolescent substance use may be different today than in 2000.

Suggestions for Future Research

The results of this study can shed light on important relationships in adolescents' lives that can influence the trajectory of whether they engage in substance use or not. Examining parent and peer attachment as predictors of substance use can help to target and strengthen possible buffers to reduce the likelihood of adolescent substance use. For relationships that have shown to increase the likelihood of substance use, such as peer relationships, prevention and intervention efforts can incorporate a peer group component, allowing these services to be more inclusive and less stigmatizing to those in need. Highlighting these relationships and including them in prevention and intervention methods can strengthen the effectiveness of programs and services working towards reducing adolescent substance use.

As the data was collected in the year 2000, a suggestion for future studies can include re-administering the survey packet and providing updated responses from adolescents in the CNMI. This can help to determine if any relationships between variables and adolescent substance use have changed since 2000. Since 2000, several new substances have become popular and easily accessible among adolescents such as e-cigarettes and prescription drugs. Questions pertaining to these substances can be included in this survey packet when administered in the future.

This data set can also be used to examine differences between varying family structures of the CNMI in the future. Looking at the different family structures provided in the responses can shed light on family structures that may predict higher chances of adolescent substance use. The ethnicities of the participants collected in this data set are rarely studied in other published works. The interesting results on gender have made it clear that further investigation is needed. Finally, future directions for research can examine gender and ethnicity as a moderating variable, which can also assist in studying the relationship between other variables and substance use.

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Tables

Table 1. *Logistic Regression of Outcome Variables (smoked pot in school, drank alcohol in school, and smoked in school).*

Variables	Smoked Pot	Drank Alcohol	Smoked
In school			
Mother attachment	.964	.878	.953
Father attachment	.856**	.939†	.849**
Peer attachment	1.364*	1.285†	1.552***
Gender	2.441***	1.413*	.902
Nagelkerke R^2	.057	.013	.025

Note. †p<.1. *p<.05. **p<.01. ***p<.001.

Table 2. *Logistic Regression of Outcome Variables (smoked pot outside school, drank alcohol outside school, and smoked outside school).*

Variables	Smoked Pot	Drank Alcohol	Smoked
Outside school			
Mother attachment	.943	.904	.931
Father attachment	.875*	.800***	.847**
Peer attachment	1.583***	1.353*	1.527***
Gender	2.184***	1.688***	.884
Nagelkerke R^2	.053	.040	.027

Note. †p<.1. *p<.05. **p<.01. ***p<.001.

Appendix

CNMI Youth Survey Selected Variables

Mother Attachment

Mother Understands

	Value	Count	Percent
1	Never	48	2.5%
2	Rarely	157	8.3%
3	Sometimes	606	32.2%
4	Often	425	22.6%
5	Always	589	31.3%
99	Missing	58	3.1%

Share Thoughts with Mother

	Value	Count	Percent
1	Never	333	17.7%
2	Rarely	407	21.6%
3	Sometimes	483	25.7%
4	Often	236	12.5%
5	Always	353	18.7%
99	Missing	71	3.8%

Do Things with Mother

	Value	Count	Percent
1	Never	80	4.2%
2	Rarely	205	10.9%
3	Sometimes	575	30.5%
4	Often	456	24.2%
5	Always	505	26.8%
99	Missing	62	3.3%

Father Attachment

Father Understands

	Value	Count	Percent
1	Never	165	8.8%
2	Rarely	270	14.3%
3	Sometimes	479	25.4%
4	Often	311	16.5%
5	Always	492	26.1%
99	Missing	166	8.8%

Share Thoughts with Father

	Value	Count	Percent
1	Never	566	30.1%
2	Rarely	404	21.5%
3	Sometimes	396	21.0%
4	Often	157	18.3%
5	Always	179	9.5%
99	Missing	181	9.6%

Do Things with Father

	Value	Count	Percent
1	Never	259	13.8%
2	Rarely	327	17.4%
3	Sometimes	543	28.8%
4	Often	290	15.4%
5	Always	300	15.9%
99	Missing	164	8.7%

Peer Attachment

Respect Friends' Opinions

	Value	Count	Percent
1	Strongly Disagree	17	0.9%
2	Disagree	62	3.3%
3	Agree	974	51.7%
4	Strongly Agree	793	42.1%
98	N/A	4	0.2%
99	Missing	33	1.8%

Friends Stick by Me

	Value	Count	Percent
1	Strongly Disagree	26	1.4%
2	Disagree	113	6.0%
3	Agree	793	42.1%
4	Strongly Agree	910	48.3%
98	N/A	4	0.2%
99	Missing	37	2.0%

Friends Think of Me as a Friend

	Value	Count	Percent
1	Strongly Disagree	24	1.3%
2	Disagree	72	3.8%
3	Agree	673	35.7%
4	Strongly Agree	1066	56.6%
98	N/A	5	0.3%
99	Missing	43	2.3%

I Fit in Well with Friends

	Value	Count	Percent
1	Strongly Disagree	25	1.3%
2	Disagree	85	4.5%
3	Agree	607	32.2%
4	Strongly Agree	1124	59.7%
98	N/A	5	0.3%
99	Missing	37	2.0%

Friends Take an Interest in My Problems

	Value	Count	Percent
1	Strongly Disagree	24	1.8%
2	Disagree	72	8.6%
3	Agree	673	47.5%
4	Strongly Agree	1066	39.6%
98	N/A	5	0.3%
99	Missing	43	2.2%

Substance Use

Smoked Pot in School

	Value	Count	Percent
0	No	1249	66.3%
1	Yes	572	30.4%
99	Missing	62	3.3%

Drank Alcohol in School

	Value	Count	Percent
0	No	1475	78.3%
1	Yes	352	18.7%
99	Missing	56	3.0%

Smoked in School

	Value	Count	Percent
0	No	1135	60.3%
1	Yes	693	36.8%
99	Missing	55	2.9%

Smoked Pot Outside School

	Value	Count	Percent
0	No	806	42.8%
1	Yes	1026	54.5%
99	Missing	51	2.7%

Drank Alcohol Outside School

	Value	Count	Percent
0	No	677	36.0%
1	Yes	1154	61.3%
99	Missing	52	2.8%

Smoked Outside School

	Value	Count	Percent
0	No	678	36.0%
1	Yes	1155	61.3%
99	Missing	50	2.7%

Covariate

Gender

	Value	Count	Percent
0	Female	948	50.3%
1	Male	929	49.3%
99	Missing	6	0.3%

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The Effect of Attachment Styles on the Risk of Depression

Author's Note

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The Effect of Attachment Styles on the Risk of Depression

Abstract

This study aimed to determine whether there is a relationship between attachment style and the risk for depression among students at the University of Guam. The sample in the study consisted of participants who are current residents of the island of Guam (n = 88, age: 18 and up). To assess the information needed, the Experiences in Close Relationships-Revised (ECR-R), for attachment styles, and the Center for Epidemiologic Studies Depression Scale (CES-D), for depression, were used. It was hypothesized that those with an insecure attachment style would have a higher risk for depression and depressive symptoms. The results showed that individuals who scored higher on insecure attachment also scored higher on the scale for depression, showing that there is a positive correlation between the two variables. This study is not intended to establish causation, but to indicate that there is a present relationship between attachment style and depression. By establishing a correlation between the two variables, there would be more insight into what may be affecting an individual's mental health, which would drastically improve mental health professionals' methods to help improve an individual's life.

Keywords: attachment styles, depression

Guam is primarily a collectivist society, which means that individuals are more concerned with the goals and achievements of the family and the community rather than that of the individual (Dalisay, 2012). This collectivistic mentality and the expectation that people act based on the needs of others instead of in the interest of their individual needs may cause strain and contempt within individuals who act based on self-interest and their personal relationships with those around them. When the family experiences discord and disunite, these individuals who are deemed as the "cause" may experience a sense of insecurity in their relationships (Nakamura & Kawabata, 2019). This sense of security and insecurity in relationships may be explained by Bowlby's Theory of Attachment (Fraley, 2018).

Jon Bowlby's attachment theory essentially states that infants crave and require the security and safety of their caregivers (or attachment figures), which provide them with the necessary means for survival (Fraley, 2018). Adding to his theory, Mary Ainsworth wanted to emphasize how types of infant-parent separations created differences in the ways that attachment styles develop (Fraley, 2018). Ainsworth tested this by conducting an experiment in which she noted the reactions of children after infants and parents were separated and brought back together. She categorized the reactions of the children in three different ways: secure, anxious-resistant, and avoidant. Firstly, children who were secure became upset when the parent left but were comforted by their return. Secondly, children who were anxious-resistant

became extremely upset when the parents left but exhibited opposing reactions – with one side of the anxious-resistant group wanting to push the parent away for leaving them and the other side seeking comfort. Lastly, children who were avoidant were not upset by the separation and did not appear to seek contact with the parent (Fraley, 2018). These three types of attachment styles that are present in infancy and childhood will ultimately affect an individual's future relationships.

Since attachment styles are present throughout an individual's life, there may be other facets of his or her life that could be affected by which style they have. According to a study by Bagher Ghobari Bonab and Ali Akbar Haddadi Koohsar (2011), attachment style is associated with psychological symptoms. In their study, 290 college students were assessed based on the psychological symptoms they experienced within the week and their adult attachment style. Results of the study showed that "only dependent" and "anxious" (insecure) attachment were more prone to psychological symptoms (p. 200). Although this article supports what is currently being hypothesized, the location of the study (Tehran, Iran) may also be an important factor in analyzing the results because of the strict cultural values that guides this country's parenting philosophies. Taking the restraints (e.g., women being treated as less than equal to a man) that are placed on certain residents of Iran into account may impact how relationships develop and progress and how that may affect the mental health of these individuals. Another study explored the effect of attachment style on loneliness and depression among undergraduate students in Turkey (Erozkan, 2011). The results showed that there was a significant relationship between the three variables. As insecure attachment increased, so did the individuals' scores on loneliness and depression. Individuals who experienced a more insecure attachment style were more prone to achieving higher scores in relation to the negative variables (e.g., loneliness, depression, and presence of psychological symptoms). The results of these studies showcase that undergraduate students who have a more insecure attachment style are more likely to experience symptoms of psychopathology.

Although the two studies above focused on college students, the application of attachment style to mental health effects can be attributed to individuals of all ages. In a study done on sixth to 10th graders, there is evidence that adolescents who have an insecure attachment style are more prone to experiencing depression and anxiety (Lee & Hankin, 2009). One problem that could arise from testing younger individuals is that, because these participants are much younger and more impressionable than the adults around them, they may be inclined to respond in a socially desirable way, which may skew the validity of the results. In another study done on younger adolescents (12- to 14-year-olds), those who classified themselves as securely attached achieved much lower scores on anxiety and depression than those who were insecurely attached (Muris et al., 2001). Although both of these studies were conducted on young adolescents who may be more impressionable to the questions being asked, the findings support the hypothesis of the current study. Lastly, in a study that was done exclusively on women, results showed that women who had a presence of any type of insecure attachment style were more likely to undergo a 12-month depression (Bifulco et al., 2002). With a study done exclusively on women, generalizability cannot be applied. The study did show that insecurity in attachment increases a woman's chance of experiencing depression, which may also be confounded by other variables (e.g., childcare, marital problems, work issues).

In addition to this research conducted in different parts of the world, a study conducted on undergraduate students in Guam stated that, due to its collectivist society, these individuals inhabiting the island are struggling to juggle

all facets of their lives (e.g., family demands, academic achievements, and building social networks) while still being an integral part of their family household (Nakamura & Kawabata, 2019). By being in such close proximity to their parents, these individuals are "especially vulnerable toward negative mental health outcomes in relation with close others" (p. 79). Although the study focused on relational aggression, the findings showed that attachment styles greatly influence individuals' reactive processes in relation to their relational interdependence, which emphasizes the effect of attachment style on mental health outcomes.

Taking into account these literature reviews, attachment styles significantly affect the mental health of individuals of all ages.

The Present Study

The present study aimed to explore the relationship between attachment styles and the risk for depression by determining whether having a secure or insecure attachment increases an individual's risk for exhibiting depressive symptoms. In the societal context of Guam, this investigation was meant to help determine whether there is a correlation between attachment styles and depression among current residents of the island. The researcher proposed that individuals who have a higher score in insecure attachment are at an increased risk for depressive symptoms and that there is a positive correlation between the scores on insecure attachment and depressive symptoms.

Method

Participants

A total of 88 students from the University of Guam participated in the study. All participants were the age of 18 or older. There were 22 males and 66 females who were recruited for the study. The ethnicities of the participants in the sample were composed of a variety of students who currently reside in Guam (i.e., Filipino, East Asian, Micronesian, Alaskan Native, Caucasian, White, and Mixed). 47.7% of the respondents were in a committed relationship, 45.5% were single, 4.5% were in a casual relationship, and 2.3% were married.

Measures

Demographic form. Participants were asked to complete a demographic form that included information about age, gender, ethnicity, relationship status (e.g., single, married, divorced, widowed, committed relationship, casual relationship), occupational status, and student status.

Attachment styles. Participants' attachment style was assessed using the Experiences in Close Relationships-Revised, or ECR-R (Fraley et al., 2000). This questionnaire consisted of 36 items, with 18 of these questions used in assessing attachment-related anxiety (e.g., "I am afraid I will lose my partner's love") and the other half of the questions used in assessing attachment-related avoidance (e.g., "I don't feel comfortable opening up to romantic partners"). The questions were ranked on a Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Participants were instructed to reference a previous relationship if they were currently single.

The validity and reliability of this scale was assessed in a study that examined the different psychometric properties of the ECR-R (Sibley et al., 2005). The results of the study showed that this scale does in fact have "suitable convergent and discriminant validity" in regards to measuring the attachment that individuals have in their romantic relationships (p. 1533). The study concluded that ECR-R is "the most appropriate self-report measure of adult romantic attachment currently

available" (p. 1534), which showcases the strength in its reliability and validity.

Depression. Participants' depressive symptoms was assessed using the Center for Epidemiological Studies Depression Scale, or CES-D (Radloff, 1977). This questionnaire consisted of 20 items that measured the different facets that come with depressive symptoms (e.g., "I did not feel like eating; my appetite was poor," "I felt hopeful about the future," "My sleep was restless," etc.). The participants were instructed to reference their previous week to answer the questions, which were ranked on a Likert scale from 0 (r*arely or none of time time*) to 3 (*most or all the time*).

The validity and reliability of this scale was assessed in a study among older adults in a large Health Maintenance Organization (Andresen et al., 1994). The findings of the study showed that the scores from the CES-D were stable over a period of one year and that, in comparison to other measures of physical and emotional discomfort, it showed good validity. This suggests that the CES-D "measures more universal distress and symptoms of depression and not only strict clinical depression" (p. 81).

Procedures

In order to distribute the survey to participants, a Google Form was created with a cover letter (see Appendix A), a consent form (see Appendix B), a demographic form (see Appendix C), the Experiences in Close Relationships-Revised (ECR-R) questionnaire (see Appendix D), the Center for Epidemiological Studies Depression Scale (CES-D) questionnaire (see Appendix E), and a debriefing form (see Appendix F). This Google Form was distributed via social media (e.g., WhatsApp, text messages) and through voluntary extra credit by other Psychology professors. The researchers asked for permission from professors to distribute the Google Forms to their students, which increased participant availability. Researchers created a recruitment form that briefly described the research study, and it was emailed to professors who then distributed it to their students. Since researchers were not present during the testing period, they assumed that participants read through the cover letter and consented on the online form. The cover letter stated the purpose of the study and the role that participants would play while the consent form stated and ensured that participation was voluntary, and participants could opt out of the study at any time without penalty. Participants who consented were taken to the page with the demographic and survey questions, which took about 20 to 30 minutes to answer. In order to protect anonymity, participants were encouraged to create new or anonymous email addresses.

Results

Initially, the collected responses totaled 88. However, six participants did not complete the ECR-R scale, and three participants did not complete the CES-D scale. With nine overall participants deemed invalid, the remaining 79 participants were deemed valid under SPSS.

The ECR-R scale had a total of 36 items, 12 of which were reverse-coded. The ECR-R scale had a total Cronbach's alpha value of .938. The range of the Cronbach's alpha if items were deleted was .934 to .941 (see Table 1). The CES-D scale had a total of 20 items, 4 of which were reverse-coded. The CES-D scale had a total Cronbach's alpha value of .930. The range of the Cronbach's alpha if items were deleted was .922 to .935 (see Table 2).

The ECR-R scale measured values from 1 to 7 with a mean value of 3.0942. The standard deviation value was 1.014173. The CES-D scale measured values from 0 to 3 with a mean of 1.1647. The standard deviation value was .67919 (see Table 3).

For the ECR-R scale, skewness was .153 and kurto-

sis was -.747 (see Table 4). The Q-Q plot for ECR-R displayed points that were closely located on the trend line (see Figure 1a), while the histogram appeared to be normally distributed (see Figure 1b). For the CES-D scale, skewness was .705 and kurtosis was -.227 (see Table 5). The Q-Q plot for CES-D displayed points that slightly deviated from the trend line (see Figure 2a) while the histogram appeared to be skewed slightly positively to the right (see Figure 2b).

The scatter plot showed a positive correlation between the two variables, which could be seen as both values increasing. The points wee spaced out without clusters present, which indicated a moderately good correlation (see Figure 3). The Pearson correlation value was .583 between the two variables with a significant value of .000 (see Table 6), indicating a moderately positive correlation between both variables.

The R2 square value of the .340, indicating that the model explained 34% of the variance in CES-D scores and had a significant value of .000 (see Table 7). The analysis of variance had a significance of .000 (see Table 8). The standard coefficients beta was .583, which revealed the strength of the independent variable (ECR-R) on the dependent variable (CES-D), with a significance of .000 (see Table 9). The independent variable, which is attachment style, had a standard coefficients beta that moderately predicted the presence of the dependent variable, which is depression or depressive symptoms, affecting an individual.

Discussion

The present study aimed to explore whether an individual's attachment style had an effect on their risk of having depression or depressive symptoms. Based on the results presented in the correlational analysis, there is a positive correlation between having an insecure attachment style and depression or depressive symptoms. A higher mean score in attachment style, which indicates insecure attachment, tended to indicate a higher mean score in depression. This positive correlation provides evidence and support for the hypothesis stated above. Individuals with higher scores in insecure attachment also had higher levels of depressive symptoms.

The Pearson correlation value of .583 indicates that there is a positive correlation between the values, whereas the significance value of .000 indicates that this value is statistically significant. As mentioned above, the R2 value of .340 indicates that 34% of depression was accounted for by insecure attachment. This percentage is an important finding because a third of the variant responses for the depression scale can be taken into consideration based on the responses for the attachment scale. Therefore, this indicates that the strength of the predictor (independent variable) on the outcome (dependent variable), which, based on the R2 value, is a moderate to low association. The significance value of .000 indicates that there is a statistical significance in regard to the R2 value. The significance value of .000 displayed in the analysis of variance table above showcases that the independent variable (ECR-R) reliably predicts the dependent variable (CES-D), which indicates that attachment style is a significant predictor of the risk of depression. The standard coefficients beta value of .583 indicates the strength of the attachment scale on the depression scale, which suggests that the results in the ECR-R scale has a moderate effect on the results in the CES-D scale. The significance value of .000 indicates that this value is statistically significant to the information presented.

These results are supported by findings from previous studies, such as the study done on undergraduate students in Tehran. The results of the Tehran study showed that psychological symptoms can be predicted by an individual's attachment style, indicating that those who scored higher in an insecure attachment style were more

likely to score higher on having psychological symptoms (Bonab & Koohsar, 2011). Although the study focused more on psychological symptoms as a whole, as opposed to focusing on one specific mental health issue (e.g. depression or anxiety), it showcased a positive correlation between insecure attachment and risk for mental health problems. In another study, individuals who scored high on anxious and avoidant attachment had results that predicted whether they would have depressive symptoms (Lee & Hankin, 2009). Unlike the present study, which was conducted on students who were 18 and over, this study was conducted on adolescents in the sixth to 10th grades. This showcases how the positive correlation between insecure attachment and depressive symptoms can span across several different age groups.

The findings in the present study, as well as in previous studies, are important because they shed light on how aspects of a person's relationships affect their mental health. This is especially important in Guam, where the society focuses on the collective whole as opposed to the individual. When people feel insecure in their relationships, they may encounter thoughts and emotions that could lead them to experience mental instability, such as depression. The different emotions that a person encounters when they are in a relationship (e.g., happiness, sadness, loss, fear) drive how they act, react, and interact in their daily lives. This may impact their mental state because if they feel inadequate in their own personal relationships, it will impact how they feel in other aspects of their lives. If an individual is having an argument with their significant other, then it may interfere with how they cope with schoolwork. This could lead to an overwhelming feeling of stress that may lead them to experience depressive symptoms. A previous study had findings indicating that depressed individuals had difficulties in all relationships in their lives, which could lead to "patterns of problematic interpersonal functioning" (Erozkan, 2011, pg. 190). One of the factors that could easily explain issues with interpersonal relationships is an individual's attachment style. The results of the study showed that insecure individuals were at greater risk of struggling to adapt to situations and forming meaningful relationships, which may lead to the possibility of becoming depressed or having depressive symptoms (Erozkan, 2011). Another study explored how adolescents (ages 10 to 14) who identified as securely attached were less likely to experience psychological symptoms than those who identified as insecurely attached (Muris et al., 2001). These findings support the results of the present study, indicating the importance of exploring how an individual's attachment style may affect their mental health, which will assist professionals in determining how to help these individuals through their problems.

By applying these results to Bowlby and Ainsworth's theories surrounding attachment, it can be seen that the way individuals develop into their attachment style can greatly influence their reactions to situations and events in their lives that can cause them stress. On one hand, individuals who are securely attached, such as the children who respond appropriately when their parent leaves and when they return, may experience initial stress when it comes to situations that concern them but may adapt once that period is over, showcasing their understanding of the conditions they find themselves in. On the other hand, individuals who are insecurely attached, such as the children who entirely push their parents away or those who display both anxiety and avoidance, may experience stress on a greater level because they may not adapt to these situations as well as their counterparts do. Developing certain attachment styles may contribute to how individuals respond to events in their everyday lives.

Limitations

The present study poses several limitations. Firstly, there may be an issue of confounding factors.

Individuals who answered the questions for the Center for Epidemiological Studies Depression Scale (CES-D) may have been experiencing a more extreme week (e.g., death of a family member, a bad grade, honeymoon stage of a new relationship, going to a fun concert, etc.) than they normally would. Emotional extremes would skew the results for the depression statistics. Secondly, most of the surveys would have been distributed throughout University of Guam students. Despite stating that the research was to be conducted on current residents of Guam, realistically, most of the participants in the survey were students. This would affect the generalizability of the study. Thirdly, there may have been participants who felt uncomfortable answering the questions on the survey because they were single or did not want to answer the questions truthfully due to social desirability. Lastly, although correlation is seen in the results, bi-directionality is not assessed between the variables.

Suggestions for Future Research

It would be beneficial for the study if future research was done on the entirety of the population of Guam to increase the generalizability of the results. It would also be a welcome addition to include anxiety as part of the scales to measure in order to see whether it is also affected by attachment style, considering that anxiety and depression often go hand-in-hand. Including anxiety as an added outcome variable could further assist mental professionals in determining how to help individuals struggling with their mental health. Another addition to the study would be to further analyze the connections between the different demographic factors (e.g., relationship status, occupation, and student status) to the results gathered from both the attachment scale and the depression scale. It would also be an interesting concept to conduct a longitudinal study in which participants answered questions about their attachment style and state of psychological health *before* a relationship and *during* a relationship (at the 6-month to 1-year mark) to see whether an individual's romantic relationships influenced his or her attachment style and, thus, the risk of depression and/or anxiety.

Implications for Attachment Styles and Depression

The findings of this study provide insight into what might be affecting individuals who are suffering from depression or depressive symptoms. Although there are several factors that may affect a person's mental health, seeing the way a person progresses through a relationship and how he or she responds to situations may make it easier for mental health professionals to be of better help. By determining whether insecure or secure attachment drastically affects a person's mental health, professionals are able to highlight these ideas when trying to improve the livelihood of their clients.

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Tables and Figures

Table 1. *ECR-R: Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ECRR1	107.6585	1340.178	.387	.938
ECRR2	107.9390	1331.885	.463	.937
ECRR3	108.3171	1295.108	.746	.934
ECRR4	107.3537	1299.170	.680	.935
ECRR5	107.6585	1303.882	.652	.935
ECRR6	107.9268	1319.328	.607	.936
ECRR7	108.5488	1331.140	.494	.937
ECRR8	107.7439	1300.168	.673	.935
ECRR9[a]	107.5122	1358.747	.301	.939
ECRR10	109.1098	1331.333	.581	.936
ECRR11[a]	107.5854	1377.554	.155	.941
ECRR12	108.7317	1338.273	.556	.936
ECRR13	108.6951	1341.795	.519	.937
ECRR14	108.5732	1333.853	.523	.937
ECRR15	107.8537	1330.497	.463	.937

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ECRR16	108.1585	1329.938	.546	.936
ECRR17	107.7561	1345.150	.360	.938
ECRR18	109.1341	1349.673	.490	.937
ECRR19	108.2561	1302.637	.718	.935
ECRR20[a]	108.4146	1316.147	.646	.936
ECRR21	107.7683	1318.230	.565	.936
ECRR22[a]	108.7317	1351.532	.471	.937
ECRR23	108.6463	1314.157	.719	.935
ECRR24	108.9024	1351.916	.450	.937
ECRR25	109.0122	1355.815	.386	.938
ECRR26[a]	108.5122	1316.815	.672	.935
ECRR27[a]	108.2073	1308.290	.673	.935
ECRR28	108.5488	1326.103	.608	.936
ECRR29[a]	108.6585	1330.647	.555	.936
ECRR30[a]	108.5244	1338.919	.453	.937
ECRR31a	108.8659	1356.167	.439	.937
ECRR32	108.9634	1361.221	.400	.938
ECRR33[a]	107.8171	1335.016	.508	.937
ECRR34[a]	107.5732	1328.865	.538	.937
ECRR35[a]	108.8293	1349.970	.478	.937
ECRR36[a]	108.1707	1322.119	.677	.935
Overall Cronbach's Alpha				*.938

Notes. *Cronbach's α > 0.6
[a] These items were reverse-coded.

Table 2. *CES-D: Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CESD1	22.4588	166.775	.617	.926
CESD2[a]	22.0941	167.777	.572	.927
CESD3	22.0824	168.600	.559	.927
CESD4	21.3529	168.683	.554	.927
CESD5	22.0353	160.415	.785	.923
CESD6	21.3706	178.952	.167	.935
CESD7[a]	22.3412	166.132	.658	.925
CESD8	22.3176	161.005	.750	.923
CESD9	21.7765	163.795	.673	.925
CESD10	21.5647	173.130	.358	.931
CESD11[a]	22.4471	170.845	.628	.926
CESD12	22.2000	171.376	.460	.929
CESD13	22.0588	163.246	.723	.924
CESD14	22.9059	178.967	.266	.932
CESD15[a]	22.4353	169.915	.640	.926
CESD16	22.2824	162.776	.703	.924
CESD17	22.1176	163.153	.757	.923
CESD18	22.3882	161.312	.816	.922
CESD19	21.9059	160.634	.794	.922
CESD20	22.4471	165.393	.635	.926
Overall Cronbach's Alpha				*.930

Notes. *Cronbach's α > 0.6
[a]These items were reverse-coded.

Table 3. *Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
ECRR[a]	82	1.08	5.14	3.0942	1.04173
Valid N (listwise)	82[b]				
CESD[a]	85	.15	2.80	1.1647	.67919
Valid N (listwise)	85[c]				

Notes. [a]These responses were taken from the mean of all items within the scale.
[b]Only 82 out of the original 88 participants were recorded because 6 were unable to complete the scale.
[c]Only 85 out of the original 88 participants were recorded because 3 were unable to complete the scale.

Table 4. *ECR-R: Normality Assumption Check*

			Statistic	Std. Error
ECRR	Mean		3.0743	.11624
	95% Confidence Interval for Mean	Lower Bound	2.8429	
		Upper Bound	3.3057	
	5% Trimmed Mean		3.0660	
	Median		3.0833	
	Variance		1.081	
	Std. Deviation		1.03969	
	Minimum		1.08	
	Maximum		5.14	
	Range		4.06	
	Interquartile Range		1.62	
	Skewness		.153	.269
	Kurtosis		-.747	.532

Table 5. *CES-D: Normality Assumption Check*

			Statistic	Std. Error
CESD	Mean		1.1619	.07664
	95% Confidence Interval for Mean	Lower Bound	1.0093	
		Upper Bound	1.3144	
	5% Trimmed Mean		1.1264	
	Median		1.0750	
	Variance		.470	
	Std. Deviation		.68548	
	Minimum		.15	
	Maximum		2.80	
	Range		2.65	
	Interquartile Range		.94	
	Skewness		.705	.269
	Kurtosis		-.227	.532

Table 6. *Correlations*

		ECRR	CESD
ECRR	Pearson Correlation	1	.583*
	Sig. (2-tailed)		.000**
	N	82	80
CESD	Pearson Correlation	.583*	1
	Sig. (2-tailed)	.000**	
	N	80	85

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

Table 7. *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.583 [a]	.340	.332	.56042	.340	40.195	1	78	.000

[a]Predictors: (Constant), Average_ECRR

Table 8. *Analysis of Variance*

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	12.624	1	12.624	40.195	.000[b]
	Residual	24.497	78	.314		
	Total	37.121	79			

Notes. Dependent variable: CESD
Predictors: (Constant), ECRR

Table 9. *Coefficients*

Model		Unstandarized Coefficients B	Std. Error	Standard Coefficients Beta	t	Sig.
1	(Constant)	-.020	.197		-.102	.919
	Average_ECRR	.384	.061	.583	6.340	.000*

Notes. Dependent variable: CESD
**p* < 0.05, two-tailed

Figure 1. *ECR-R: Q-Q Plot & Histogram*

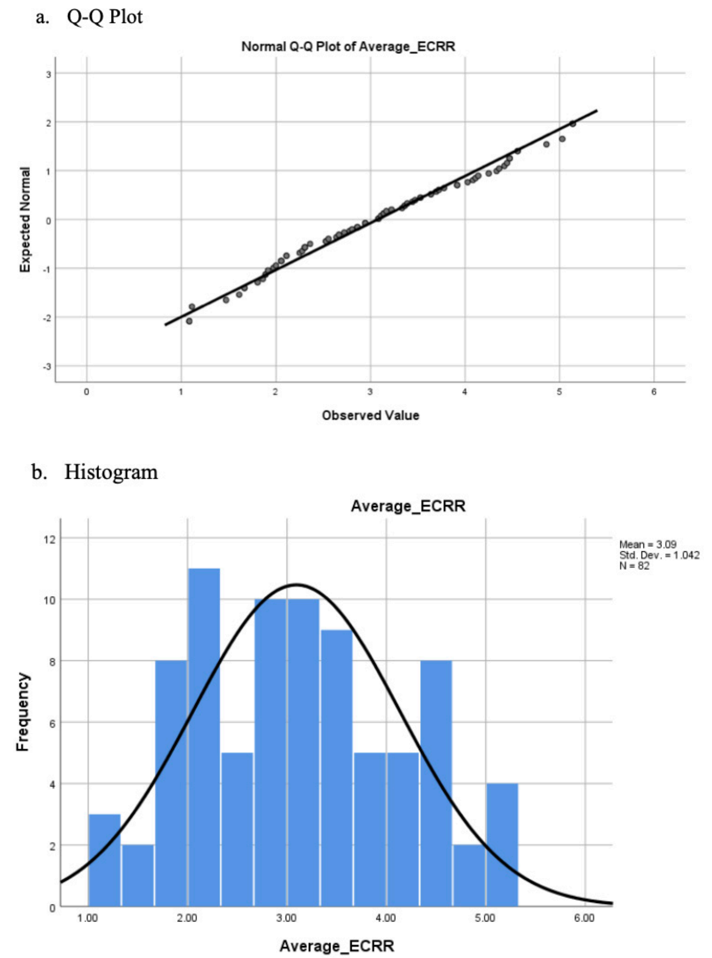
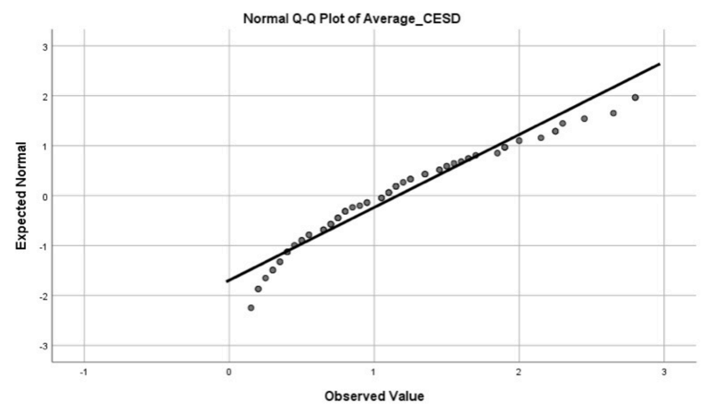


Figure 2. *CES-D: Q-Q Plot & Histogram*



b. Histogram

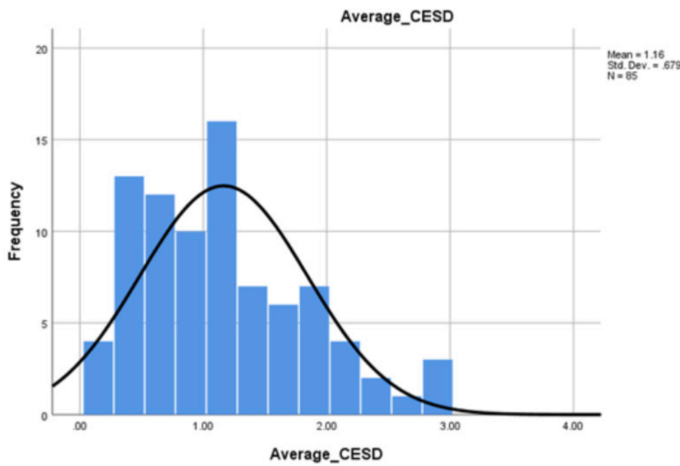
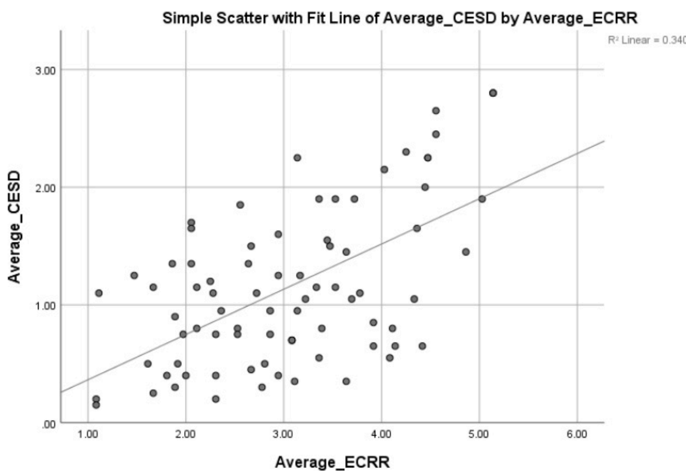


Figure 3. *Scatterplot*



Appendix A

ECR-R Questionnaire

Experiences in Close Relationships-Revised (ECR-R)

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by clicking on a circle to indicate how much you agree or disagree with the statement. If you are not currently in a relationship, think back to your most recent intimate/romantic relationship.

Each item is rated on a 7-point scale where 1 = strongly disagree and 7 = strongly agree.

1. I'm afraid that I will lose my partner's love.

2. I often worry that my partner will not want to stay with me.

3. I often worry that my partner doesn't really love me.

4. I worry that romantic partners won't care about me as much as I care about them.

5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.

6. I worry a lot about my relationships.

7. When my partner is out of sight, I worry that he or she might become interested in someone else.

8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.

9. I rarely worry about my partner leaving me.

10. My romantic partner makes me doubt myself.

11. I do not often worry about being abandoned.

12. I find that my partner(s) don't want to get as close as I would like.

13. Sometimes romantic partners change their feelings about me for no apparent reason.

14. My desire to be very close sometimes scares people away.

15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.

16. It makes me mad that I don't get the affection and support I need from my partner.

17. I worry that I won't measure up to other people.

18. My partner only seems to notice me when I'm angry.

19. I prefer not to show a partner how I feel deep down.

20. I feel comfortable sharing my private thoughts and feelings with my partner.

21. I find it difficult to allow myself to depend on romantic partners.

22. I am very comfortable being close to romantic partners.

23. I don't feel comfortable opening up to romantic partners.

24. I prefer not to be too close to romantic partners.

25. I get uncomfortable when a romantic partner wants to be very close.

26. I find it relatively easy to get close to my partner.

27. It's not difficult for me to get close to my partner.

28. I usually discuss my problems and concerns with my partner.

29. It helps to turn to my romantic partner in times of need.

30. I tell my partner just about everything.

31. I talk things over with my partner.

32. I am nervous when partners get too close to me.

33. I feel comfortable depending on romantic partners.

34. I find it easy to depend on romantic partners.

35. It's easy for me to be affectionate with my partner.

36. My partner really understands me and my needs.

Scoring

The first 18 items showcase the scale measuring attachment-related anxiety, whereas the last 18 items showcase the scale measuring attachment-related avoidance. Items 9, 11, 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, and 36 will need to be reverse keyed.

Appendix B

CES-D Questionnaire

Center for Epidemiologic Studies Depression Scale (CES-D)

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you've felt this way during the past week. Respond to all items.

0 – Rarely or none of the time (less than 1 day)

1 – Some or little of the time (1-2 days)

2 – Occasionally or a moderate amount of time (3-4 days)

3 – All of the time (5-7 days)

1. I was bothered by things that usually don't bother me.

2. I did not feel like eating; my appetite was poor.

3. I felt that I could not shake off the blues even with help from my family.

4. I felt that I was just as good as other people.

5. I had trouble keeping my mind on what I was doing.

6. I felt depressed.

7. I felt that everything I did was an effort.

8. I felt hopeful about the future.

9. I thought my life had been a failure.

10. I felt fearful.

11. My sleep was restless.

12. I was happy.

13. I talked less than usual.

14. I felt lonely.

15. People were unfriendly.

16. I enjoyed life.

17. I had crying spells.

18. I felt sad.

19. I felt that people disliked me.

20. I could not “get going.”

Scoring

A total score of 16 or higher is considered depressed.

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A Qualitative Study: Exploring Labels in the Lesbian, Gay, and Bisexual (LGB) Community on Guam and Their Experiences as LGB Individuals

Author's Note

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This paper was prepared for Professor Yoshito Kawabata's PY413 Research Methodology in Behavioral Sciences Course at the University of Guam (UOG). It references material from multiple academic articles found online through ResearchGate, Ebsco Host (via UOG's online R.F.K. Library resource), and Google Scholar.

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Keywords: LGB, Guam, minority stress theory, internalized homophobia (IH), expecting rejection, self-labeling, sense of belonging, labels, mental health, sexual prejudice, perceived discrimination

Abstract

The purpose of this study is to gain an in-depth understanding of the effects of labeling on mental health in lesbian, gay, and bisexual (LGB) individuals in Guam, LGB attitudes towards labels, and to their thoughts and experiences as LGB persons. Another goal is to contribute to the limited knowledge of LGB persons in Guam. This study uses qualitative methods and utilizes Meyer's (2003) Minority stress theory and identifies the themes expecting rejection and internalized homophobia (IH). Participants explained their fear of losing relationships, exposure to sexual prejudice, perceived discrimination, and shame/offense regarding their experiences as LGB individuals. Other themes explored were empowerment through self-labeling *(reappropriation)* and sense of belonging. Expectations of acceptance and the act of being accepted by others, were outcomes from LGB participants' expressions of sense of belonging. Due to the COVID-19 pandemic, participants could only be collected through friendship networks. Five interviews were conducted via Skype audio call in accordance with the Government of Guam COVID19 lockdown and social distancing. Methods for this study had to be adjusted accordingly. Interviews were recorded, transcribed verbatim, and coded by the main researcher and by another undergraduate research student, with an inter-rater percentage agreement of 74%. Themes showed participants' experiences with fear of rejection, self-loathing, and fear of losing relationships, due to their awareness and exposure to sexual prejudice and perceived discrimination. However, most participants expressed the sense of belonging after coming forward about their sexual orientation. Empowerment was expressed by the hope of being accepted.

A Qualitative Study: Exploring Labels in the Lesbian, Gay, and Bisexual (LGB) Community in Guam and Their Experiences as LGB Individuals

According to several researchers, lesbian, gay, bisexual and transgender (LGBT) adults and youth have a high risk for negative mental health effects compared to those who identify as heterosexual (Newcomb & Mustanski, 2010). There were several studies done that focused on LGB individuals and self-labeling and labeling, and the connection between internalized homophobia (IH), minority stress, depression, and discrimination (Barnes & Meyer, 2012; Bernburg, 2009; Dentato et al., 2013; Galinsky et al., 2013; Meyer, 2003; Newcomb & Mustanski, 2010). However, these studies have focused on samples from Western communities and cannot be fully generalized to those living in Pacific Island regions.

The people of Guam have mixed values and cultures – practicing indigenous values ingrained within the community, while also adopting values from outside influences, such as Western culture. Despite adopting many Westernized values, Guam is primarily comprised of collectivistic cultures – valuing interdependence, social

consensus, respect for the elderly, reciprocity, and family commitments (Dalisay, 2012; Perez, 2002; Rogers, 1995; Underwood, 1984). Typically, people rely on the acceptance and support of others to feel that they belong. Those who live in a collectivist community manage to prioritize the values and goals of the group rather than the individual. Therefore, it can be said that those who are from a collective culture will work to avoid violating social consensus in fear being isolated and ostracized (Dalisay, 2012). To avoid such outcomes, they will be more attentive to what is accepted and rejected by the majority.

People in collectivist communities tend to monitor the opinions of others' through social means to determine if the majority supports or rejects their own opinions. If they perceive that others will support them, they are more than likely to voice their own opinions; if rejected, they are more likely to remain silent (Dalisay, 2012). Considering the history of mental health within the LGB community, there may be different perceptions of the LGB community in Guam across generations, ranging from becoming allies with the LGB or against them, thinking it is "sinful" and "wrong." According to Pew-Templeton Global Religious Futures Project (2010), Guam's primary religion is Christianity which is mostly seen as non-affirming. As Barnes and Meyer (2012) stated in their study, for LGB individuals raised in non-affirming religious settings, religious teachings are more than likely an important factor in their socialization to condemn same-sex behavior as sinful and ban LGBs from spiritual practices. The condemning of same-sex behavior within religious teaching may influence the individual's own perception of their identity – making them aware of the stereotypes, sexual prejudice, and discrimination linked to those labels which can cause increased stress for them (Galinsky et al., 2013; Meyer, 2003). According to Hagerty, Williams, Coyne, and Early (1996), the sense of belonging directs recognition and acceptance of an individual by another in the same group (as cited in Ahnallen et al., 2006). One's identity, feelings of acceptance, and validation is encouraged by the individual's sense of belonging to a specific community (Ahnallen et al., 2006).

Guam began to celebrate "Pride Month" on June 10, 2017 by hosting the annual pride march that happens in several other areas worldwide. Partaking in these marches, allies of LGBT+ (lesbian, gay, bisexual, transgender, and other individuals who do not identify as heterosexual and/or cisgender) and those in the LGBT+ community voice their identity – which is an expression of self-labeling. Self-labeling can be empowering especially when an individual decides to self-label with a derogatory group label (Galinsky et al., 2013). Research done by Galinsky et al. (2013) stated that self-labeling with a derogatory group label, will facilitate *reappropriation* – that is taking control of the term when it was only used by the majority group to belittle the minority. According to Magee (2009), self-labeling requires action, and research indicates that any person who takes a label as their own – despite derogatory terms attached to those labels – are seen as empowered by taking that control (as cited in Galinsky et al., 2013). In other words, self-labelers make the effort to "secure" the labels for themselves and refuse others to use them, which contributes to reducing stigma against the group. In this research, Galinsky et al. (2013) conducted 10 experiments that each took a different approach to self-labeling and empowerment. In the general discussion, they concluded the following findings: power was tied to self-labeling; group power increase willingness of labeling despite derogatory terms; and "self-labeling increased self-labelers' perception of their own power, and increased observers' perception of the self-labelers' and

[1] "LGB" is used in the paper to refer to the present study and related results gathered from the LGB participants for LGB persons.

[2] "LGBT+" is used throughout the paper when addressing issues and concerns within the LGBT+ community.

the stigmatized group's power." Thus, perceived power was an important factor in mitigating the stigma involved with the label after self-labeling. These findings emphasize the importance of the need to belong in a group, to take control and feel empowered when faced with adversity. An example by Galinsky et al. (2013) states that when sodomy laws were in the process of being repealed in the 1980's, the Queer Nation activist group encouraged gays to identify themselves with the term queer as "a sly and ironic weapon we can steal from the homophobe's hands and use against [them]." *Reappropriation* is one framework that the current study used when looking into the effects labels have on the mental health of LGB on Guam.

Research done regarding the LGB community can be improved further by conducting more in-depth studies that work to understand the thoughts and feelings they have towards labels and how they endure the stigma. There is no such research done on LGB in Guam regarding labeling. However, one of the few studies conducted on Guam's LGB community illustrates how sexual orientation is a strong contributing factor to suicide (Pinhey & Millman, 2004). With their findings, Pinhey and Millman concluded that there is a lack of support within the general community of Guam –within both the household and social communities. Furthermore, the lack of support, education, and knowledge of the LGBT+ community from the general Guam community puts LGBT+ individuals at risk by strengthening the fear of disclosing their identity to others close to them, as well as seeking support from others in fear of rejection – all of which is part of the goal of the present research in this qualitative study.

When they do not feel supported or if they expect rejection, LGB persons tend to anticipate discrimination, prejudice, and experience self-loathing. The current study expanded on the effects of labeling on the mental health of the LGB community in Guam and their attitudes towards labeling. Another framework of the current study derives from Meyer's (2003) Minority Stress (MS) Theory – describing that prejudice, discrimination, and stigma invite a threatening environment that induces mental health problems – which were also found in the current study and used as themes. Fear of losing relationships and shame/offense were also found as results from sexual prejudice and perceived discrimination which participants expressed as detrimental contributing influences on their mental health. Minority stress includes three phases: external prejudices, expectations of rejection, and internalized homophobia, all of which are predicted themes in this present research.

Minority Stress: Internalized Homophobia (IH) and Expecting Rejection

According to Meyer (2003) and Marshal et al. (2008), minority stress (MS) theory, proposes that health disparities among the populations such as LGB can be explained by stressors encouraged by aggressive, homophobic culture, which commonly results in experiences of external prejudice (i.e. policies and derogatory language), expectations of rejection (i.e. anticipating rejection abased on their identity), and internalized homophobia (IH) (as cited in Dentato et al., 2013). Meyer (1995) applied MS to LGB individuals by arguing that negative events associated with sexual orientation and being part of the minority, are occurrences for both gay men and women (as cited in Newcomb & Mustanski, 2010). Fergusson et al. (1999) and Herrell et al. (1999) explained that LGB individuals are likely to be at a higher risk for various psychiatric illnesses and suicides (as cited in Newcomb & Mustanski, 2010). Additionally, according to population-based research (Cochran & Mays, 2000; Cochran et al., 2003; Hatzenbuehler et al., 2008), it is suggested that heightened risk for internalizing mental health problems are found in LGB youth and adults. This suggests that elevated

levels of IH are possibly linked to those increased risks (DiPlacido, 1998; Meyer, 1995; Meyer & Dean, 1998; Williamson, 2000; as cited in Newcomb & Mustanski, 2010).

According to Meyer and Dean (1998), IH is defined as the LGB individual directing societal homophobic attitudes toward self (as cited in Newcomb & Mustanski, 2010). They also stated that IH included negative global attitudes towards LGB, sense of uneasiness to revealing their sexual orientation to others, isolation from other LGB persons, and uneasiness regarding same-sex sexual activities. Meyer (1995) proved that minority stress is a dangerous factor for internalizing mental health problems by conducting a study of 741 gay men who lived in New York City. His study revealed that IH was the most predictive factor of MS regarding negative mental health effects. Mental health-related distress components were found in significant relationship with IH: dejection, guilt, sexual difficulties, suicidal behavior and/or ideation, and a measure of stress regarding the impact of AIDS on the gay community. Another study by DiPlacido (1998) uncovered similar findings in participants who identified as lesbians and found positive relations between IH and several factors of poor mental health, as well as negative change and alcohol consumption (as cited in Newcomb & Mustanski, 2010). The rates of depressive symptomatology had a major relationship with disclosure of sexual orientation, in which it was higher in lesbians who had poor rates of disclosure. According to Meyer (2003), higher levels of MS in LGB persons are associated with their unwillingness to disclose their sexual orientation (as cited in Newcomb & Mustanski, 2010). In other words, they will refuse to disclose that information in fear of suffering through MS.

Expecting rejection is another internal stressor within MS, which is defined as a form of felt stigma (Rood et al., 2016). LGB individuals who are expecting rejection from others understand what society's stance towards those in the minority are and expect the majority group to shame them in any given situation as a result of having a minority status – in this case for sexual minority individuals.

Rood et al. (2016) conducted a qualitative study focusing on transgender and gender-nonconforming individuals. This study expanded on the four distinct categories of Expecting Rejection, of which, two will be elaborated in this research – where to expect rejection, and the thoughts and feelings associated with expecting rejection.

Participants in the study expressed that they expect rejection anywhere and with anyone – even with family and friends. Family and people who knew the participant before they affirmed their gender were considered a source of internal stress. Participants described that interacting with an individual who knew them before confirming their gender, was stressful and hurtful. They described an instinctual "heightened state of alert" that allowed them to be more aware of words the person said or did not say, words of disrespect, and the use of incorrect pronouns or the use of the wrong name. Whether or not the conversation ended on good terms, one participant (age 32, white, female/woman) shared that they would "burst into tears or decompress emotionally" because they were prepared to be hurt (Rood et al., 2016).

The second category of Expecting Rejection – thoughts and feelings associated with expecting rejection – expands on transgender and gender-nonconforming individuals' concerns for being targeted for discrimination and victimization due to their gender identity (Rood et al., 2016). Participants reported to be more fearful and hypervigilant when going out and especially when in crowds. One participant (age 25, Latino, MTF) described a scenario where if a random man groped her and realize that she was transgender, that she imagined that it would have ended poorly (Rood et al., 2016). The action of the man lashing out would be considered an act of discrimination, hate, and

blatant disgust of the victim. In turn, the blatant disgust will cause the victim to believe that who they are, is truly shameful. The possibility of these scenarios caused sexual and gender minority individuals to become more anxious, stressed, and nervous in different degrees. Mood disturbances (e.g., feelings of depression and sadness) associated with fear and anxiety based internal processes were also reported by participants. Sexual and gender minority individuals feel that they must be on their guard, which ruins their chances of meeting new people – closing out every opportunity to get close to others in fear of discrimination and violence. Additionally, participants described ways they were made to feel shame and embarrassment along with negative internalized thoughts – which can be regarded as IH.

Although research provides knowledge on the MS, IH, depression, discrimination, and external prejudices, it does not suggest positive measures to increase the support and awareness of the LGB community on Guam. The study done in Guam by Pinhey and Millman (2004) assessed suicide risks and sexual orientation among the student populations of four Guam high schools. Pinhey and Millman (2004) measured suicidal ideation, hopelessness, alcohol consumption, and sexual orientation and found that suicidal thoughts were drastically associated with sexual orientation, most especially among boys. They concluded that there is no consistent support from the general population of Guam or that the efforts of existing support groups may not be enough to balance the potential detrimental outcomes of same-sex orientation. Furthermore, Pinhey and Millman found that Asian/ Pacific Islander LGB youth in Guam, as well as those who do not identify as LGB, need intervention and counseling programs to reduce suicidal risks. The present study helps to target where intervention in the LGB individuals' lives is needed in order for it to be more effective, and to create greater understanding of LGB lives to initiate future research to improve the lives of LGB individuals in Guam.

Method

Participants

The participants of this study were self-identifying LGB individuals gathered through the researcher's friendship networks due to the Government of Guam COVID19 lockdown – potential participants prior to the study either had internet connection issues, discomfort using electronical means for the interview, or were unable to do the interview. Five participants were gathered and each of them were interviewed. Interviews were transcribed verbatim, coded, and analyzed. There was a total of 147 coded sentences which were categorized into nine themes.

Materials

Materials used for this research included a laptop and the Skype application on devices (for both researcher and participant) for audio call and recording use. Other required materials consisted of the cover letter (see Appendix A), informed consent form (see Appendix B), audio recording consent form (see Appendix C), and debriefing statement form (see Appendix D). The researcher provided the 10 questions for the interview (see Appendix E). Laptops were also used to transcribe interviews and was done by the main researcher and the research partner to check for errors. Google Drive Documents and Sheets were used for transcriptions, identifying themes, and coding.

Demographics. Demographics asked for participants' age, ethnicity, education, gender identity and sexual orientation (see Appendix E).

Gender identity. According to Westbrook & Saperstein (2015), it is common for the terms "gender" and "sex" to be used interchangeably or to imply biological sex, *female* and *male*, instead of using gender terms *woman, man, transgender* or *cisgender* (as cited in Hughes et al., 2016). Gen-

der is defined as the feelings, attitudes, and behaviors related to a person's biological sex and is culturally driven (APA, Divisions 16 and 44, 2015; as cited in Hughes et al., 2016). In other words, gender identity refers to "a person's deeply-felt, inherent sense of being a boy, a man, or male; a girl, a woman, or female; or an alternative gender (e.g., genderqueer, gender nonconforming, boygirl, ladyboi)" which may or may not match the person's sex assigned at birth. To give the individual the freedom to identify themselves, Moody et al. (2013) offered an open-ended question, which was updated by Hughes et al. (2016) and used in this study's demographics: "How do you currently describe your gender identity?________" and an option to not respond with "I prefer not to answer" was provided if participants did not want to disclose that information.

Sexual orientation. According to GLADD (2016b), sexual orientation refers to a person's lasting attraction (i.e., including emotional, physical, and/or romantic attraction) (as cited in Hughes et al., 2016). However, sexual identity, romantic attractions and behaviors, membership in sexual communities (e.g., lesbian, gay, bisexual), and sexual fantasies have recently been included to reference sexual orientation. It was once believed that sexual identity matched sexual orientation, but this belief was not always the case. It has become more apparent that individuals prefer to identify their specific attractions, romance interest, and sexual behavior. Hence, a single question cannot be used to properly capture the diversity of people's attractions, behaviors and identities (Rainbow Health Ontario & Hart, 2012; as cited in Hughes et al., 2016). Although asking participants to identify their attraction garners more responses than sexual identity, William Institute and the Sexual Minority Assessment Research Team (2009) distinguished that the choices of questions should be suited to the study's goals. In this present research, participants were asked a one-item question only assessing sexual identity. This model was borrowed from Hughes, Camden, and Yangchen's (2016) updated demographic question. Options were adjusted to fit the present study's focus. The item states, "Do you consider yourself to be…" with the following response options: (a) gay, (b) lesbian, (c) bisexual, (d) fluid, (e) pansexual, (f) queer, (g) demisexual, (h) asexual, or (i) I prefer not to answer." The option 'I prefer not to answer' gave participants an option if they chose to refrain from answering.

Procedures

Participants were gathered through close social networks, composed of family members and friends. Due to COVID-19, a quarantine was put into place and interviews were done via Skype audio call in accordance with social distancing and the lock down. Interviews were recorded through the option provided in the Skype audio call. Recordings were transcribed verbatim by the main researcher and checked for errors by another undergraduate research student. When each transcription was checked, both the main researcher and the second research student reviewed the transcripts and discussed pre-supposed and common themes found, operationally defined those themes, then proceeded to agree on the coding within the first transcript. After coming to an 100% agreement and using the first transcription as the baseline, the remaining four transcriptions were separately coded, all in which fit the descriptions of participants' expressions of expecting rejection, internalized homophobia (IH), fear of losing relationships, empowerment through self-labeling, sense of belonging through labels, expecting and receiving acceptance, and feelings of shame/offense due to sexual prejudice and discrimination. With the separate coding done, the main researcher compared the coded transcriptions and found an inter-rater percentage agreement of 74% with 109 out of 147 coded IDs agreed on.

Before each participant's scheduled interview day, the necessary consent forms were sent to them via

email with instructions to read and sign them before beginning the interview. The cover letter (see Appendix A) and consent form (see Appendix B) were sent along with the audio-recording consent form (see Appendix C). The debriefing statement (see Appendix D) was sent with the first forms and participants were asked to sign them after the interview was completed. Copies of consent forms have been kept by the researchers for safety measures.

Consent forms were sent back to the main researcher with signatures before the interview began and were reviewed before the start of the interview questions. Demographics were also sent through the Skype chat for participants to fill out and were recorded. The interview began after demographics were completed. Participants were then asked 10 questions regarding their experiences and their thoughts about labels as LGB individuals on discrimination and other non-LGB perceptions of the LGB community.

Results

Expecting Rejection

Of the 147 sentence IDs, 21 were identified as participants Expecting Rejection. When participants were asked about their level of comfort when being referred to as their sexual orientation, their experience when coming to terms with their identity, and how others thought of the LGB community in Guam, all participants expressed fear and an expectation of rejection from others – especially from their family and friends (see Table 1). The majority of the responses were expressions of the *fear of being disowned* (rejection), *restricted expression* (hiding their identity) and *scared of reactions from others* (fear for their security).

The participants shared the same expectations of rejection by their family and friends. They identified the intertwining of religion and culture as reasons contributing to their expectation of rejection. Participants expressed feeling the duty to put their family values before their own values by having anticipated rejection right when considering coming forward with their sexual orientation. While coding the transcriptions, a shared experience and understanding between the participants was found through their narratives.

Internalized homophobia

Internalized homophobia had a total of 27 sentence IDs that were expressed through s*truggle with accepting self* (rejection to self), r*efusing/suppressing the attraction to the same sex* (denial), *yearning for change* (refusing who they are), and *torn identity* (struggle to maintain their identity between beliefs and sexuality) (see Table 2).

Internalized homophobia was mentioned frequently throughout the interviews. Participants shared that prioritizing their families' values and beliefs influenced their internal struggle and the fear of being rejected. Religion was often mentioned when asking the participants to explore any internal or external struggles they faced as part of the LGB. They expressed feeling the need to choose between their religion and sexuality because of the beliefs they were raised with. These past internal struggles that participants conveyed seemed to have had a major effect on their mental health. Participants described their past experiences of coming to terms with their identity as "depressing," "really sad," and "anxious."

Empowerment through self-labeling

There were only 7 coded identifications found out of the 147 in total (see Table 3). When participants were asked about their views, experiences, and what they believed to be the pros and cons of labels, only some transcribed responses consisted of *witnessing others claim the labels as their own* (encouragement to do the same), *inspiring and*

powerful (living the way that they want to live), and *fearless* (not afraid to use the labels despite the derogatory use and stigmas).

More responses expressing empowerment through self-labeling were expected during the research. Out of the 7 coded IDs, 3 came from one participant, which were the most consistent responses. The other participants seemed neutral towards the use of labels in an empowering sense, and only focused on stating the negative aspects of them. The same participants shared the thought of *getting used to the labels* and not minding them at all – by claiming that it only garners their attention if they know or witness another person using the labels in a derogatory sense.

Sense of belonging

Only 15 coded sentences consisted of responses from the participants regarding their sense of belonging by labels (see Table 4) through expressing their preference to ensure *relatability* (easily relating to others in the LGB because of their common struggles), *likeability* (knowing others sexual orientation to pursue relationships), *feeling connected* (knowing that there is another person to turn to who is the same), *feeling like they belong* (expressed the feeling of being able to fit in), and *comforting* (gaining comfort in knowing that they are not alone).

Participants were quick to mention these factors and expressed relief when responding. They also noted, with excitement, an awareness of resources slowly being developed to support the LGBT+ community in Guam. Participants displayed their excitement by eagerly sharing their knowledge on LGBT+ resources in Guam and how these resources would greatly benefit others within the community.

Participants also mentioned the preference of using labels as a tool to recognize LGBT+ individuals to relate to them. They expressed that they feel an invisible limitation when speaking to those who do not share or fully understand the struggles of being LGBT+. Knowing that there are other people who can relate to them completely allowed the participant to feel more comfortable and encouraged to be who they are.

Acceptance

This added theme was found common among interview transcriptions (see Table 5). Acceptance was coded 10 times among the 147 coded responses and revolved around participant experiences of *hopefulness* (hoping their family and friends would accept them when they came out), *have been accepted* (loved ones expressed that they had an idea of their sexual orientation but wanted them to come forward on their own), and *awareness of the gradual acceptance* (knowing that Guam has several resources that openly support LGB and that the support is still gradually growing).

Some participants expressed that they were somewhat expectant of rejection, but still anticipated a degree of acceptance at the same time. They were hopeful that their families would be accepting since some had already assured them that they would "love them no matter what" and that they could "talk to them about anything." After some participants shared their experiences of coming out and acceptance from family and friends, there was increased relief in their words while reliving their experiences. One participant stated that their family expressed already having an idea of their sexual orientation and were prepared for the day the participant would decide to come forward. All participants expressed their expectation of open acceptance by Guam as a whole. They noted that there are several political figures who are openly LGB, those who support it, and places where services for the LGB community are provided. There were mentions of certain locations that offer LGB friendly and accepting events.

Shame/Offense

There were 4 coded IDs in correspondence to participants' expressed shame/offense to labels due to their knowledge and experiences of sexual prejudice and discrimination (see Table 6). They expressed that they were *offended* (the label is not their only aspect as a person), *losing confidence* (refusing to use the label because of the derogatory use), and *disgusted and shamed* (sexual prejudice and discrimination contributed to their own view on the label).

One participant explained that they felt offended because some of their peers only saw them as their sexual orientation – not who they are as a person. For example, they would be introduced as the "gay person" or the "bisexual who goes to school" as an indicator to set them apart from the other students. Participants also expressed their lack of confidence because the labels within the LGB community are still used as slurs. There was hesitancy to use the label despite accepting their sexuality because of the derogatory use and association of the labels. Female participants in this study expressed disgust and shame for the labels *lesbian* and *bisexual* because of the fetishization of females being sexually active and attracted to other females.

Fear of Losing Relationships

There were 17 coded sentences of participants' responses (see Table 7) of *permanent loss* (completely severing ties with others), *anticipation of abandonment* (expressed anxiety when thinking of losing their relationships), and *hopelessness* (thinking that there is no use in admitting their sexuality if it meant losing relationships).

Fear of losing relationships stemmed from their expectation of rejection from family and friends. When thinking of rejection, participants explained that the most damaging possibility is complete abandonment and disownment. Again, participants expressed that their families were very religious, which caused them to expect such outcomes. Other situations that brought the fear of losing relationships was feeling a sexual and/or romantic attraction toward an acquaintance or close friend. The participants who reported these events worried they would put their friendships at risk by admitting their sexual orientation and were anxious about the possibility. They also felt the need to keep their sexualities to themselves because they believed that their relationships were not worth losing – essentially allowing them to feel trapped and alone.

Sexual Prejudice

Sexual prejudice was the most recurring theme among the five transcriptions, having a total of 34 coded sentences (see table 8). Participants expressed knowing other's thoughts and attitudes towards LGB individuals by reporting *others doubting their sexuality* ("bisexuals are not real; they are not sure"), *discomfort* (heterosexual individuals sexualizing the LGB), and *making judgements* (grouping LGB all together because of certain "characteristics of LGB).

Participants mentioned some heterosexuals' views of bisexual attractions as not being "real" and how they believed those who identified as bisexual were "waiting till marriage to be straight." Another participant reported that they did not "look" homosexual because of what they wore and how they acted. They had experienced heterosexual people make judgements on how they felt homosexuals were supposed to look and expressed that the participant could not be a homosexual because they did not fit their expected profile. Lastly, participants explained that many heterosexuals sexualized gays, lesbians and bisexuals and made assumptions that every homosexual was "loose," which made them feel uncomfortable and disgusted.

Perceived Discrimination

There were 12 coded identifications that indicated participants' experiences with discrimination even before they realized their sexual orientation (see Table 9). Participants reported events such as *bullying* (having been made fun of because of certain "characteristics" that were associated with LGB), *harassment* (making inappropriate comments on the participants sexual orientation) and *being controlled* (parents did not trust participants because of their identity and gave their heterosexual siblings freedom).

Two participants reported that they were both bullied in elementary and middle school. They expressed that the reason behind the bullying was their high-pitched voices which their bullies perceived as an indicator of homosexuality. Both participants experienced exclusion from certain activities in their school and were continuously made fun. Another participant reported that within the past month, they were pressured into engaging in intimate actions with another person of the same sex despite the individual pressuring them identifying as heterosexual. The participant refused to engage in any acts of intimacy because they were in a committed relationship but explained the pressure continued. The same participant explained that there were restrictions placed within the household because their parents rejected their sexual orientation while their heterosexual was not made to follow the same restrictions.

Discussion

Guam is comprised of collectivistic cultures – which value interdependence, social consensus, respect for elders, reciprocity, and family commitments (Perez, 2002; Rogers, 1995; Underwood, 1984; as cited in Dalisay, 2012). Furthermore, a majority of the population in Guam, which possibly includes sexual and gender minority individuals, has some type of religious upbringing. According to Barnes and Meyer (2012), LGB individuals' continued participation in non-affirming religious settings and teaching, will strengthen IH in LGB individuals. In this study, participants reported that their expectations of rejection and IH derived from their sense of duty to put their family's beliefs and values before their own. Since it is common that homosexuality is seen as "sinful" and "wrong" within most cultures and religions, participants were led to believe the same thing, thus experiencing expecting rejection from others, self-loathing, and fear of losing their relationships. Such experiences warranted mental health issues such as depression, anxiety, and nervousness, which are all subfactors in IH and Expecting Rejection explained in the Minority Stress (MS) Theory by Meyer (2003).

Most participants who have affirmed their sexual orientation shared their experiences of overcoming past stressors due to IH and Expecting Rejection by feeling a sense of relief when they were accepted. Participants' responses showed that the labels and awareness of growing support throughout Guam's community enabled more acceptance of self, comfort, and reassurance that they were not alone. Empowerment through self-labeling was not a frequent expression from the participants since most reported indifference towards the use of labels in that sense. However, one participant did share how they found those who were "fully out" empowering and inspiring. Participants expressed that they longed to do the same with more confidence since they felt unable to affirm their sexual orientation.

The new additional themes that were recognized within the interviews helped to draw awareness to LGB mental health. It is known and stated by several researchers that LGB adults and youth are at a higher risk for negative mental health effects compared to those who are heterosexual (Newcomb & Mustanski, 2010), and the experiences and knowledge of sexual prejudice and perceived discrimination that participants reported also

shared in their decline of mental well-being when encountering sexual prejudice and perceived discrimination. Reports from participants enable others to develop a better understanding of the struggles faced by LGB individuals in Guam. This study will also allow those who are part of the LGB community and LGB allies to have a better understanding of when and how to lend their support to LGB individuals in their community.

Limitations

One limitation encountered during this study was the inability to recruit more than five participants and to gather participants outside of the researchers' close social networks. The participants who were interviewed were of convenient means because of certain, necessary restrictions placed by the COVID-19 mandatory quarantine and community lockdown. Some potential participants were unable to participate due to their limited resources, or because they felt discomfort with an audio interview. In that regard, another limitation involved making the specific accommodations needed to fit within the mandatory government quarantine and social distancing guidelines. Unstable internet connection was common within Skype audio call interviews which caused audio distortion. Since there was limited time between the issued quarantine and the research's due date, there was minimal time to become accustomed to the changes. However, this situation has enabled preparation for future and similar encounters in doing qualitative research.

Another limitation faced during this research was the absence of a larger focus group. Considering the timeframe allotted for the research, there was only enough time for five participants to be interviewed and analyzed. Having a small focus group limited the range of experiences that could have been recorded and used in the research. It would be inadequate to claim that the answers and results the of this research apply to all LGB individuals. It is possible that some themes or concerns were not mentioned by the researcher or participants that should have been reflected in the study. This limitation can be avoided in future studies by gathering more participants.

Response bias may also have been a limitation during the interviews. It is possible that participants felt pressured to respond in ways that are socially acceptable (although not intentionally). People are inclined to present themselves in the best light and may unconsciously, or intentionally, give a response they believe does that. Another possible cause for response bias may have been due to the researcher and their choice of questions. The follow-up questions asked by the researcher may have pointed to a certain answer, which is considered a researcher bias. This may have restricted participant responses and forced them to respond in favor of the research or not at all. Asking another individual independent from the researcher to review the questions in the future is a way to avoid research bias and to minimize response bias from participants.

Suggestions for Future Research

It proved difficult to find studies specific to the LGB community in Guam. Since there is little research done in this area, qualitative research was done to contribute to future studies on LGB mental health and labeling in Guam. However, the number of questions provided by the researcher (with the maximum of ten) does not offer enough in-depth detail of the experiences from the participants. Additional questions to continue the qualitative research may bring better results. Future studies may also continue with quantitative research in the same area of study to expand the population size. Expanding research to include those beyond LGB whose sexuality is not heterosexual, or those whose gender is not gender binary

based (LGBT+) should also be considered.

Additionally, noticing that all participants realized their sexual orientation and experienced their struggles mostly within their secondary education schooling. Future studies can be done within the middle school and high school populations to gain LGBT+ youths' thoughts and understandings of labels along with their own experiences. This type of study may provide a better understanding of LGBT+ youth and enable heterosexual individuals to become more aware of LGBT+ mental health in schools.

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Tables

Table 1. *Qualitative Theme: Expecting Rejection*

Theme	*Quotations*
Fear of Rejection	"So I guess the struggle, the main struggle, was like the fear of just being ostracized." "I of course, [was] fearing that I would be rejected…"
Restricted Expression of Self and fear for their security	"…but then I always think like there's a boundary. Like there's a level of things I… can tell them and what I can say and how [I can] express myself – like there's level." "I was terrified. I was going to [come out] a few times before I actually did it but I didn't go through with it because I was just afraid of rejection and just not being accepted." "I'm kind of… in this situation where I don't want people finding out. Like I kind of stopped expressing myself in a way because – not that I'm scared of my parents – but I'm scared of my parents."

Table 2. *Qualitative Theme: Internalized Homophobia*

Theme	*Quotation*
Rejecting self	"I was still trying to accept myself." "So basically [it] was a struggle in a sense where I was like conflicted on whether or not I was either one or the other. But to lie to myself so I can make myself feel better or not to been seen as, you know, gay." (Bisexual male)
Denial/ Withdrew from others	"I think I was in denial. I was like 'no, I don't like her, I don't – It's just we're just best friends that's why.' I just had… a little, tiny feelings for her and then I sort of just pushed it away like, 'no, no, no, that's not right' or 'it's so wrong to think that' and then I realized I did like her." "I cut ties with her and I [tried] to avoid other girls and I tried looking at boys a bit more just to try and get rid of my sexuality." "I fell in love with my best friend… and then like I had to keep my feelings far away I guess? Not locked inside, just far away."
Wanting to Change	"I thought if I could change, then everything would be fixed – I wouldn't have to worry about anything." "I would rather keep my sexuality a secret or get rid of it."
Torn Identity between beliefs and sexuality	"I just remembered being 'I cannot be gay and Christian I have to choose one or the other.'" "I didn't want to be gay and Christian at the same time. So I would pray to God to help me choose one or the other or I would say, 'please don't let me be gay.'" "I kind of felt like, you know, I shouldn't really be this way. And I remember praying to God maybe for a whole straight year during 8th grade… I just didn't want to be bisexual. I was always questioning it like why I this okay?"

Table 3. *Qualitative Theme: Empowerment Through Self-Labeling*

Theme	*Quotations*
Encouraging	"So when I see people embrace their identity… it makes me feel good and it makes me feel like I can do that one day when it's safe for me to do so."
Inspiring and Powerful	"I guess when I see someone embrace their term 'gay' or 'lesbian' or 'transgender,'… I guess in a way it brings comfort to me because – it's lie I want to be like that one day because, you know, I'm still kind of in the closet in a way."
Fearless	"To see people live the way they want to like, it's so – like I said it's empowering and I think it's great that people are so comfortable in the way they are."

Table 4. *Qualitative Theme: Sense of Belonging*

Theme	*Quotations*
Relatability Feeling like they belong Comforting	"When I'm with people who are like me I guess, or in general… LGBQ community, I just feel more comfortable with what I can talk about because it kind of gives me more options to what say on what we can talk about type of thing… like they would understand more… like I guess I feel like I fit in."
Likeability	"I guess with dating or talking to other people, some people actually like talking to people that are in the LGBQ community." "As times went on, labels kind of helped determine let's see – not exactly chemistry between people but likability and affinity and simply like identify…"
Feeling connected	"If I wanted to connect with people like they would have to know about that information [about me] and we could maybe bond with other people with that term." "I guess jut being able to connect with other people too that's on the same boat as me."

Table 5. *Qualitative Theme: Acceptance*

Theme	*Quotation*
Hopefulness	"Part of me thinks they would accept me just because they won't – you know they say, 'love you no matter what, you can always talk to me.'"
Acceptance after coming out	"They were like, 'it took you this long to tell us?'… I was kind of happy that they knew, like they kind of had a feeling I should say." "People were accepting towards me, and my brother was accepting towards me."
Awareness of gradual acceptance	"I actually think it's really open here on Guam because of the pride festival that they've held since 2017 I think… I don't see much hate on that – there's no protesting or whatever. I don't think there is but I think it's open especially when it comes to The Icon. They do drag race shows so I think it's kind of cool that that bar specifically is, you know, they're inclusive of all – or you know they have that show. I think a lot of people are becoming more open especially the older generation like some people are more open to it now."

Table 6. *Qualitative Theme: Shame/Offense*

Theme	*Quotations*
Offended by use of label	"I would be introduced to someone and then the first thing that describes me is ;oh this is blah, blah, blah, she's a lesbian.' So I get kind of offended because they think that that's the only aspect of me that's interesting and I don't think it's… nice I guess?"
Losing confidence	"…[they use] these labels as a negative way, and like [cause us to] not [be] confident with that label anymore."
Disgust and Shame	"I wasn't comfortable with the label because it felt too… honestly I thought it was dirty. Like the word 'lesbian' was kind of dirty so I used 'gay' instead."

Table 7. *Qualitative Theme: Fear of Losing Relationships*

Theme	*Quotation*
Fear of abandonment	"There's a time I thought, if people found out or if I told someone, then I wouldn't have that relationship anymore."
- Family	"Like I was always scared because my family is like the number one people I need in my life." "Like I don't know, like who I would be able to talk to. Like would my dad's sisters want me around their kids? I was like are they going to want me over at the house?"
- Friends	"But at the same time, I didn't want to jeopardize our friendship… I just hated the fact that I liked her because I still wanted to be friends with her." "I actually told her like maybe we shouldn't be friends for the sake of me… Like I tried to ignore her as much as possible." "So it kind of made me feel conflicted and of course sad because I didn't really want to either lose a friend or like ruin my other friendships."
Hopelessness	"Considering that during that one year, after my parents found out I was hiding a relationship, every day I would come home super anxious." "It's kind of hard to do what I want to do without disrespecting my family – without disrespecting my parents. So, I was having trouble like with that middle ground of like how do I do what I want to do without disrespecting my parents?" "That's kind of like what I told myself and I guess I told myself also that I just have to lay low a little but for the sake of my family that I have to like, just be quiet about my sexuality for a little bit." "So, during that couple week, couple months of thinking what am I going to do? I'm ruining my family." "The biggest factor of being scared back then and me like praying the day away was my family."

Table 8. *Qualitative Theme: Sexual Prejudice*

Theme	*Quotations*
Others doubting their sexuality	"[they would say] 'so you can't decide or it's just a phase." "I think one time I had a teacher tell [me] that bisexuals aren't real and that they're just figuring themselves out til they get married." "Like they'll say like 'oh why can't you just make up your mind?'… So, in a way like they'll use that against me like you know like why are you bisexual? Why can't you just pick gay or straight?"
Making judgements/ Discomfort	"the boys in my high school friends, they've, I guess they see me in like this sexual manner." "Other people said that it was wrong that you shouldn't be doing that most especially for like transgender because like belief that you should be happy with the body that you have or something like that. Also, just basically like it's supposed to be a man and a woman together."
	"When it comes to lesbians, I think a lot of people expect them to be really tomboy… that girls who dress like a guy are gay or lesbian." "All I've learned from my family [growing up] were the terms tomboy. Like you know if you're not girly girl you know you're tomboy and you like girls kind of thing." "growing up, yeah you know people will be like 'are you gay?' Like again thinking in a derogatory sense, someone would be like 'oh so you're part of the blah, blah, blah, blah"

Table 9. *Qualitative Theme: Perceived Discrimination*

Theme	*Quotations*
Bullying	"This was actually before I knew I was gay. It was in elementary but then… I was bullied a lot." "In middle school, I was kind of bullied just because I had a high voice and – I mean I didn't even know how I was acting I don't remember, but yeah I remember… getting bullied because I guess I had a high voice and they were calling me gay and fag."
Harassment	"There was this guy [he] was saying like 'oh wow that's so hot I can imagine them making out' I think that was the one time I thought I was so vulnerable, like you know how I felt so offended." "… and then the guys that overheard our argument was pushing me to kiss her because I was gay – or I like girls." "And then having them spread rumors or you know have them idolize the idea in their head or fantasized the idea. I think it's disgusting."
Controlled	"To this day every single move I make, she like pointed it to me being gay. I can't really have, or can't really mention new friends without thinking I'm messing around with them or they're my girlfriend or you know I can't really, in a way, I can't really be myself anymore because any move I make my mom is going to think something." "I know they're verbally abusing me like also emotionally I was – I felt like I was being emotionally abused because I remember so vividly, crying about it, being so distraught."

Appendix A

Demographics/ Interview Questions

What is your age? _____

Please specify your ethnicity:

___ Asian/ Pacific Islander

Specifically, ____________________

___ White

___ African American

___ Other, please specify: _______________

Which category describes you? Select all that apply to you:

___ Some high school

___ High school diploma or equivalent

___ Vocational training

___ Some college

___ Associate's degree

___ Bachelor's degree

___ Some post undergraduate work

___ Master's degree

___ Specialist degree

___ Applied or professional doctorate degree

___ Doctorate degree

___ Other, please specify____________________

Do you consider yourself to be:

___ Gay ___ Queer

___ Lesbian ___ Demisexual

___ Bisexual ___ Questioning

___ Fluid ___ Asexual

___ Pansexual ___ I prefer not to say

1. When you realized your sexual preference/ gender identity, where you comfortable with people referring to you as "gay, lesbian, bisexual, etc."? Why?

2. What was your experience when coming to terms with your identity?

3. How do you feel about the labels "lesbian, gay, bisexual, etc.?"

4. What would you say are the pros and cons about labels in your experience? Why?

5. How do you feel about the stereotypes that are attached to the LGB community?

6. How do you think the people of Guam perceive the local LGB community?

7. Have you ever experienced being discriminated against because you identified as "gay, lesbian, bisexual, etc."? (If not) How do you feel about discrimination and how do you think you would respond to it?

8. What were you taught about alternative/gay lifestyles growing up, and how do you think about it now?

9. Have you ever experienced not wanting to be attracted to the same sex? Why?

10. What were your thoughts about coming out to those close to you? (If they have not come out) What are your thoughts about coming out to those close to you?