

THE ROLE OF GENERAL SELF-EFFICACY, RESILIENCE, AND PERCEIVED SOCIAL SUPPORT ON FILIPINO DISASTER VICTIMS' PSYCHOLOGICAL TRAUMA

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ABSTRACT

Studies on the role of general self-efficacy, resilience, and perceived social support in influencing disaster-related psychological trauma is fairly limited in the context of the Philippines, wherein most regions have been listed as disaster-prone areas due to the frequent occurrence of natural disasters. In this predictive cross-sectional study, the sample consists of 251 participants selected through purposive sampling from different regions across the country. Using Ehlers and Clark's (2000) theory on the cognitive model of PTSD, the present study aimed to determine whether certain factors such as general self-efficacy, resilience, and perceived social support have significant influences on disaster-related psychological trauma when tested for independent and interaction effects. 4 instruments were used to fulfill the objectives of the study: Davidson Trauma Scale (DTS), Brief Resilience Scale (BRS), New General Self-Efficacy Scale (NGSE), and Multidimensional Scale of Perceived Social Support (MSPSS). Differences in levels of general self-efficacy, resilience, and perceived social economic status among participants were tested using independent samples t-test when grouped according to gender and using one-way ANOVA when grouped according to socioeconomic status. Multiple linear regression was used to determine whether general self-efficacy, resilience, and perceived social support had significant influences on disaster-related psychological trauma when tested for independent and interaction effects. While significant independent relationships have been found between general self-efficacy and resilience towards psychological trauma, results showed that there were no significant interaction effects between the predictor variables in predicting psychological trauma symptom severity. The researchers conclude that other factors may also influence the psychological trauma of disaster survivors apart from general self-efficacy and resilience.

Keywords: General self-efficacy, perceived social support, resilience, psychological trauma.

INTRODUCTION

Psychological trauma is defined as the damage to an individual's psyche which may result from their exposure to traumatic events (Amusan & Ejoke, 2017; de Soir, 2018; L. Johnson et al., 2019). As defined in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), traumatic events are severely distressing experiences of serious physical injuries or threat of death (American Psychiatric Association, 2013). The experience of psychological trauma has been found to result in various pervasive and persistent pathological outcomes (Galea et al., 2005; James et al., 2016; Ma et al., 2019; Tanaka et al., 2016; Y. Wang et al., 2020). Over the past decades, many cities in the Philippines have been marked as disaster-prone areas that are regularly stricken by natural disasters such as typhoons and earthquakes (Garcia & Hernandez, 2018; Ipong et al., 2020; Williams et al., 2020). Fairly limited investigation has been conducted on whether higher resilience and general self-efficacy influence the risk of individuals suffering from psychological trauma in

the face of future disasters (Almazan et al., 2019; Mertens et al., 2018; Wirtz & Rohrbeck, 2018). While studies have been conducted on the relationship between perceived social support and psychological trauma, further research investigating the interactive effects of general self-efficacy, resilience, and perceived social support are encouraged (Schlechter et al., 2021; Yuan et al., 2021). Moreover, while Filipinos are generally known to be highly resilient, there is a lack of ample evidence to support the claim that survivors are all able to endure loss of lives and properties and not suffer from lingering psychological distress following frequent exposure to disasters.

LITERATURE REVIEW

Existing literature investigating the relationships of general self-efficacy and resilience towards psychological trauma have been acknowledged to date. Similarly, relationships between resilience and perceived social support are acknowledged as contributing factors that improve well-being. However, few studies have examined the association of general self-efficacy, resilience, and perceived social support towards psychological trauma in the aftermath of disasters (Bodas et al., 2019; Chan et al., 2020; Huang et al., 2019; Lim & Han, 2016; Reyes et al., 2019; Schlechter et al., 2021). Studies in the field of psychological trauma tended to focus mainly on the delivery of disaster relief services such as counseling and recovery programs for disaster victims (Dziadzko et al., 2017; El-Khodary & Samara, 2019; Fang & Chung, 2019; Kang, 2020).

METHODOLOGY

Research Design and Setting

The present study followed a predictive cross-sectional design as referenced in the classifications of non-experimental quantitative research by Johnson (2001). It was conducted in the Philippines, known to experience frequent natural disasters due to its location next to the Pacific Ocean (Bollettino et al., 2018).

Participants and Sampling Technique

The study targeted a population of Filipinos aged 18 and above, who have experienced any natural disaster, through purposive sampling. The researchers specifically sought participants who have prior experience of disasters within the last 5 years, as survivors of natural disasters may still suffer from psychological symptoms even years after the disaster (Etikan, 2016; Tanaka et al., 2016). SES categories were based on the annual family income of the participants: less than 40,000 PHP; 40,000 – 59,999 PHP; 60,000 – 99,999 PHP; 100,000 – 249,999 PHP; 250,000 – 499,999 PHP; and 500,000 and over PHP (Philippine Statistics Authority, 2018).

Data Gathering Tools

Four survey questionnaires were used as the primary instruments in gathering data for the present study: Davidson Trauma Scale (DTS) for measuring psychological trauma (Davidson et al., 1997), Brief Resilience Scale (BRS) for measuring resilience (Smith et al., 2008), New General Self-Efficacy Scale (NGSE) for measuring general self-efficacy (G. Chen et al., 2001), and Multidimensional Scale of Perceived Social Support (MSPSS) for measuring perceived social support (Zimet et al., 1990).

Data Analysis

Research problem 1: To determine whether there is a significant difference in the relationship between GSE, R, PSS, and psychological trauma when participants are grouped according to gender and SES, the researchers conducted an independent sample t-test when participants are grouped by gender and one-way analysis of variance (ANOVA) when participants are grouped by SES (Daya, 2003; Molugaram & Rao, 2017).

Research problem 2: To determine whether GSE, R, and PSS independently influence psychological trauma, the researchers used multiple linear regression (Uyanık & Güler, 2013).

Research problem 3: To determine whether there is a significant interaction effect between GSE, R, and PSS in influencing psychological trauma, the researchers used multiple linear regression (Uyanık & Güler, 2013).

Ethical Considerations

Voluntary participation in the study was ensured through informed consent to protect participants' autonomy and provide a clear consent for participation (Fouka & Mantzouro, 2011; Ethical Principles of Psychologists and Code of Conduct, 2017; Psychological Association of the Philippines, 2009). The researchers also assured the participants that anonymity, right to privacy, and confidentiality were practiced throughout the duration of the study.

RESULTS

Table 1. Demographic Profile of Participants (Gender and Socioeconomic Status)

Income Classes	Male		Female	
	n	%	n	%
Less than 40,000 PHP	19	7.57	62	24.70
PHP 40,000 – 59,999	12	4.78	26	10.36
PHP 60,000 – 99,999	11	4.38	25	9.96
PHP 100,000 – 249,999	13	5.18	30	11.95
PHP 250,000 – 499,999	11	4.38	21	8.37
PHP 500,000 and over	6	2.39	15	5.98
Total	72	28.69	179	71.31

In total, 484 respondents consented to participate in the research survey. Exclusion of outliers yielded a total of 251 participants. Table 1 shows the demographic profile of participants according to gender and SES.

Table 2. Demographic Profile of Participants Grouped According to Area of Residence

Area of Residence	n	%
Benguet	3	1.195
Bohol	2	0.798
Bulacan	15	5.976
Cagayan	1	0.398
Cavite	39	15.537
Cebu	3	1.195
Cotabato	1	0.398
Ilocos Sur	1	0.398
Iloilo	1	0.398
Laguna	8	3.187
Leyte	3	1.195
Metro Manila	105	41.832
Other	35	13.944
Pampanga	4	1.593
Quezon	5	1.992
Rizal	21	8.366
Zambales	4	1.593
Total	251	100

Participants were also grouped according to their area of residence during which they experienced a disaster as shown in Table 2. A majority of the participants reside in Metro Manila, Cavite, and Rizal. Other participants reside in other regions that have also been characterized as disaster-prone areas.

Table 3. Independent Samples T-Test Results for General Self-Efficacy (Male vs Female)

Variable	Mean Male	Mean Female	t-value	df	p
General Self-Efficacy	3.779514	3.719972	0.719759	249	0.472349

In Table 3, there is no significant difference between males (mean = 3.78) and females (mean = 3.72) when tested for GSE with a p-value of $p > 0.05$ ($p = 0.47$). This suggests that there is no difference in the levels of GSE between male and female disaster survivors.

Table 4. Independent Samples T-test Results for Resilience (Male vs Female)

Variable	Mean Male	Mean Female	t-value	df	p
Resilience	3.15972	2.88920	3.39719	249	0.000793

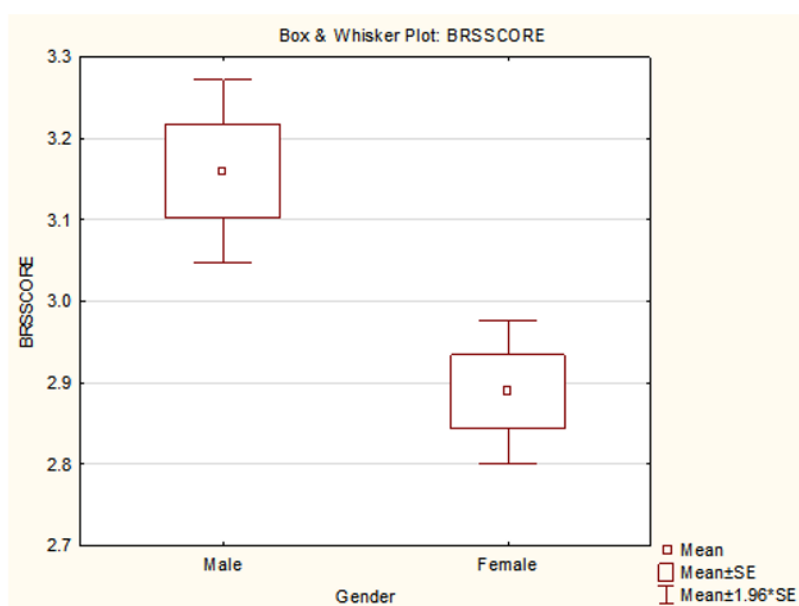


Figure 3. Box and Whisker Plot of Independent Samples T-test for Resilience (Male vs Female)

In Table 4, there is a significant difference between males (mean = 3.16) and females (mean = 2.89) when tested for R with a p-value of $p < 0.05$ ($p = 0.0007$). From these findings, it can be inferred that males exhibit higher levels of R compared to females as shown in Figure 3.

Table 5. Independent Samples T-test Results of Perceived Social Support (Male vs Female)

Variable	Mean Male	Mean Female	t-value	df	p
Perceived Social Support	5.125000	4.921788	1.431329	249	0.153590

In table 5, there is no significant difference between males (mean = 5.15) and females (mean = 4.92) when tested for PSS with a p-value of $p > 0.05$ ($p = 0.15$). This suggests that there is no difference in the levels of PSS between male and female disaster survivors.

Table 6. Independent Samples T-test Results of Disaster-related Psychological Trauma (Male vs Female)

Variable	Mean Male	Mean Female	t-value	df	p
Disaster-related Psychological Trauma	53.68056	58.53073	-1.26047	249	0.208680

In table 6, there is no significant difference between males (mean = 53.68) and females (mean = 58.53) when tested for disaster-related psychological trauma using the Davidson Trauma Scale, with a p-value $p > 0.05$ ($p = 0.21$).

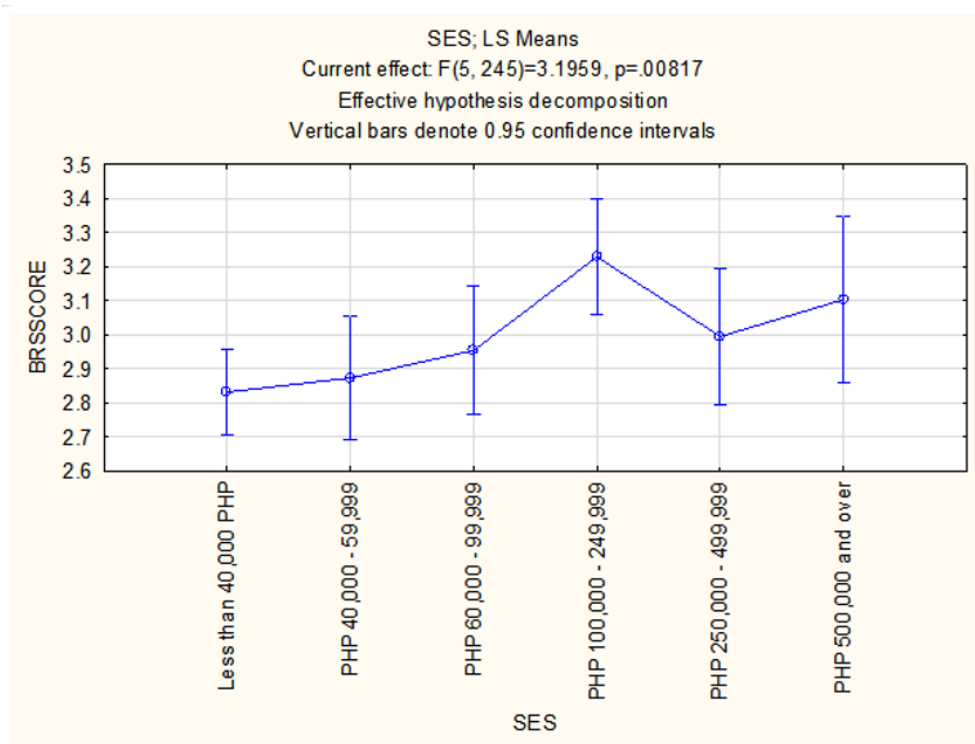
Table 7. One-way ANOVA Results of Participants' General Self-Efficacy When Grouped

According to Socioeconomic Status					
Variable	SS	Degr. Of Freedom	MS	F	p
General Self-Efficacy	3.305	5	0.661	1.920	0.091667

In table 7, the researchers tested for differences in participants' levels of GSE when they are grouped according to SES. With a p-value > 0.05 ($p = 0.09$), the results indicate that there are no significant differences in participants' levels of GSE across the various income classes.

Table 8. One-way ANOVA Results of Participants' Resilience When Grouped According to

Socioeconomic Status					
Variable	SS	Degr. Of Freedom	MS	F	p
Resilience	5.194	5	1.039	3.196	0.008172

**Figure 4.** Plot of One-way ANOVA Results on Participants' Resilience When Grouped

According to Socioeconomic Status

Table 8 shows the results of the one-way ANOVA test for participants' levels of R when they are grouped according to SES. With a p-value < 0.05 ($p = 0.008$), findings indicate that there is a significant difference in participants' levels of R across the various income classes. Figure 4 displays the differences in R between the income classes, showing higher levels of R

in higher income classes particularly in participants with an annual income of PHP 100,000 – 249,999 as compared to participants in lower income classes.

Table 9. One-way ANOVA Results of Participants' Perceived Social Support When Grouped According to Socioeconomic Status

Variable	SS	Degr. Of Freedom	MS	F	p
Perceived Social Support	5.195	5	1.039	1.000	0.418526

In Table 9, there is no significant difference in participants' levels of PSS when grouped according to SES. With a p-value > 0.05 ($p = 0.42$), this suggests that SES is not a good indicator of an individual's PSS.

Table 10. One-way ANOVA Results of Participants' Disaster-related Psychological Trauma When Grouped According to Socioeconomic Status

Variable	SS	Degr. Of Freedom	MS	F	p
Disaster-related Psychological Trauma	5.195	5	1.039	1.000	0.418526

In Table 10, findings suggest that there is no significant difference in participants' levels of disaster-related psychological trauma when they are grouped according to SES with a p-value > 0.05 ($p = 0.42$).

Table 11. Predictive Influence of General Self-Efficacy, Resilience, and Perceived Social Support towards Disaster-related Psychological Trauma

Regression Summary for Dependent Variable: DTS SCORE						
R= .40876887 R ² = .16709199 Adjusted R ² = .15697569						
F(3,247)=16.517 p<.00000 Std.Error of estimate: 25.346						
	b*	Std.Err. of b*	b	Std.Err. of b	t(243)	p-value
Intercept			105.8842	12.60955	8.39714	0.000000
General Self-Efficacy	0.136633	0.062594	6.3690	2.91779	2.18289	0.029990
Resilience	-0.405114	0.061875	-19.1978	2.93217	-6.54732	0.000000
Perceived Social Support	-0.115610	0.059748	-3.1305	1.61784	-1.93497	0.054136

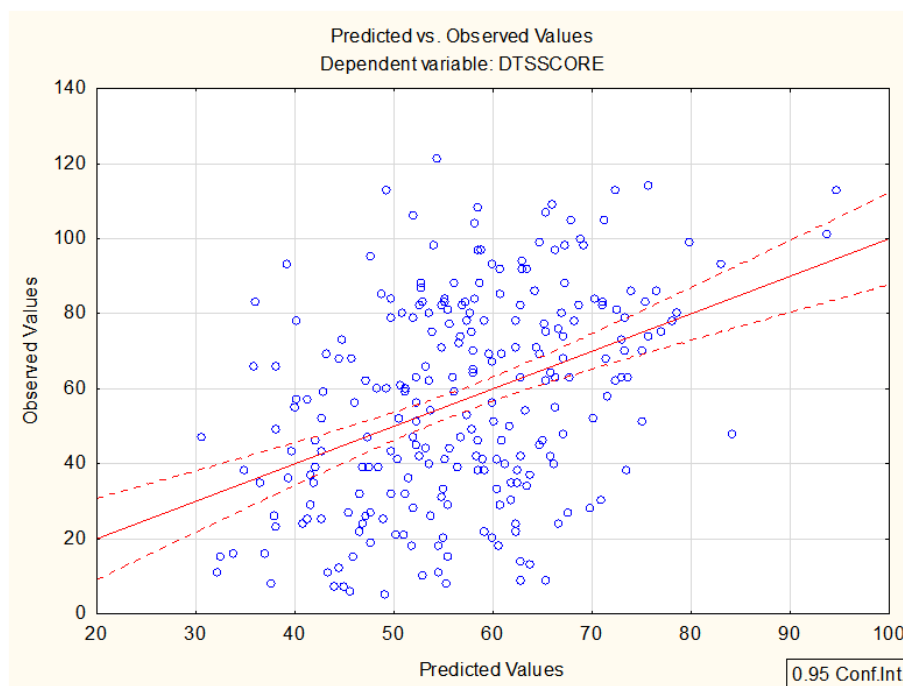


Figure 5. Scatterplot of Predicted vs Observed Values (Multiple Regression Analysis of Independent Relationships)

The gathered data was analyzed through multiple regression analysis using the values of GSE (X_1), R (X_2), and PSS (X_3) as regressors as shown in Table 11. Figure 4 displays the scatterplot of predicted values and observed values for the multiple regression analysis, indicating that the model has less accurate predictions when accounting for only GSE and R towards disaster-related psychological trauma. The regression was not a good fit ($R^2_{adj}=16\%$), but the overall relationship was significant $F(3,247)=16.157$, $p<.00000$. An r-squared value of $R^2=.167$ indicates that the data only account for approximately 17% of the variance in the output variable, which suggests that other factors may influence disaster-related psychological trauma other than GSE and R. With other variables held constant, the values of GSE (X_1) and R (X_2) are positively and negatively related to disaster-related psychological trauma (Y), respectively. The likelihood of disaster-related psychological trauma (Y) increases by 0.14 with regards to GSE (X_1) and decreases by 0.41 with regards to R (X_2). These results suggest that R and GSE are strong predictors of disaster-related psychological trauma when tested independently.

Table 12. Interaction Effects Between General Self-Efficacy, Resilience, and Perceived Social Support towards Disaster-related Psychological Trauma

Regression Summary for Dependent Variable: DTS SCORE						
R= .41868144 R ² = .17529415 Adjusted R ² = .15153719						
F(7,243)=7.3786 p<.00000 Std.Error of estimate: 25.428						
	b*	Std.Err. of b*	b	Std.Err. of b	t(243)	p-value
Intercept			57.0027	1.704911	33.43493	0.000000
R centered	-0.402037	0.064828	-19.0520	3.072102	-6.20163	0.000000
GSE centered	0.132752	0.065028	6.1881	3.031244	2.04145	0.042287
PSS centered	-0.127259	0.064158	-3.4459	1.737274	-1.98351	0.048436
R*GSE centered	-0.036776	0.063581	-2.7574	4.767203	-0.57842	0.563518
R*PSS centered	0.038937	0.068356	1.7817	3.127764	0.56963	0.569457
GSE*PSS centered	0.056966	0.068257	2.6505	3.175839	0.83458	0.404772
R*GSE*PSS centered	0.050879	0.070411	3.1689	4.385408	0.72260	0.470621

Table 12 displays the statistical analysis results on the interaction effects between GSE, R, and PSS towards disaster-related psychological trauma. The gathered data was centered to avoid multicollinearity and analyzed using multiple regression analysis using the values of GSE (X_1), R (X_2), and PSS (X_3). In testing for interaction effects, the independent variables were paired and subsequently centered: (1) R and GSE, (2) R and PSS, (3), GSE and PSS, and (4) R, GSE, and PSS. The regression was not a good fit ($R^2_{adj}=15\%$), and the overall relationship was not significant when accounting for interaction effects $F(7,243)=7.3786$, $p<.00000$. An r-squared value of $R^2=.175$ indicates that the data only account for 18% of the variation in the regression model when the independent variables are tested for interaction effects. These findings indicate that while R (X_2) and PSS (X_3) independently influence disaster-related psychological trauma, there are no significant interaction effects between the variables in predicting psychological trauma symptom severity. Hence, neither do the levels of an individual's GSE interact with R nor does GSE interact with PSS, and vice versa, in predicting disaster-related psychological trauma.

DISCUSSION

A majority of the participants were in the income class of less than 40,000 PHP with most being female. Participants mostly resided in disaster-prone areas such as Metro Manila, Cavite, and Rizal (Lagmay et al., 2017). This study found that males are more resilient than females following the aftermath of traumatic disasters due higher education accessibility in males. As such, educational attainment and educational equality can be identified as indicators for R between males and females (Lightfoot et al., 2020).

Only R and GSE were found to be strong predictors of disaster-related psychological trauma when tested independently. R was a highly significant predictor of less severe psychological trauma symptoms in disaster survivors (Almazan et al., 2018). The results supported the notion that Filipinos are highly capable of coping and bouncing back from the damages and losses that they have suffered (Agdamag, 2014). The results further supported individuals in

higher income classes were observed to have higher levels of R compared to individuals in lower income classes. Yazawa and colleagues (2022) stated that women were more likely to suffer than their male counterparts due to women being more likely to have low income, suggesting that females are more vulnerable than males. With the gap in the SES among Filipinos, low-income families living in disaster-prone areas remained vulnerable and at high risk of suffering from psychological trauma and loss of lives and properties due to lack of resources (ABS-CBN News, 2020). While disaster management and disaster relief programs are practiced across the country, the lack of financial support and limited medical aid and mental health services provided to disaster survivors are crucial issues that need to be addressed by the national and local governments considering the country's proneness to natural disasters.

PSS also minimized the effects of prolonged suffering from psychological trauma symptoms following a disastrous event (Han et al., 2019; John-Henderson & Ginty, 2020; Shang et al., 2019). However, the findings posited that PSS has no relation towards the reduction of psychological trauma following exposure to a disastrous event. It suggested that social support and R are only significant when associated with other variables such as physical and mental health-related quality of life.

On the other hand, GSE has been found to have significant influence in psychological trauma following a disastrous event (Bodas et al., 2019; Kılıç & Şimşek, 2019; Lim & Han, 2016). It was posited that GSE was associated with disaster risk reduction and precautionary measures to minimize loss of lives and properties. However, the findings suggested that high levels of GSE did not minimize the effects of psychological trauma following a disastrous event but rather increased the effects of psychological trauma following a disastrous event. This was explained by Kılıç & Şimşek (2019) that GSE can reduce psychological trauma following exposure to a disastrous event if there is a provision of psychological first aid for disaster preparations on the victims.

The researchers assessed whether R, GSE, and PSS jointly influenced disaster-related psychological trauma. However, there are no interaction effects present among the presented variables. According to Warshawski (2022), academic self-efficacy (ASE) could be the contributing factor with R and PSS and not GSE. Participants produced high R and high PSS while producing high ASE to overcome difficulty. Another contributing factor with R and GSE is the meaning of life which could lower anxiety levels, maintain mental balance, and provide increased mental health rather than the use of PSS among the variables (Tsidaki, 2021). Reducing stress levels, promoting self-efficacy, and creating a spiritual environment could enhance R to reduce disaster-related trauma (Timalsina et al., 2022) while a change in demographic profile where income, health problems and others could increase R to reduce disaster-related trauma (Timalsina et al., 2021).

CONCLUSIONS

The researchers aimed to assess the relationship between disaster-related psychological trauma, R, GSE, and PSS of Filipino disaster victims. However, the study's results showed that there were no significant interaction effects between the variables in predicting psychological trauma. Only R and PSS were found to be strong predictors of disaster-related psychological trauma when tested independently. As such, the researchers conclude that other factors may also influence the psychological trauma of disaster survivors apart from GSE and R. Other factors such as quality of life, psychological first aid, and other forms of self-

efficacy should be examined as to whether these factors can predict disaster-related psychological trauma, jointly and independently. A wider demographic profile is recommended to determine whether other confounding factors aside from SES and gender can influence disaster-related psychological trauma. The recency and frequency of exposure to disasters should be closely considered to produce more accurate results.

National and local governments are recommended to provide interventions for disaster survivors to increase resilience and reduce symptoms of psychological trauma while providing said implications for disaster management and risk reduction. They are also urged to focus efforts on mitigating the vulnerability of certain populations in disaster-prone areas, particularly low-income families who are at a higher risk of suffering loss of lives and properties as well as physical and psychological health risks. Mental health professionals are suggested to design interventions and healthcare programs to provide more appropriate and more efficient psychological aid for disaster survivors. The study's findings can also serve as a baseline for disaster risk and management organizations to develop a vulnerability index of at-risk populations in the Philippines.

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