

The Role of Social Ecological Resilience in the Psychological Well-being of Filipino Emerging Adults during the COVID-19 Pandemic

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Abstract

Several studies have proposed the use of resilience as a model for maintaining well-being during an adversity. However, only a few studies have employed social ecological resilience (SER) model as a basis for meeting challenges during the COVID-19 pandemic. This study utilized the SER framework to identify the effects of the protective factors (personal and caregiver resilience) on the association between risk factors and the psychological well-being (PWB) of emerging adults during the pandemic. The study employed a descriptive correlational design and gathered data through an online survey among 443 Filipino emerging adults. A simple moderation analysis indicated that the personal resilience dimension of SER moderated the influence of future anxiety on PWB and its two dimensions, positive relationship to others and self-acceptance, hence protecting the emerging adults' PWB during the pandemic. Interestingly, the findings also indicated that anxiety enhances psychological well-being during the COVID-19 pandemic. The study provides further support to resilience theory by shedding light on the relationship among risk factors and one's resources.

Keywords: relationship of risk factors and well-being, protective roles of resilience, resilience as moderating variable, anxiety, perceived Coronavirus threat, future anxiety

Introduction

The COVID-19 pandemic has caused mental health concerns like anxiety and depression, with anxiety being the most frequent symptom (Salari et al., 2020). Accordingly, excessive or high anxiety levels has been associated with disruptive behavior such as panic buying, inappropriate interpretation of minor symptoms, and continuous worrying about relatives contracting the virus (Wang et al., 2020). Elevated anxiety was also found among those who experienced perceived threats from factors such as vulnerability, contraction, and isolation

(Pérez-Fuentes et al., 2020). Moreover, the perceived threat of COVID-19 has also influenced individuals' anticipatory or future anxiety (Paredes et al., 2021). These variables (anxiety, perceived threat of COVID-19, and future anxiety) are thus considered as risk factors that may have detrimental effects on psychological well-being.

Yet while many studies have identified risk and protective factors that may have influenced the well-being of people during the pandemic (e.g., Germani et al., 2020; Kohls et al., 2021), only few have used the resilience framework as a way of understanding the relationship between

risks and resources during this time. Utilizing a framework to test these factors would help clarify and elaborate the influence of such factors on the well-being of individuals during the pandemic.

Resilience is a psychological construct that serves as a tool to promote and maintain well-being during adversities. It is seen as an excellent framework in looking for resources that are relevant to the maintenance of well-being (Callueng et al., 2020; Hechanova et al., 2015). Resilience plays a crucial role in addressing adversities because an individual who has this may sustain their well-being despite the presence of difficulties (Kocjan et al., 2021). Generally, resilience has two essential elements: the risk or adversity and positive adaptation. Risk factors are situations, events, or experiences that increase the likelihood for maladjustment (Masten and Wright, 1998); while positive adaptation entails better functioning despite exposure to significant adversity or risk factors. Accordingly, the protective factors lower the chances of those who are at risk from a detrimental outcome such as maladjustment (Kazdin, 2021).

The resources or protective factors that moderate the negative consequences of adversity on the well-being of an individual may portray different results depending on the context and situation. Sandler, Wolchik, and Ayers (2007) suggested the importance of the transaction of a person with their environments that may likely help the person overcome the adversity. The successful transaction may help an individual achieve positive well-being or life satisfaction. Thus, resilience is seen as a process that involves an interaction of the individual and their ecology. It argues that in the presence of adversity, individuals who are provided with resources may be able to use these meaningfully to sustain their well-being.

With the recognition of the importance of context and other societal factors related to sustaining well-being, Ungar (2008) proposed the social ecological framework in understanding resilience. The social ecological resilience (SER) model of Ungar is one such framework that identifies resources from one's ecology that can be navigated and negotiated by individuals in maintaining their wellbeing during an adversity.

This research aims to use the social ecological resilience framework to study the relationship

between the risk factors (anxiety, future anxiety, and perceived threat) and the emerging adult's psychological well-being during the COVID-19 pandemic. Specifically, it will test if the protective factors (i.e., personal and caregiver resilience) in the SER framework will moderate the relationship between the risk factors and the psychological well-being of emerging adults. Towards this, the study will determine the following: (a) the levels of risk factors, social ecological resilience, and psychological well-being of emerging adults; (b) the relationship of the risk factors (i.e., anxiety, future anxiety, and perceived threat) on the psychological well-being (i.e., self-acceptance, positive relations, environmental mastery, autonomy, purpose in life, and personal growth) of emerging adults; and, (c) the role of social ecological resilience (personal resilience and caregiver resilience) on the relationship of risk factors (anxiety, future anxiety, and perceived threat) with the psychological well-being (self-acceptance, positive relations, environmental mastery, autonomy, purpose in life, and personal growth) of emerging adults.

The focus on emerging adults stems from observations that members of this group have experienced a notable increase in the level of anxiety and depressive symptoms that greatly affected their mental well-being during the pandemic (Germani et al., 2020; & Towner et al., 2021). Two-thirds of emerging adults have also been reported to have experienced moderate to severe anxiety, while one-third have had cases of suicidality (Halliburton et al., 2021). In the Philippines, Cleofas (2020) found a common experience of uncertainty, anxiety, and disappointment among college students in the stage of emerging adulthood due to the unprecedented effects of the pandemic.

Methodology

Research Design

The main objective of the research is to analyze the moderation of socio-ecological resilience on the relationship of risk factors with the psychological well-being of Filipino emerging adults. The study employed a descriptive correlational design, gathering data through

an online survey that made use of adopted questionnaires.

Research Participants

Non-probability convenience sampling and crowdsourcing technique were used to gather participants. An advertisement was posted on Facebook, which included the following criteria for prospective respondents: (a) emerging adults with ages ranging from 18 to 25 years old; (b) residents of Nueva Ecija; (c) students, students with part time job, or unemployed; and, (d) single and who may/may not be in romantic relationships. The questionnaires were distributed as a Google Form via social media and other online platforms. The data gathering started on March 29, 2022 and ended on April 5, 2022.

There were 467 Filipino emerging adults who participated in the study. However, upon employing an outlier check using the Statistical Package for Social Sciences, and via visual inspection, the resulting number was $N = 443$. Out of these, 37.2% were males and 62.8% were females. There were 84.2% students, 13.3% working students, and 2.5% who were unemployed. The mean age was 20.41 ($SD=1.42$).

Data Gathering Tools

Social Ecological Resilience

The adult resilience measure (ARM-R) is a revised self-report questionnaire that measures the social ecological resources of an individual using two subscales, the personal resilience and caregiver resilience (Jefferies, McGarrigle, & Ungar, 2019). The personal resilience includes the internal skills and the resources which can be found in school, peer, and learning opportunities. Examples of questions in the subscale include, "I get along with people around me". On the other hand, the caregiver resilience indicates an important relationship with either the caregiver, parent, or partner. Examples of this subscale include, "my family is supportive towards me". The scale consists of 17 items to be answered on a 5-point (not at all, a little, somewhat, quite a bit, a lot) scale. The total scores are gained by summing each item. The 5-point measure has

a minimum score of 17 and the maximum score of 85. The internal reliability of the ARM-R in this study is Cronbach alpha = .844 for personal resilience, Cronbach alpha = .790 for caregiver subscale and Cronbach alpha = .883 for overall resilience.

Psychological Well-being

The Psychological Well-Being Scales (PWBS) is a tool developed by Carol Ryff that measures the six dimensions of one's psychological well-being (Ryff, 1989). The PWBS comprises six subscales referring to its six dimensions: (1) Self-acceptance (7 items: e.g., In general, I feel confident and positive about myself.), (2) Positive relationship with others (7 items: e.g., Most people see me as loving and affectionate), (3) Autonomy (7 items: e.g., I tend to worry about what other people think of me.), (4) Environmental Mastery (7 items: e.g., The demands of everyday life often get me down), (5) Purpose in life (7 items: e.g., I have a sense of direction and purpose in life), and (6) personal growth (7 items: e.g., I am not interested in activities that will expand my horizons).

This measure is scored in a 6-point Likert scale ranging from "1" strongly agree to "6" strongly disagree. Rules for scoring and interpretation were provided by Carol D. Ryff through an email to the researchers. The scores for the subscales are calculated by adding the scores on the specific items in each subscale, and the total score is computed by adding the scores in each subscale. The internal reliability for the overall psychological well-being in this study is Cronbach's $\alpha = .85$.

Perceived Coronavirus Threat

The Perceived Coronavirus Threat questionnaire short version (PCTQ-S) developed by Conway et al. (2020) is a scale that measures how threatened or worried the respondents about the COVID-19. The items are measured using a 7-point Likert scale which ranges from (1) "not true of me at all" and (7) "Very true of me". Example of the item is "Thinking about the coronavirus (COVID-19) makes me feel threatened". The higher the score is, the higher the perceived coronavirus threat of the participants. The internal consistency score

showed a good test reliability (Cronbach's $\alpha = .862$).

Anxiety

The Stress and Anxiety to Viral Epidemic – 6 items Scale (SAVE-6) is used to gauge the anxiety of the individuals in response to the viral epidemic (Chung et al., 2021). The SAVE-6 has six items (e.g., Are you afraid the virus outbreak will continue indefinitely?) and each item is rated on a 5-point Likert Scale which ranges from 0 (Never) to 4 (Always). The total scores are obtained by adding the scores for each item, and it may range from 0-24 where higher scores indicate higher level of anxiety response to pandemic. The reliability is computed at Cronbach's alpha = .879.

Future Anxiety

The Dark Future Scale (DF) gauges the level of anxiety of a person in relation to the future. The DF scale has 5 items (e.g., I am afraid that the problems which trouble me now will continue for a long time) which possess a good internal reliability of Cronbach's $\alpha = .88$, and it is rated on a 7-point Likert scale 0 (Decidedly False) and 6 (Decidedly True) (Zaleski et al., 2019). Higher scores mean higher the level of the future anxiety.

Data Analysis

Descriptive and regression analyses were used to identify the level of variables among the participants (i.e., risk factors, social ecological resilience, and psychological well-being) and whether the risk factors negatively predict psychological well-being. In turn, moderator analysis was employed to identify if the social

ecological resilience moderates the effect of risk factors on the psychological well-being of emerging adults. Computations were done using the Statistical Package for Social Sciences (V.20).

Ethical Considerations

The study proposal was evaluated and approved by the Research Ethics Committee of Saint Louis University. Informed consent was also sought from the participants before they answered the questionnaires. The data and information gathered were kept confidential and were used only for the purposes of the study. All the data in the survey were coded so that no identifying information will be traced to a particular respondent.

Results

Levels of Risk Factors, Social Ecological Resilience, and Psychological Well-being of Emerging Adults

Table 1 shows that the Mean scores of perceived threats from coronavirus, anxiety related to COVID-19 pandemic, and worries on the future are all within the 2nd quartile, which indicates that Filipino emerging adults experienced moderate levels of risk factors during the pandemic.

Table 2 shows that Filipino emerging adults have a moderate level of social ecological resilience. In particular, Filipino emerging adults have moderate levels of resources such as personal resilience and caregiver resilience that they can access during the adversity.

Table 3 shows that Filipino emerging adults have a moderate level of general psychological well-being and its six dimensions.

Table 1. Mean, Quartiles, and Standard Deviation of Scores for Risk Factors.

Risk Factors	<i>M</i>	SD	Q1 (25)	Q2 (50)	Q3(75)
Perceived threat from Coronavirus	14.83	4.533	12	16	18
Anxiety	17.85	5.001	15	18	22
Future Anxiety	22.56	5.631	19	23	27

Note: $N=425$. Q1: low level of risk factors, Q2: Moderate level of risk factors, and Q3: High level of risk factors.

Table 2. Means and Standard Deviation of Scores for Social Ecological Resilience and its Subscales.

Resilience	M	SD	QI
Personal Resilience	39.16	5.826	Moderate
Caregiver Resilience	27.52	4.533	Moderate
Overall Resilience	66.68	9.353	Moderate

Note: N=425. Score of PR(1-35), CR(1-24) OR(1-60): Low resilience; PR(36-40), CR(25-28), OR(61-67): Moderate Resilience; PR(41-44), CR(29-31), OR(68-74): High resilience; PR (45-50), CR(32-35) OR(75-85): Exceptional Resilience

Table 3. Mean, Quartiles, and Standard Deviation of Scores for Psychological Well-being and its Dimensions.

Psychological Well-being	M	SD	Q1(25)	Q2(50)	Q3(75)
Autonomy	25.37	4.088	23.00	25.00	28.00
Environmental Mastery	24.76	3.841	22.00	25.00	27.00
Personal Growth	29.42	4.973	25.00	29.00	33.00
Positive Relationship to others	29.52	4.786	26.00	29.00	33.00
Purpose in Life	27.93	4.796	24.00	28.00	31.00
Self-Acceptance	25.53	5.006	23.00	26.00	29.00
Psychological Well-being	162.53	20.092	148.00	160.00	176.00

Note: N=425. Q1: low level of psychological well-being and its dimension, Q2: Moderate level of psychological well-being and its dimensions, and Q3: High level of psychological well-being and its dimension

The Relationship of Risk Factors on the Emerging Adults’ Psychological Well-being and its Dimensions

Table 4 shows significant F values for psychological well-being in general and for five of its six dimensions. These indicate that the regression of psychological well-being and its

dimensions on the three risk factors (perceived Coronavirus threat, anxiety, and future anxiety) are all significant except for the ‘positive relationship to others’ dimension of psychological well-being.

Looking into the contributions of each of the three predictors (perceived coronavirus, anxiety, and future anxiety), the results showed that

Table 4. Regression Coefficients of Risk Factors on Psychological Well-being and its Dimensions.

Variable	Psychological Well-being	Autonomy	Environmental Mastery	Personal Growth	Positive Relationship	Purpose in Life	Self-Acceptance
R	.269	.187	.279	.144	.069	.217	.332
R ²	.072	.035	.078	.021	.005	.047	.111
F	11.409***	5.296***	12.400***	3.120*	.703	7.224***	18.187***
Predictor’s B values							
Perceived Coronavirus Threat	.006	-.061	.040	-.006	-.034	-.009	.075
Anxiety	.533*	.036	.067	.102	.063	.116	.148*
Future Anxiety	-1.057***	-.129***	-.209***	-.137**	-.059	-.203***	-.321***

Note: p < 0.05 *; p < 0.01 **; p < 0.001 ***, N= 443

future anxiety had the biggest contribution in the prediction of the Filipino emerging adult's psychological well-being and on its dimensions except for the 'positive relationship to others.' This means that higher levels of future anxiety may indicate lower levels of psychological well-being and its dimensions.

The anxiety levels of emerging adults during the Covid19 pandemic also showed to be a positive and significant predictor of psychological well-being and its 'self-acceptance' dimension.

The Role of Social Ecological Resilience on the Relationship of Risk Factors and the Psychological Well-being of Emerging Adults

A series of simple moderator analysis were conducted to test whether the relationship between risk factors (anxiety, future anxiety, and perceived coronavirus threat) and psychological well-being and its dimensions significantly differs among the levels of personal resilience and caregiver resilience. The results showed that the relationship between future anxiety and psychological well-being and some of its dimensions differed significantly among the levels of personal resilience only. Table 5 shows that a significant interaction effect was

found between future anxiety and personal resilience in predicting psychological well-being ($t=2.109, p<.05$), and its two dimensions, positive relationship to others ($t=1.998, p<.05$) and self-acceptance ($t=3.507, p<.05$). This indicates that the relationship between future anxiety and psychological well-being, and its two dimensions of positive relationship to others and self-acceptance, were moderated by personal resilience.

Figures 1, 2, and 3 show that the slopes of the low personal resilience got steeper as compared to the slopes of moderate and high personal resilience. This indicates that the negative relationship between future anxiety and psychological well-being and its two dimensions, positive relationship to others and self-acceptance, becomes stronger as the personal resilience of emerging adults is lowered. Viewed differently, these findings show that higher personal resilience of emerging adults results in a weaker negative relationship between the future anxiety and psychological well-being and its two dimensions, positive relationship to others and self-acceptance.

Table 5. Moderator Analysis between Future Anxiety and Emerging Adults' Psychological Well-being and its Dimensions (autonomy, environmental mastery, personal growth, positive relationship to others, purpose in life, and self-acceptance) using Personal Resilience as Moderating Variables.

Variable	Psycho-logical Wellbeing	Autonomy	Environmental Mastery	Personal Growth	Positive Relationship	Purpose in Life	Self-Acceptance
Model Summary for Personal Resilience							
R	.576	.270	.482	.379	.540	.371	.532
R ²	.332	.073	.233	.143	.291	.138	.283
F	72.668***	11.507***	44.365***	24.519***	60.112***	23.400***	57.781***
$\Delta R^2 X*W$.007	.000	.003	.001	.006	.002	.020
F X*W	4.447*	.000	1.949	.461	3.992*	.815	12.296***
Predictor, Moderator, and Interaction's B (Personal Resilience)							
Future Anx _(X)	-3.070***	-.143	-.478*	-.3191	-.561*	-.426	-1.143***
Personal _(W)	.687	.146	.119	.210	.182	.134	-.103
Interaction _(X*W)	.050*	-.000	.007	.005	.012*	.006	.022***

Note: $p < 0.05$ * ; $p < 0.01$ **; $p < 0.001$ ***, $N=443$, X is the Predictor, W is Personal Resilience as Moderator, Z is Caregiver resilience as Moderator, X*W is the interaction between Personal Resilience and Outcome

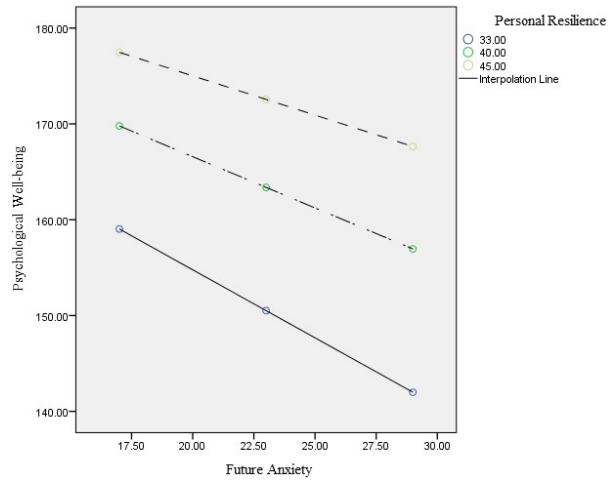


Figure 1. Personal Resilience a Significant Moderator between Future Anxiety and Psychological Well-being

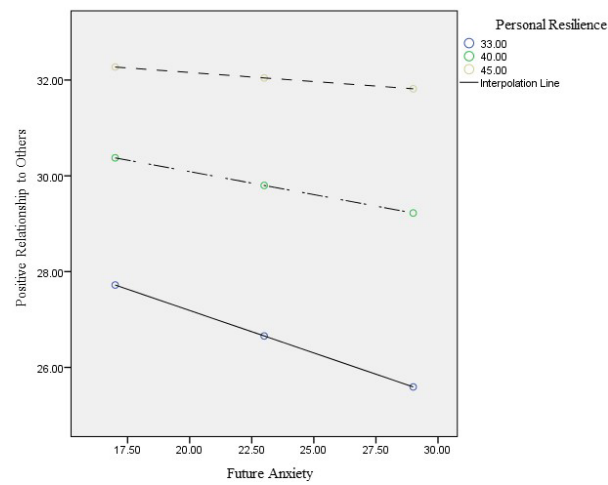


Figure 2. Personal Resilience a Significant Moderator between Future Anxiety and Positive Relationship to Others

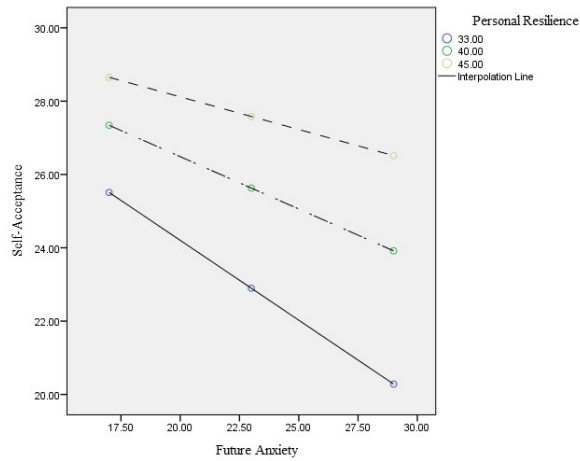


Figure 3. Personal Resilience a Significant Moderator between Future Anxiety and Self-acceptance

Discussion

The study utilized the social ecological resilience (SER) framework to identify the effects of the protective factors (personal and caregiver resilience) on the association between risk factors and the psychological well-being (PWB) of emerging adults during the pandemic. Overall, results show that the personal resilience of SER moderates the relationship between future anxiety as risk factor and the emerging adults' psychological well-being and its two dimensions, namely positive relationship to others and self-acceptance. This means that despite the finding that future anxiety negatively affects the emerging adult's psychological well-being, the latter can draw from their available intrapersonal and interpersonal resources to maintain their psychological well-being.

An individual's personal resilience is composed of one's social skills, sociability, valuing education or skills and competency, mastery, peer support or support from friends, sense of belongingness, and fair treatment from one community (Resilience Research Centre, 2018). Thus, the study results imply that possessing a higher personal resilience means having resources such as the opportunity of emerging adults to showcase their ability, to improve their competencies, and to socialize with others (Hines et al., 2005; Masten et al., 2004). The Filipino emerging adults' ability to create and make use of opportunities for self-development is supported in the study of Cleofas (2020), which found that even when Filipino emerging adults experience future anxiety, they value learning experiences and real training where they can acquire necessary skills and knowledge needed in their future field of profession. In this study, the personal resilience of emerging adults is seen in the value placed on education or improvement of their qualifications and skills, opportunities for developing and demonstrating one's capability in skills such as in online education. These have contributed to how they address their future anxiety, and thus increased their psychological well-being during the pandemic.

The skill of emerging adults to build social networks, connect with and harness support from their family, friends, significant others and even the community have likewise raised their

personal resilience. These are the resources that can be used by the emerging adults to increase their capability to create a positive relationship with others despite their worries and negative anticipation of future events. As Sharma, Goswami, & Gupta (2016) put it, social skills, or the ability to socialize with others are a basic need for healthy and positive relationship with others. In general, Filipinos are known to interact well with others due to their cultural value of "pakikipagkapwa," which includes not just developing smooth interpersonal relationships but also respecting others as fellow human beings and treating them with dignity and equality (Enriquez, 1986). This important resource from positive personal relationships is thus readily available to the Filipino emerging adult when confronted with future anxieties.

This study also found that Filipino emerging adults have experienced moderate levels of risk factors (anxiety, future anxiety, and perceived threat from Coronavirus) during the COVID-19 pandemic. From among these risks, future anxiety had the biggest contribution in the prediction of the Filipino emerging adult's psychological well-being and on its dimensions of autonomy, environmental mastery, personal growth, purpose in life, and self-acceptance. This means that higher levels of future anxiety may indicate lower levels of psychological well-being and its dimensions. The result supports earlier research indicating that future anxiety has a detrimental influence on one's well-being (Dodd et al., 2021; Paredes et al., 2021).

Future anxiety involves fear, worry, anxiety and apprehension of a personal distant future. This happens when negative cognitive and emotional processes outweigh positive thoughts or attitude (Zaleski et al., 2019). According to Nitschke et al. (2020), when uncertainty and other worries are not regulated, the severity of negative emotions associated with it may be detrimental to physical and mental health. It may be possible that the Filipino emerging adults may have experienced strong fear and worry about their future because of the uncontrollable changes in economy and politics brought by COVID-19 pandemic. Paredes et al. (2021) have noted that economic collapse, price hike, and unemployment may increase the fear of individuals about their situation which may also increase their future anxiety.

The study's results may relate to the fact that emerging adulthood is a crucial developmental stage of life where individuals are exploring different possibilities such as looking for employment and life-long partners, establishing financial independence and meaning in life, experiencing life satisfaction, and developing psychological well-being (Arnett, 2015; Kins, Beyers, Soenens, & Vansteenkiste, 2009; Mayseless & Keren, 2014). The emerging adults may have perceived the changes brought by the COVID-19 pandemic as threats to the achievement of their future goals, so much so that it increased their future anxiety and consequently lowered their psychological well-being.

Even as the study pointed to moderate levels of risk factors (anxiety, future anxiety, and perceived Coronavirus threat) present during the COVID-19 pandemic among emerging adults, an interesting result was seen in how anxiety predicted psychological well-being and some of its dimensions. Specifically, the average level of anxiety experienced by the emerging adults have turned out to be promotive of psychological well-being instead of being a risk factor. This means that the anxiety felt by the emerging adults during these trying times may have resulted in increasing their psychological well-being. This particular finding lends support to the challenge model of resilience (Fergus and Zimmerman, 2005), which suggests that a person with an exposure to moderate risk can learn to deal with and overcome their circumstances as opposed to those exposed to high risk who may find their circumstances too overwhelming to deal with. It is possible that the anxiety experienced during the COVID-19 pandemic may have encouraged the emerging adult to adopt proactive behaviors such as following protocols provided by the Philippine Government to protect themselves against the COVID-19. This action may have bolstered their confidence, autonomy and mastery of their environment and the situation, all of which are important elements of psychological well-being.

A notable limitation to this research has to do with the timing of the study. At the time of data gathering, the Philippines has already instituted mass vaccination, eased some restrictions, and reduced some of the COVID-19 protocols. There were also fewer COVID-19 cases

reported at this time as compared to the previous months prior to the data gathering. These and other predisposing factors may have affected the levels of the risk factors (anxiety, future anxiety and perceived COVID-19 threat), as well as the levels of psychological well-being and resilience. The interpretations of the results are therefore limited to the current levels of the variables under study and have not considered the possible effects of changes over time, that is, at the height of the pandemic and several months or years thereafter. A longitudinal design may help determine whether social ecological resilience is responsible for sustaining an emerging adult's psychological well-being over a longer period of time.

Conclusion

Evidence from this study has shown that the personal resilience dimension of the social ecological resilience framework moderates the relationship between future anxiety and emerging adult's psychological well-being and its two dimensions, positive relationship to others and self-acceptance. The negative influence of future anxiety on emerging adults' psychological well-being and its two dimensions, positive relationship to others and self-acceptance, tends to get weaker as personal resilience of emerging adults gets higher. Personal resilience is enhanced with available resources in the emerging adult's ecology such as the ability to pursue personal development and showcase their skills, and the care and support from significant others.

The study showcases the protective influence of personal resilience against the negative influence of future anxiety on emerging adult's psychological well-being. It therefore lends support to SER as an effective framework for analyzing how protective and risk factors interact in promoting psychological well-being among emerging adults during the COVID-19 pandemic.

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