Exploring Protective Factors of Resilience Among College Students

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Abstract
This study investigates possible protective factors that contribute to different mental health outcomes based on the resilience portfolio model. Using an explanatory sequential mixed methods design, the study first explores whether certain protective factors namely social support, regulatory strength, meaning making strength, and interpersonal strength would be associated with four distinctive mental health outcomes typologized by high and low levels of subjective well-being and symptomology in the dual-factor model. Then, the study examines how the high subjective well-being and high symptoms group achieve well-being despite clinical symptoms. Among the 311 college students who participated in the research, the high subjective well-being and high symptoms (symptomatic but content) group accounted for the highest proportion (49%), followed by the low subjective well-being and high symptoms (troubled) group (37%), the high subjective well-being and low symptoms (positive mental health) group (11%) and the low subjective well-being and low symptoms (vulnerable) group (3%). The quantitative result shows that the levels of social support, regulatory strength, meaning making strength and interpersonal strength significantly differ across the four outcome groups, revealing that these protective factors matter to determine one's mental health outcome. The qualitative result shows that students relied on different strengths that contributed to the same outcome. Most importantly, high self-efficacy and goal orientation were found to be common among the symptomatic but content. These findings support clinical approaches that strengthen protective factors and those that enhance cognitions about self-appraisal and goal orientation.

Keywords: Resilience Portfolio Model, Dual Factor Model, Subjective Well-Being, Protective Factors, Coping, Self-Efficacy, Goal Orientation

Introduction

Working in the university setting in the Philippines, the researchers have witnessed increased mental health concerns among colleagues and students during the pandemic. Some, despite heavy personal losses, were able rebound from adversity, while others were less resilient. It is in this background that the study explores protection factors that underpin resilience for better-than-expected outcomes.

Resilience as a process

Resilience has been seen as an innate trait that enhances individual adaptation (Oshio et. al, 2018). Resilience has also been considered as a process: one that overcomes the negative effects of risk exposure, copes successfully with traumatic experiences, and avoids the negative trajectories associated with risks (Wang et al., 2015). This process considers positive contextual, social, and individual variables that disrupt problematic developmental trajectories (Zimmerman, 2013). This process can also be seen as a pattern of adaptation that can be developed by everyone (Ungar, 2021) interacting within and between multiple systems that create the potential for those under stress to do better than expected (Ungar & Theron, 2020).

Promotive factors in the resilience process

Fergus and Zimmerman (2005) identified two types of promotive factors: assets and resources. Assets include positive factors that reside within individuals, such as self-efficacy and self-esteem. Resources include parental support, adult mentoring, and community organizations that promote positive youth development that provides youth with opportunities to earn and practice skills. It is believed that these assets and resources help less fortunate teenagers avoid the negative outcomes associated with poverty.

Grych et al. (2015) summed up prior resilience studies to create the resilience portfolio model. This model rebrands promotive factors as protective factors that also cover resources and assets. Assets in the new model include regulatory strengths, interpersonal strengths, and meaning making strengths. Regulatory strengths refer to emotion regulation capacity that seeks to manage negative emotions and generate positive emotions. Interpersonal strengths are characteristics within the individual that foster the development and maintenance of close relationships. Meaning-making strengths are concerned with the desire and the capacity to find meaning in difficult life events. Resources in the new model include people and environmental factors who and which can provide support and nurturing. Typically, a person having been exposed to violence would find support in their various personal strengths and external factors as they appraise the danger and adopt a strategy to cope with the situation, and the interaction with multiple systems and the person's responses will lead to a certain psychological health outcome (see Figure 1).

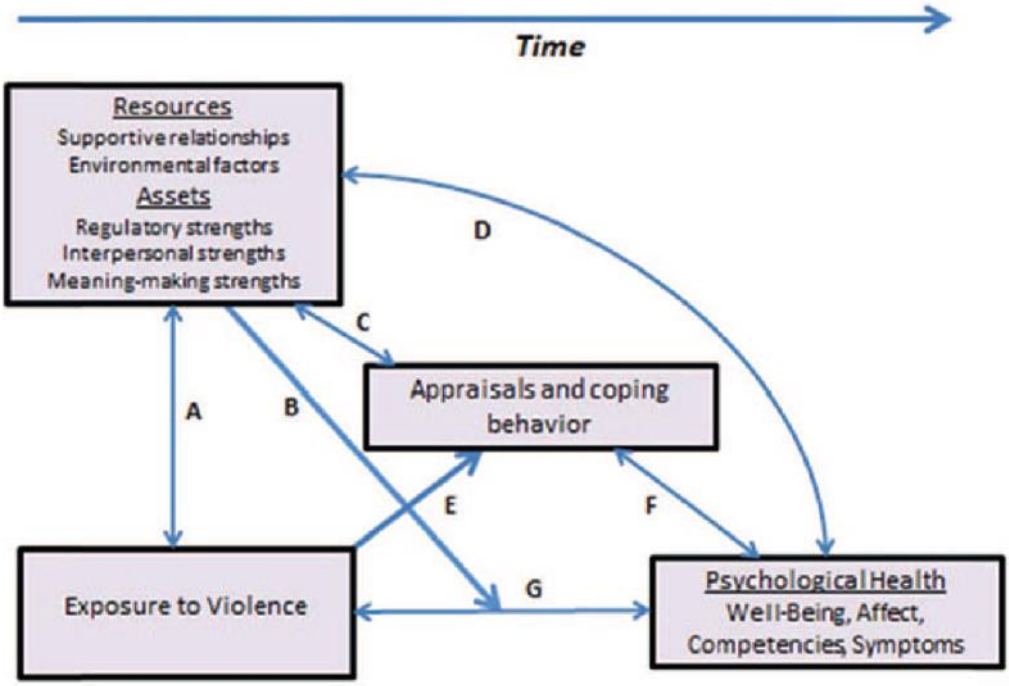

Figure 1: The Resilience Portfolio Model

Outcomes of resilience

The dual factor model sheds light on how to evaluate mental health outcomes with a more nuanced typology. It is suggested that the two concepts – subjective wellbeing and psychopathology - are important and distinct. Studies have found that both constructs are related but independent predictors of positive outcomes among students at various levels (Eklund et al., 2011; Suldo et al., 2016). Consistent with previous studies on the dual factor model, Grych et al. (2020) named the outcome groups as (1) positive mental health for those showing high subjective wellbeing and low symptoms; (2) symptomatic but content (high subjective wellbeing and high symptoms); (3) vulnerable (low subjective wellbeing and low symptoms); (4) troubled (low subjective well-being and high symptoms). Studies have consistently identified these distinct determinants and outcomes, demonstrating the need to assess mental health through the combined lens of symptoms and subjective wellbeing (Smith et al., 2020). Empirical evidence suggests that the dual-factor approach could be used in clinical or non-clinical settings, through different populations and lifespans (Iasiello et al., 2020). Grych et al. (2020) combined both the resilience portfolio model and the dual factor model and found that each of the four dual-factor outcomes was associated with various resources and assets.

Aim of the current study

This study uses the same model adopted by Grych et al. (2020), combining the resilience portfolio model and dual-factor model, to assess if it is true that the four mental health outcomes are associated with different levels of the assets and resources examined by Grych and colleagues (2020). With knowledge thus far, the assessment of dual-factor outcomes among university students in the Philippines has not been done. Additionally, this study takes an extra step to understand what representatives of the symptomatic but content (SBC) group, conventionally a minority group (around 4-17%) (Grych et. al. 2020; Eklund et al., 2011;

Suldo et al., 2016), can teach us about remaining satisfied about life despite ongoing symptoms.

Research Design

This study adopts an explanatory sequential mixed methods design for breadth and depth of understanding and corroboration (Johnson et al., 2007; Schoonenboom & Johnson, 2017). The intent of the design is to find qualitative data to explain the initial quantitative results (Creswell & Creswell, 2018). Part 1 uses multivariate analysis to determine whether membership in various mental health groups is associated with different levels of protective factors. Part 2 uses qualitative interviews to explain, from the perspectives of the participants, the dynamics of those protective factors among the symptomatic but content.

Participants

Participants were three hundred eleven (311), 18-33-year-old-university students recruited from De La Salle Medical and Health Science Institute, Lyceum of the Philippines University, Cavite State University, De La Salle University Dasmarinas (Age $\bar{X}$ = 20.40, SD=1.98). The sample was 198 (65%) females and 108 (35%) males. Majority of the participants (71%) reported that they fall into the income bracket of below P10,957 to P43,828 representing a mix of poor, low income and lower middle class.

Measures

The measures used in this study were adapted from a similar study conducted by Grych et al. (2020) on American adolescents in low-income neighborhoods (42% of which receiving public assistance). To establish reliability and validity of the instruments applied in the Philippine setting, we tested them first on 48 participants from De La Salle University, Dasmarinas. Internal consistencies for the pilot averaged .87 (range .82 to .92) and improved to an average of .89 in the main sample (range .82 to .92). Validity was established in the pilot and the main samples with moderate correlations with related constructs.

The Four Mental Health Groups

Levels of wellbeing and symptoms of psychological distress given by measures with acceptable psychometric properties are used as a basis to categorize participants into groups. The levels of wellbeing and symptoms are each divided into high and low depending on the cut-off scores set by the corresponding measures, all standardized ones that have been used over many populations.

Subjective well-being. The Satisfaction with Life Scale (Diener et al., 1985) was used to categorize participants into high and low wellbeing groups. The five-item measure with a 7-point response scale assesses respondents' cognitive judgement of how well their life is. A sample item is "In most ways my life is close to my ideal." Internal consistency (coefficient alpha) in this sample was 0.895. The measure uses the scale midpoint (20) to differentiate higher and lower satisfaction scores, rating participants with a score of 20 or below as lower in wellbeing and a score above 20 as higher in wellbeing. The low wellbeing group comprised 40% of the sample, and the high wellbeing group is 60%.

Psychological symptoms. Kessler Psychological Distress Scale (K10; Kessler et al., 2002) was used to categorize participants into high and low symptom groups. The 10-item measure with a 5-point response scale assesses respondents' distress level based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period. Sample items include "In the past 4 weeks, about how often did you feel nervous?" and "In the past 4 weeks, about how often did you feel hopeless?" Internal consistency was 0.914. The measure assesses that those with scores below 25 are likely to be well or have a mild disorder, and those of 25 or above are likely to have a moderate or severe disorder. Consequently, respondents scoring below 25 were categorized as low in distress, and those scoring 25 or above as high in distress. The low distress group comprised 15% of the sample, and the high group 85%.

Protective Factors

The resilience portfolio model revealed that both individual assets and external resources are protective factors that affect well-being and level of distress (Grych et al., 2015). Individual assets include regulatory strengths, interpersonal strengths, and meaning making strengths, which were found to be uniquely related to levels of well-being and distress (Hamby et al., 2017). External resources include support from parents, peers, teachers, and the wider community. The following constructs representing the various protective factors were assessed.

Social Support. The Multidimensional scale of perceived social support (MSPSS; Zimet et al., 1990) measures an individual's perception of support from family, friends, and the wider community. The adapted 12-item version with a 7-point response scale gives an internal consistency of 0.92 in the trial and the sample.

Emotion Regulation. Difficulties in emotion regulation scale-SF (Kaufman et al., 2016) is an instrument measuring the level of emotion awareness and regulation. An 18- item measure with a 5-point response scale asks college students how they relate to their emotion. A sample (reversely scored) item is "When I'm upset I have difficulty getting the work done". Internal consistency coefficient alpha was 0.86.

Interpersonal Strength. A 5-item question with 4-point response from Loyola Generality Scale (LGS; McAdams & de St. Aubin, 1992) was used to measure how college students create an impact in their personal lives. A sample item is "I try to pass along the knowledge I have gained through my experience.". The internal consistency coefficient alpha was 0.82.

Meaning Making. Meaning in life Questionnaire (Steger et al., 2006) was used in the study focusing on the presence of meaning which is a 5 item self-report scale. This measures the level of overall meaning college students perceive in their life. A sample item is "I understand my life's meaning". Internal consistency coefficient alpha was 0.90.

Results

Forming groups of different mental health outcomes

Each college student received a score of 0 (low) or 1 (high) on the satisfaction with life scale (subjective wellbeing) and K10 psychological distress scale (level of symptoms) by use of the scoring instructions provided in those standardized test. College students who scored a) high

subjective well-being (score above 20) and low symptoms (score below 25) are included in the "positive mental health" group (11%); (b) high subjective wellbeing (score above 20) and high symptoms (score 25 or above) the “symptomatic but content” group (49%); c) low subjective wellbeing (score 20 or below) and low symptoms (score below 25) the "troubled" group (37% of the sample); (d) low in subjective well-being (score 20 or below) and high symptoms (score 25 or above) the "vulnerable" group (3% of the sample). The SBC group accounted for the highest proportion, followed by the troubled group, PMH group and the vulnerable group, as shown in table 1.

Table 1: Dual Factor Groups Classification

	Subjective Wellbeing	
Symptoms	**High**	**Low**
Low	Positive Mental Health (PMH) (n= 35; 11%)	Vulnerable (V) (n= 10; 3%)
High	Symptomatic but Content (SBC) (n= 152; 49%)	Troubled (T) (n= 114; 37%)

Group membership and protective factors

We conducted a multivariate analysis of variance (MANOVA) to test whether the outcome groups differed significantly on the various strengths (meaning making, regulatory, interpersonal) and resources (social support). Group membership with the four outcomes is the independent variable (IV). The four protective factors serve as the dependent variables (DV). The MANOVA reveals that group membership has significant main effects on the protective factors, $F (12, 805) = 13.05$, $p < .001$.

Table 2: Multivariate Analysis of Variance

	MANOVA: Wilks Test					
Cases	**df**	**Approx. F**	**Wilks' Λ**	**Num df**	**Den df**	**p**
(Intercept)	1	4288.500	0.017	4	304.000	< .001
GROUPS	3	13.053	0.625	12	804.600	< .001
Residuals	307					

Differences among groups on specific factors were examined with the post-hoc results. These analyses showed that group membership has significant main effects on all the factors. For meaning making, the test assumptions were checked using Welch's Test because Levene’s test was significant ($p<.001$), giving $F=24.87$ $<.001$, partial eta squared $=.196$. For emotion regulation, no homogeneity correction is needed because Levene’s test was non-significant ($p=.580$), giving $F=22.40$ $<.001$, partial eta squared $=.180$. For interpersonal strength the test assumptions were checked using Welch's Test because Levene’s test was significant ($p<.01$), giving $F=5.76$, partial et squared $=.053$. For social support no homogeneity correction is needed because Levene’s test was non-significant ($p=.532$), giving $F=21.18<0.001$, partial eta squared $=.171$.

Discussion

As expected, we could categorize college students into four outcome groups, and group membership has significant main effects on the various protective factors measured. A few points are worth noting. First, what was surprising was that the symptomatic by content group (SBC) was the largest in this study (49%), compared to SBC being the smallest in proportion (17%) in Grych et al. (2020). It seems to suggest that the proportion of the symptomatic but content (SBC) group could be higher in a majority world context. The observation should be treated with caution because the participants in previous studies were coming from younger teens while those in the current studies are older teens or young people in their early 20s, which may explain higher capacity to find "contentment" despite challenges. Second, the level of the examined protective factors are associated with mental health outcomes among college students. In general, the positive mental health and the symptomatic but content groups have the highest level of most protective factors, and the troubled group has the lowest level of all protective factors.

Qualitative Study

The qualitative study (Part 2) was conducted as a follow up of the quantitative study (Part 1) to explore what the SBC group (n=152; 49%) would say about the paradox of enjoying high subjective wellbeing while suffering high level of symptoms. The study zooms into those participants who are most representative of the group: those who are truly satisfied about life (SWL score > or = 25) and are severely symptomatic (K10 score > or =30).

Research participants and procedure

We purposively recruited 3 participants, all female, aged 19, 21 and 22 years old, from different programs, all at different stages of their study, and all fitting the above criteria. We approached these participants first by email to express our interest to make a follow up interview on the survey (part 1 of this study) they took part in. After they replied to show initial interest, we called them up and passed them the informed consent by email. These three participants sent back the signed informed consent, as we set a time to interview them on Zoom or in person. The interviews, averaging 50 minutes, were conducted using Taglish by both researchers and were recorded with their approval. To protect the identity of the participants, code names are used in the report.

Instruments and measures

In-depth interviews were conducted with the research participants in late June, a few days after they completed the survey. The interviews were guided by semi-structured questions, which allowed the researchers to explore narratives of the respondents. An interview protocol was used to guide the exploration and to keep the conversation focused on the designed direction (Jamshed, 2014).

Data collection and analysis

The recorded interviews were all transcribed on https://otranscribe.com/ into English and Tagalog depending on the language used. Tagalog phrases used were retained and English translation was added where appropriate. The transcribed data was analyzed in English.

Analysis of the interview transcripts was assisted by the software of QDA miner lite. The qualitative data analysis is both a step-by-step process and an interactive practice that goes back and forth between steps (Creswell & Creswell, 2018). In this study, the researchers read through the transcripts with the profile of the respondents in mind to get a big picture of all information. Then, the researchers read the transcripts line by line and bracket units of information by putting a word or phrase in the margins to represent some tentative categories. This open coding process generated numerous units of information that were grouped into more refined categories. The related categories are further grouped together as themes to address the research questions asked. These themes are refined as the relevant texts are reread and compared with one another. The whole process of transcription, coding, and identification of themes were done by the two researchers. Disagreements in the coding process were discussed and resolved.

Trustworthiness

Taking reference from Morrow (2005), various ways were employed to improve trustworthiness. First, the method and the process are articulated as clearly as possible to enable replicability of the research. Second, the researchers identified and discussed their assumptions to maintain a reflexive posture. We kept a journal to record reflections throughout the research process. Third, researchers worked independently on data analysis, before joining together to compare, discuss differences, and resolve disagreements. Fourth, research participants were contacted to verify major findings to allow member checking.

Findings

Self-affirmation	C: I really have the chance to know myself. Because at that time I also experienced a breakup. I was able to know myself more. To know the worth that I have. I was able to focus on my family and friends po.
	B: And if you know that you trust yourself, it's like there is a feeling na "ok I can do this na." Parang I am satisfied na
	A: I believe God and myself. He has set something much more for me.
Sense of moving towards a goal	C: I focus on loving myself, and then giving importance to my family of course, and honestly I am focusing on how to get a job after college.
	B: Isa po doon is yung failture, rejection, self-doubt; they are part of journey na at the same time nakakatulong din naman po sya sa growth ng isang tao
	A: We always see positivity. I didn’t get accept in Ateneo and its ok. Kasi I set an ultimatum na ok after po I go to states and I’ll study doctorate and I’ll stay there and these are my second option ganun sir… ramdam ko naman na I’ll reach that.

Table 1: Participants recapping what makes them feel well despite ongoing symptoms

What transpired in Part 2 of the study are how protective factors function and how they are prioritized by someone who is distressed but find life good for them. First, social support is a valuable resource. It was obvious that one participant had very strong family and peer support, and this support is not enough to help her avoid symptoms of anxiety and depression during critical times.

Second, regulatory strength in terms of emotional regulation is used frequently by participants in a variety of forms. Emotion regulation is concerned with using ways to modify emotions for people to feel better (Shaefer et al., 2020). The ways that were suggested could be further grouped into four categories, including impulse control (e.g. suppressing thoughts, neglecting criticisms), distraction (entertainment), rejuvenation (rest, play, hobby), and building on the positive (self-talk and counting achievement). These skills seem to build on past practices and contribute to helpful appraisal behavior when new challenges arise.

Third, participants are strong at different strengths, and it is possible that some (e.g., A who are not good at emotion regulation or interpersonal communication can make up for the lack thereof with other strengths such as meaning making to achieve high subjective wellbeing).

Fourth, interpersonal strength is tricky in the Philippine context. This strength is characterized by being nice and not saying no to others in the Philippines, and such strength may not necessarily get them the advantage they need. Participants (B & C) are not spared from peer-related pressure because of this strength, but it is notable that the participant (A) who did not show strength in this area seemed to suffer more distress from relational issues (e.g. misunderstanding and abandonment). It seems that this strength helps participants indirectly by not worsening the present situation in a community-based context like the Philippines.

Fifth, self-efficacy and orientation to a goal seem to be crucial for satisfaction in life despite the symptoms one experiences. All three participants shared they trust themselves because of prior experience or faith. All of them shared they are moving towards a goal (job, growth and study) despite the challenges (see Table 1).

Further Discussions

Part 1 has established that protective factors in the resilience model are useful in differentiating mental health outcome. It speaks for mental health intervention that targets meaning making, emotion regulation, interpersonal strength and identifying social support.

Part 2 reveals representative students of the symptomatic but content group have life challenges that are varied, coped with them counting on different emotion regulation, interpersonal, and meaning making strengths that they acquired from personal life experiences and relationships with others. External support from family and friends, not common to all, was not a prerequisite to subjective wellbeing. What seemed to be a consensus for subjective wellbeing was a demonstrated sense of trust in oneself (self-efficacy) and an urge to achieve a goal (goal orientation), whatever the goal is.

Clinically, the study suggests that resilience may be enhanced if a clinician is intentional in affirming a client's strengths and their internalization of such strengths. It also points to the potential of using strategies typical of hope therapy (e.g. Cheavens et al., 2006) that supports goal setting and goal achieving in helping students achieve subjective wellbeing even though clinical symptoms are present.

Conclusion

The mixed study aimed to verify whether some protective factors named by the resilience portfolio model mattered in differentiating various mental health outcomes: a) positive

mental health (high wellbeing, low symptoms), b) symptomatic but content (high wellbeing, high symptoms), c) vulnerable (low wellbeing, low symptoms), d) troubled (low wellbeing high symptoms). We conducted MANOVA on the samples, showing that different group memberships created significant main effects on all the factors under study: meaning making, emotion regulation, interpersonal strength, and social support. Among the symptomatic by content students, a majority group in the current sample, participants with very high symptoms and high satisfaction were interviewed. Their narratives produced a more nuanced understanding on how protective factors were used, and what the most important factors that kept them satisfied despite ongoing symptoms could be. The combined analysis highlights the importance of highlighting different protective factors and suggests that therapies that target self-efficacy and goal orientation could potentially be helpful in boosting subjective well-being high despite ongoing symptoms.

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