

The Relationship Between Adverse Life Events and Subjective Well-being among High School Students in Samoa: The Mediation Effect of Hope, Grit, and Rumination

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Abstract: The correlation between adverse life events and subjective well-being (SWB) has been verified by numerous studies. However, most of these studies are based on samples from developed countries, neglecting the situation in developing countries like Samoa. To address this gap, this study examined the relationship between adverse life events and SWB in Samoan high school students and investigated the mediating effects of hope, grit, and rumination. Self-reported questionnaires were completed by 179 high school students in Samoa. The results implied that adverse life events had a negative effect on SWB and that both hope and rumination played a mediating role in the relationship between adverse life events and SWB. Conversely, grit did not play a mediating role, as it had no significant effect on SWB despite being negatively correlated with adverse life events. These findings suggest that enhancing hope and grit while reducing rumination could help improve the level of SWB among Samoan high school students in the face of adversity.

Keywords: adverse life events, subjective well-being, grit, hope, rumination

1. Introduction

Subjective well-being (SWB), which reflects individuals' appreciation of their condition or their subjective enjoyment of life, is crucial for individuals' overall functioning and quality of life [1,2]. More and more researches have highlighted the benefits of high levels of SWB, including better physical health, stronger social relationships, and greater success in various domains of life [3,4].

However, as life experiences become more complex, it becomes challenging to determine the factors that help contribute to an individual's level of well-being. People often consider their well-being depending on money and income, social status, and reputation, but often neglect the significant impact of other factors such as life events and personal traits on their level of well-being. In fact, research has shown that SWB is influenced by a range of factors including both internal and external factors. For example, some positive characteristics are associated with higher levels of SWB [3]. A strong social support network, financial security, or health is also positively related to SWB [3,5]. In contrast, adverse life events typically lead to lower levels of SWB [1,5].

From 2017 to 2018, the author lived in Samoa, a developing island country in Oceania. According to the report of United Nations International Children's Emergency Fund [7], Samoa has limited quantitative data on the extent of adverse life events experienced by Samoan high school students.

Nonetheless, available information and the author's observation indicate that Samoan adolescents experience various forms of negative life events both at home and in schools, such as close friends (or family members) encountering problems or moving away, family financial troubles, and parents fighting more than usual, etc. For example, according to UNICEF, 39.6 percent of respondents aged 6-17 reported that they had experienced an absence of parents during their lifetime in Samoa [7]. Moreover, adolescents aged 10-19 make up 22 percent of the total population of Samoa, which, according to the 2016 SOWC data, is a significantly higher proportion than the regional average of 13 percent for East Asia and the Pacific [6]. Therefore, it has become more and more important to investigate the influence of adverse life events on SWB. As a result, greater attention is required for so many adolescents who have been exposed to adverse life events. Furthermore, investigating the impact of such events on SWB has become increasingly important, since these events can cause low self-esteem and heightened perceptions of health problems [7].

To address this problem, this article aims to explore the relationship between adverse life events and SWB in Samoan high school students and to test whether hope [8], grit [9], and rumination [10] mediate such a relationship.

This study is meaningful for several reasons. First, an individual's SWB is one of the most crucial objectives in their life, and it serves as a critical criterion for evaluating the overall progress of humanity [11]. Furthermore, adolescents in developing countries, such as Samoa, are more susceptible to various adverse life events, making it especially important to investigate the relationship between such events and the SWB of teenagers in these countries. By doing so, effective interventions can be proposed to enhance the SWB of these individuals, thus promoting personal and social development.

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2. Literature Review

2.1. Life Events and Subjective Well-being

Over the past few decades, more and more researchers have found that life events have a significant effect on Subjective Well-being (SWB) [2,12]. Concretely, Diener et al. have shown that positive life events, such as getting married, having a child, or receiving a promotion, are associated with increases in SWB in the short term. In contrast, negative life events, such as a job loss or an unfortunate marriage, have been found to decrease SWB in the short term [12]. Another research used extensive panel data from the British Household Panel and the German Socio-Economic Panel Study to explore the effects of major life events on SWB in several studies [13]. These studies indicate that the magnitude of the effects of significant life events on SWB differs based on the life events considered.

In conclusion, life events have a huge impact on an individual's SWB, and understanding the relationship between life events and SWB can help inform interventions and strategies to promote and enhance well-being in individuals and communities.

In this case, diminishing the negative impact of adverse life events on SWB has become the main focus. Fortunately, some researchers have shown that individual internal factors, such as personality and coping strategies can vary such negative effects [12,14].

Research has found that several factors, such as personality traits, coping strategies, resilience, and social support, can moderate the negative effect of adverse life events on SWB [5,14,15].

Concretely, individuals with certain personality traits, such as high levels of congeniality, hopefulness, and self-confidence, tend to be more resilient to the negative effects of adverse life events on SWB [14]. Effective coping strategies can also help mitigate the impact of adverse life events on SWB [12]. Resilience, defined as the ability to adapt and move on when faced with adversity, has been found to buffer the negative effect of adverse life events on SWB [16]. Feeling more purposeful in life can provide a buffer against the negative effects of adverse life events on SWB. Individuals who feel that their lives have meaning and purpose are better able to cope with adversity and find positive outcomes in challenging situations [5].

Besides the internal factors mentioned above, Park et al. have found that some external factors like social support from family, friends, and colleagues can enhance SWB and provide emotional, instrumental, and informational resources to help individuals cope with adversity [15].

However, it is still unclear whether some individual internal factors such as hope, grit, and rumination can effectively mediate the relationship between adverse life events and SWB.

2.2. Hope

Snyder defines hope as solely mental, goal-oriented thoughts in which individuals devise various “pathways” to achieve their objectives, remain motivated, and actively seek out alternates to these pathways when necessary. Snyder claims that hopeful people are those that are tenacious and resourceful in achieving their objectives [8,17].

Early researches on hope and SWB focused on the idea that hopes may serve as a protective factor against adverse life events and stressors. For example, a study found that hope was positively associated with SWB in a sample of women who had experienced a recent miscarriage [18]. Additionally, a study that included a sample of individuals with chronic pain discovered that hope was adversely correlated with depressive symptoms [17].

Recent research has dived deeper based on the above researches, examining the relationship between hope and SWB in different populations and contexts. For example, one study found that hope was positively associated with SWB in a sample of college students consisting of primarily Caucasian [19]. Another study found that hope was a significant predictor of SWB in a sample of individuals with chronic illness [20].

Overall, the research suggests that hope is a significant predictor of SWB, and may play an essential role in promoting resilience and positive outcomes when facing adversity. However, further investigation is required to comprehend the essence of the relationship between hope and SWB, as well as the factors that may mediate or moderate this relationship.

2.3. Grit

The development of the concept of grit can be traced back to the studies of psychologist Angela Duckworth, who described grit as “perseverance and passion for long-term goals” and created a scale for evaluating it [21]. It involves sustained effort and interest in achieving one’s goals, as well as a willingness to endure discomfort and delayed gratification. Since then, researchers have studied the concept of grit in various contexts, including education, sports, and the workplace.

Research has shown that individuals with high grit have a higher possibility to achieve their goals, experience greater well-being, and exhibit higher levels of performance and success in academic,

athletic, and professional settings [22]. Moreover, recent studies have also explored the underlying mechanisms that explain the relationship between grit and success. For example, grit is related to higher levels of self-regulation, motivation, and perseverance, as well as the ability to manage stress and cope with adversity [23]. Similarly, another study found that grit was positively associated with SWB in a sample of West Point Military Academy cadets. The study found that grit was a stronger predictor of SWB than other predictors [24].

However, although grit has been illustrated to have a positive effect on SWB in some cases, the comprehensive relationship between grit and SWB, among the samples facing with adverse life events in developing countries, has not been explored.

2.4. Rumination

Rumination is a process of repeatedly focus on unpleasant thoughts, feelings, and experiences despite proactively looking for solutions or positive results [25]. It has been studied extensively in psychology and is often associated with depression. For example, individuals who ruminate are more likely to experience feelings of hopelessness [26]. Rumination can be triggered by adverse life events, such as personal failures, or social rejection, and can lead to a persistent cycle of negative thinking [26].

Research has shown that rumination is negatively related to SWB [27]. Rumination can disrupt individuals' cognitive processes and undermine their ability to experience positive emotions, which ultimately leads to lower levels of SWB. One study investigated the relationship between rumination and SWB in a sample of undergraduate students. The findings revealed a negative relationship between rumination and SWB, which was partly controlled by negative affect [27].

However, the relationship between rumination and SWB is complex, as some individuals may use rumination as a coping mechanism to process their emotions and experiences [28]. In these cases, rumination may be beneficial in the short term but can become harmful if it persists over time. Furthermore, the development of rumination is influenced by various factors, such as genetics, personality traits, and environmental factors, and can vary across individuals and cultures [25].

2.5. Gap in Research

Although the above-mentioned studies have explored various aspects of the relationship between adverse life events and SWB, and have pointed out factors such as hope, grit, and rumination may be related to adverse life events and SWB, the following issues remain unresolved.

First, most existing researches are based on the population in developed areas such as North America, German, or England. Could these results be applied to other samples such as developing areas like Samoa? In other words, what is the adaptation in studies done across different cultures, over varying time periods, and utilizing different measurement techniques?

Second, current studies have shown that grit and hope have a positive effect on SWB, and ruminant has a negative effect on SWB. Nevertheless, the extent to which hope, grit and rumination can mediate the relationship between adverse life events and SWB has not been comprehensively studied.

Therefore, this paper attempts to explore the negative correlation between adverse life events and SWB among high school students in the developing country Samoa, regardless of developed areas. Furthermore, we try to investigate the mediation effect of hope, grit, and rumination, and see the following Figure.1 for more details.

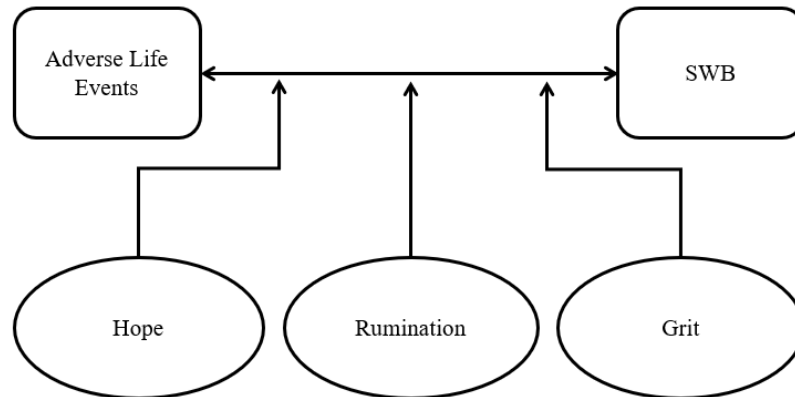


Figure 1: Conceptual model illustrating the mediating roles of hope, rumination, and grit between adverse life events and SWB.

3. Hypothesis

- High school students in Samoa suffer from the negative impact of adverse life events on SWB.
- The negative effect of adverse life events on SWB is mediated by hope, grit, and rumination. Specifically, the increase of adverse life events may decrease hope, grit, and increase rumination, while keeping hope and grit alive as well as reducing rumination will further strengthen SWB.

4. Method

4.1. Description

The method used was an electronically-administered survey which is a set of questions reorganized through several authoritative research. The questions consist only of multiple choices. Data were collected from October 3 to 10, 2022.

4.1.1. Participants

By random sampling, the study gathers the responses of 179 Samoan high school students to five scales. There are 80 boys and 99 girls in the samples, and the mean and standard deviation of their ages are 16.41 and 1.94, respectively. To participate, students were expected to have a mental comprehension of the topic under review and have the necessary language skills to express themselves. Participation was restricted to the age assumed appropriate, 16 to 19.

4.1.2. Scales

Initial Development of the Student's Life Satisfaction Scale (IDSLSS). The IDSLSS consists of eight 4-point Likert items to assess the level of participants' SWB (1=never, 2=sometimes, 3=often, and 4=almost always), and see [29] for the details. The participants' SWB can be obtained by calculating the average score of eight items, the higher scores, the more SWB. The IDSLSS has relatively high internal consistency reliability (Cronbach's $\alpha = 0.882$).

Short Grit Scale (Grit-S). The short grit scale consisting of eight items was developed by Angela Lee Duckworth and Patrick D [9]. This scale stands out from others by its superior psychometric properties, identical validity for prediction, and fewer items. The short grit scale has relatively high internal consistency reliability (Cronbach's $\alpha = 0.852$).

Children’s Hope Scale. Six items make up the children’s hope scale, which was developed to gauge participants’ level of optimism [8]. It was created by C. R. Snyder and others and explained how children think about themselves and behave in general. It also mirrored agency and pathway thinking in youngsters. The respondents were asked to select the term that best described each item from a range of six options, from “None of the time” to “All of the time.” The children’s hope scale has relatively high internal consistency reliability (Cronbach’s $\alpha = 0.900$).

Ruminative Responses Scale. The ruminative responses scale consists of 22 items to test participants’ level of rumination by Qi Kang, which consists of forced thinking, symptomatic rumination, and introspection three aspects, and consists of nine 4-point Likert items to assess the level of participants’ rumination (1=never, 2=sometimes, 3=often, and 4=almost always) [10]. The higher scores, the more participants ruminate. The ruminative responses scale has relatively high internal consistency reliability (Cronbach’s $\alpha = 0.955$).

Adverse Life Events. It is noted that the scales we used is more suitable for high school students, rather than for adults or specific population such as the disabled as in other literature [30]. The checklist consists of 15 items to test participants’ level of adverse life events they have gone through, and were asked to clarify whether any of these things had occurred to them [15]. The checklist of adverse life events has relatively high internal consistency reliability (Cronbach’s $\alpha = 0.819$).

4.2. Data Analysis

SPSS 23.0 and Mplus 8.4 were used to analyze the data. First, the descriptive statistics and correlation analysis in Table 1 elaborate on the relationship between adverse life events and SWB among Samoan high school students. Then, Models 0 to 3 among the regression coefficients of models in Table 2 illustrate how grit, hope, and rumination influence the relationship between adverse life events and SWB.

5. Results

Table 1 presents the mean, standard deviations (SD), and correlations among Adverse Life Events, Subjective Well-Being (SWB), grit, hope, and rumination. From it, we can see that without considering the influences of other variables, adverse life events have a negative effect on SWB ($\beta = -0.381$, $p < 0.001$). Table 2 shows the regression coefficients of models investigating various interactive relations among hope, grit, rumination, adverse life events, and SWB.

Table 1: The descriptive statistics and correlation analysis (N=179).

Variables	Mean	SD	1.	2.	3.	4.	5.
1. Adverse	0.25	0.23	1				
2. SWB	1.93	0.65	-0.381	1			
3. Grit	2.60	0.77	-0.346	0.528	1		
4. Hope	3.37	1.00	-0.457	0.54	0.696	1	
5. Rumination	1.15	0.63	0.373	-0.552	-0.75	-0.55	1

Note: All correlation coefficients are significantly correlated at $p < 0.001$.

Table 2: The regression coefficients of models.

Model	Dependents	Independen	Beta	P
Model 0	SWB	Female	0.022	0.879
		Age	0.132	<0.001

Table 2 (continued).

Model 1	SWB	Female	0.051	0.454	
		Age	0.065	0.401	
		Adverse Life	-0.397	<0.001	
Model 2	SWB	Female	-0.021	0.725	
		Age	-0.016	0.809	
		Adverse Life	-0.163	<0.05	
		Grit	-0.058	0.555	
		Hope	0.269	<0.001	
		Rumination	-0.410	<0.001	
Model 3	SWB	Female	-0.021	0.724	
		Age	-0.016	0.810	
		Adverse Life	-0.166	<0.05	
		Grit	-0.059	0.351	
		Hope	0.275	<0.001	
		Rumination	-0.418	<0.001	
	Grit	Female	0.040	0.562	
		Age	0.125	0.110	
		Adverse Life	-0.340	<0.001	
		Hope	Female	0.121	0.069
			Age	0.069	0.363
			Adverse Life	-0.443	<0.001
Rumination	Female	-0.102	0.133		
	Age	-0.171	<0.05		
	Adverse Life	0.329	<0.001		

In Model 0 shown in Figure 2 (where gender and age as predictors of SWB), taking SWB as the dependent variable, while gender and age as the independent variables, the researcher found out, gender has no significant effect on SWB; the older the age, the higher the level of SWB experienced ($\beta = 0.132$, $p < 0.001$).

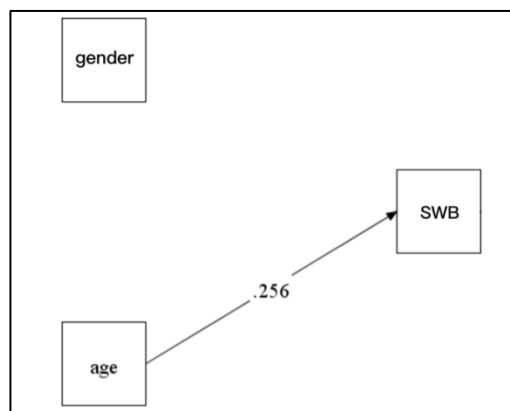


Figure 2: Model 0: Gender and age as predictors of SWB. Note: only significant coefficients are presented.

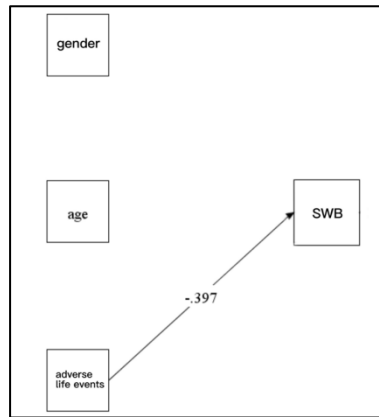


Figure 3: Model 1: Gender, age and adverse life events as predictors of SWB. Note: only significant coefficients are presented.

Based on Model 0 illustrated in Figure 2, the researcher added the independent variable adverse life events resulting in Model 1 (figure 3), which lead to the diminishment of the positive impact age had on SWB ($\beta = 0.065$, $p > 0.05$). Moreover, the more adverse life events one experience, the lower SWB one feel ($\beta = -0.397$, $p < 0.001$).

Similarly, the researcher continued to add grit, hope, and rumination to Model 1 shown in Figure 3 and obtain Model 2 shown in Figure 4. From it, we concluded that hope could predict SWB positively ($\beta = 0.269$, $p < 0.001$); rumination significantly negatively predicted SWB ($\beta = -0.410$, $p < 0.001$); but grit had no significant effect on SWB ($\beta = -0.058$, $p < 0.05$).

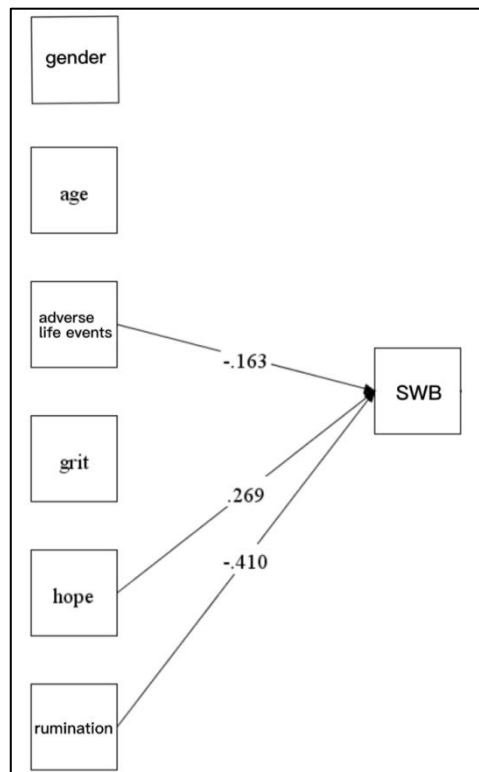


Figure 4: Model 2: Gender, age, adverse life events, hope and rumination as predictors of SWB. Note: only significant coefficients are presented.

In Model 3 illustrated in Figure 5, grit, hope, and rumination were used as mediating variables to investigate their mediating effects on the relationship between adverse life events and SWB. The results are shown in Figure 5 (model 3). It turns out that:

First, adverse life events have a significant negative impact on hope ($\beta_a = -0.443$, $p < 0.001$) but hope has a significant positive impact on SWB ($\beta_b = 0.275$, $p < 0.001$), which indicates that hope plays a mediating role in the relationship between adverse life events and SWB. Precisely, the increasing of adverse life events may lead to one feels hopeless and unhappy, but keeping hope alive will be useful for boosting SWB.

Second, adverse life events have a significant negative impact on grit ($\beta_a = -0.340$, $p < 0.001$), but since grit has no significant effect on SWB ($\beta_b = -0.059$, $p > 0.05$), it does not display a mediation effect between adverse life events and SWB.

Third, adverse life events positively predicted rumination ($\beta_a = 0.329$, $p < 0.001$) and rumination negatively predicted SWB ($\beta_b = -0.418$, $p < 0.001$), which indicates that rumination also played a mediating role in the relationship between adverse life events and SWB. Concretely, the increase of adverse life events may decrease SWB and increase rumination, and more rumination will further reduce SWB.

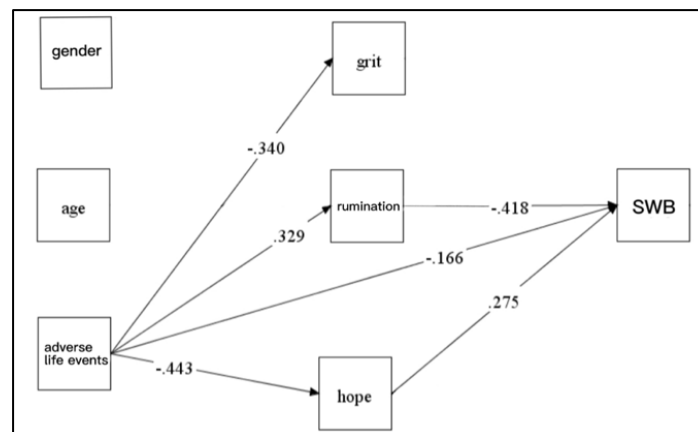


Figure 5: Model 3: The path diagram of the correlation among adverse life events, grit, rumination, hope, and SWB. Note: only significant coefficients are presented.

6. Discussion

This paper focuses on the impact adverse life events have on SWB among high school students in Samoa, a developing country. As hypothesized, the study found that experiencing adverse life events was associated with lower levels of SWB among Samoan high school students. This is consistent with researches conducted in developed countries [30,31].

This result raises an important question: is the negative effect of adverse life events on SWB independent of the population/samples? We think it is not so. It is noted that the impact of adverse life events may differ based on cultural and contextual factors. For example, some studies have found that community resilience and support from families may buffer the negative effects of adverse life events in certain cultural contexts [32].

Moreover, by analyzing the mediation model, we found that hope and rumination mediated the relationship between adverse life events and SWB among Samoan high school students. Interestingly, grit did not mediate this relationship, suggesting that it did not have a significant impact on SWB. Similarly, Duckworth et al. found that grit was not directly associated with happiness or life satisfaction, although it may result in positive outcomes [21].

The significance of these findings is that they stressed the importance of hope and rumination in mitigating the negative effects of adverse life events on SWB. This implies that interventions enhancing hope and reducing rumination could be effective in promoting SWB among Samoan students who have experienced adversity. Similarly, Snyder et al. proposed that hope is a key factor in coping with adversity [17].

Fortunately, several strategies are useful in promoting hope [33]. Specifically, Hellman & Gwinn have pointed out that one effective strategy for promoting hope is goal-setting. By setting achievable goals, individuals can develop a sense of direction and purpose, which can help them to stay motivated and optimistic. Moreover, creating pathways to achieve these goals can help individuals to build confidence and increase their sense of command over their lives. Having a positive attitude is another important strategy for promoting hope. Focusing on positive experiences and perspectives can assist people by transferring their focus away from undesirable ideas and emotions, which can improve their overall mood and well-being.

On the other hand, strategies aimed at reducing rumination could include mindfulness meditation and cognitive-behavioral therapy [26]. Mindfulness meditation involves paying attention to present-moment experiences without judgment or distraction. This can help individuals to break the cycle of rumination and improve emotional regulation by becoming more aware of their thoughts and feelings [34]. Cognitive-behavioral therapy, on the other hand, focuses on recognizing and addressing negative ways of thinking, then substituting constructive and adaptable ones. By changing their thoughts, individuals can reduce rumination and improve their mood and overall mental health [35].

Furthermore, although grit has no significant correlation with SWB, the role of grit in coping with adversity should not be overlooked. In fact, people who were able to preserve a sense of meaning in life were stronger when faced with adverse life events [21].

7. Limitations

However, this study also has some limitations.

First, it examined the relationship between adverse life events and SWB among Samoan high school students, but did not add the cultural and contextual factors, which also plays an important role in the relationship between adverse life events and SWB. Specifically, the paper by Lucas noted the important role cultural and contextual factors played in the relationship between adverse life events and SWB [31]. These factors can influence the resources and coping strategies available to individuals and shape how individuals respond to adverse life events which will ultimately influence their SWB.

Additionally, the study relied on self-report measures, which are prone to response bias. Participants may have provided socially desirable responses, leading to inaccurate or incomplete data. Therefore, the results of the study may not fully reflect the participants' true levels.

8. Conclusion

This study provides important insights into the impact of adverse life events on SWB among high school students in Samoa, a developing country. The findings suggest that interventions that aim to promote hope and grit, while reducing rumination may be particularly helpful for individuals who have gone through adverse life events. The study adds to the previous research by examining the experiences of individuals in a context that is less studied compared to developed countries.

In the future, we will further explore the effect of contextual factors such as religion on the relationship between adverse life events and SWB, and use more objective measures, like EEG data, except the questionnaires to confirm these findings.

References

- [1] Grob, A., *Subjective well-being and significant life-events across the life span. Swiss Journal of Psychology/Schweizerische Zeitschrift für Psychologie/Revue Suisse de Psychologie*, 1995.
- [2] Luhmann, M., et al., *Subjective well-being and adaptation to life events: a meta-analysis. Journal of personality and social psychology*, 2012. 102(3): p. 592.
- [3] Diener, E., R.E. Lucas, and S. Oishi, *Subjective well-being: The science of happiness and life satisfaction. Handbook of positive psychology*, 2002. 2: p. 63-73.
- [4] Lyubomirsky, S., L. King, and E. Diener, *The benefits of frequent positive affect: Does happiness lead to success? Psychological bulletin*, 2005. 131(6): p. 803.
- [5] Lyubomirsky, S. and K. Layous, *How do simple positive activities increase well-being? Current directions in psychological science*, 2013. 22(1): p. 57-62.
- [6] UNICEF, *The State of the World's Children 2016*. 2016: <https://www.unicef.org/reports/state-worlds-children-2016>.
- [7] UNICEF, *Situation Analysis of Children in Samoa*. 2017: Suva.
- [8] Snyder, C.R., et al., *The development and validation of the Children's Hope Scale. Journal of pediatric psychology*, 1997. 22(3): p. 399-421.
- [9] Duckworth, A.L. and P.D. Quinn, *Development and validation of the Short Grit Scale (GRIT-S). Journal of personality assessment*, 2009. 91(2): p. 166-174.
- [10] Qi, K., *The Relationship between Harsh Parenting and Rumination in College Students: The Moderating Role of Social Support Advances in Psychology*, 2021. 11(12): p. 2755-2762.
- [11] Latzman, N.E., et al., *The promotion of well-being among children exposed to intimate partner violence: A systematic review of interventions. Campbell Systematic Reviews*, 2019. 15(3).
- [12] Diener, E., S. Oishi, and L. Tay, *Advances in subjective well-being research. Nature Human Behaviour*, 2018. 2(4): p. 253-260.
- [13] Lucas, R.E., et al., *Reexamining adaptation and the set point model of happiness: reactions to changes in marital status. Journal of personality and social psychology*, 2003. 84(3): p. 527.
- [14] Diener, E., et al., *Wealth and happiness across the world: material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. Journal of personality and social psychology*, 2010. 99(1): p. 52.
- [15] Park, D., et al., *Beliefs about stress attenuate the relation among adverse life events, perceived distress, and self-control. Child development*, 2018. 89(6): p. 2059-2069.
- [16] Masten, A.S., *Global perspectives on resilience in children and youth. Child development*, 2014. 85(1): p. 6-20.
- [17] Snyder, C.R., et al., *The will and the ways: development and validation of an individual-differences measure of hope. Journal of personality and social psychology*, 1991. 60(4): p. 570.
- [18] Cheavens, J.S., et al., *Hope in cognitive psychotherapies: On working with client strengths. Journal of cognitive Psychotherapy*, 2006. 20(2): p. 135-145.
- [19] Gallagher, M.W. and S.J. Lopez, *Positive expectancies and mental health: Identifying the unique contributions of hope and optimism. The Journal of Positive Psychology*, 2009. 4(6): p. 548-556.
- [20] Shorey, H.S., et al., *Hope and personal growth initiative: A comparison of positive, future-oriented constructs. Personality and Individual Differences*, 2007. 43(7): p. 1917-1926.
- [21] Duckworth, A.L., et al., *Grit: perseverance and passion for long-term goals. Journal of personality and social psychology*, 2007. 92(6): p. 1087.
- [22] Galla, B.M. and A.L. Duckworth, *More than resisting temptation: Beneficial habits mediate the relationship between self-control and positive life outcomes. Journal of personality and social psychology*, 2015. 109(3): p. 508.
- [23] Duckworth, A.L. and D.S. Yeager, *Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. Educational researcher*, 2015. 44(4): p. 237-251.
- [24] Duckworth, A.L., P.D. Quinn, and E. Tsukayama, *What No Child Left Behind leaves behind: The roles of IQ and self-control in predicting standardized achievement test scores and report card grades. Journal of educational psychology*, 2012. 104(2): p. 439.
- [25] Nolen-Hoeksema, S., L.E. Parker, and J. Larson, *Ruminative coping with depressed mood following loss. Journal of personality and social psychology*, 1994. 67(1): p. 92.
- [26] Nolen-Hoeksema, S., *The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. Journal of abnormal psychology*, 2000. 109(3): p. 504.
- [27] Watkins, E., et al., *Rumination-focused cognitive behaviour therapy for residual depression: A case series. Behaviour research and therapy*, 2007. 45(9): p. 2144-2154.
- [28] Sansone, R.A., & Sansone, L. A., *Rumination: relationships with physical health. Innovations in clinical neuroscience*, 2012. 9(2): p. 29-34.
- [29] Huebner, E.S., *Initial development of the student's life satisfaction scale. School Psychology International*, 1991. 12(3): p. 231-240.

- [30] Brickman, P., D. Coates, and R. Janoff-Bulman, *Lottery winners and accident victims: Is happiness relative?* *Journal of Personality and Social Psychology*, 1978. 36(8): p. 917-927.
- [31] Lucas, R.E., *Long-term disability is associated with lasting changes in subjective well-being: evidence from two nationally representative longitudinal studies.* *Journal of personality and social psychology*, 2007. 92(4): p. 717.
- [32] Arampatzi, E., et al., *The role of positive expectations for resilience to adverse events: Subjective well-being before, during and after the Greek bailout referendum.* *Journal of Happiness Studies*, 2020. 21: p. 965-995.
- [33] Hellman, C.M. and C. Gwinn, *Camp HOPE as an intervention for children exposed to domestic violence: A program evaluation of hope, and strength of character.* *Child and Adolescent Social Work Journal*, 2017. 34: p. 269-276.
- [34] Hölzel, B.K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U., *How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective.* *Perspectives on Psychological Science*, 2011. 6(6): p. 537-559.
- [35] Beck, A.T., *Cognitive therapy and the emotional disorders.* 1979: Penguin.