DOI: https://doi.org/10.54393/pjhs.v5i04.1349

PAKISTAN JOURNAL OF HEALTH SCIENCES
https://thejas.com.pk/index.php/pjhs
ISSN (P): 2790-9352, (E): 2790-9344
Volume 5, Issue 4 (April 2024)

Original Article

Analyzing the Direct and Indirect Effects of Coping Self-Efficacy on Well-Being via Quality of Life

Shahla Saeed[1*], Summiya Ahmad[1] and Hayat Muhammad[1]

[1]Department of Psychology, University of Peshawar, Peshawar, Pakistan

ARTICLE INFO

Keywords:
Self-Efficacy, Quality of Life, Mediation, Psychological Thriving

How to Cite:
Saeed, S., Ahmad, S., & Muhammad, H. (2024). Analyzing the Direct and Indirect Effects of Coping Self-Efficacy on Well-Being via Quality of Life : Coping Self-Efficacy's Impact on Well-Being. Pakistan Journal of Health Sciences, 5(04). https://doi.org/10.54393/pjhs.v5i04.1349

Corresponding Author:
Shahla Saeed
Department of Psychology, University of Peshawar, Peshawar, Pakistan
shahlasaeedphd@uop.edu.pk

Received Date: 20th March, 2024
Acceptance Date: 19th April, 2024
Published Date: 30th April, 2024

ABSTRACT

Understanding the intricate interplay between coping self-efficacy, quality of life, and overall well-being is essential in exploring the factors that contribute to individual resilience and psychological thriving. **Objective:** To test coping self-efficacy's direct and indirect (through quality of life) effect on well-being. **Methods:** Using purposive sampling, data were collected from literate adults aged 18 and above in Pakistan. Sample (N=150), mean age=22.65 years consisted of 51 males (34%) and 99 females (66%). Informed consent was taken, and participants filled out the questionnaire consisting of the PERMA profiler, generalized self-efficacy scale, world health organization quality of life brief and demographic sheet. **Results:** Data analysis showed that coping self-efficacy positively affects well-being (B=3.98, p <0.01). The meditational model showed a significantly positive direct effect (B=.2.78, p >0.01) as well as the indirect effect of coping self-efficacy on well-being (B = 1.20, 95% CI = 0.46, to 1.90). These results show that having higher coping self-efficacy will have an accelerating effect on well-being. Similarly, coping self-efficacy also increases the quality of life, further increasing well-being. **Conclusions:** An individual's well-being increases in the presence of higher coping self-efficacy, and this relation is accelerated further in the presence of better quality of life. Thus, the quality of life and self-efficacy can be targeted in intervention programs to enhance well-being for living a more fulfilling life and to create more resilient citizens.

INTRODUCTION

PERMA is short for Positive Emotion (P), Engagement (E), Relationships (R), Meaning (M), and Accomplishment (A) [1]. It is a model of well-being that has gained consideration from researchers worldwide owing to its efficiency in predicting the flourishing of communities, organizations, groups, and nations [2]. This model of positive psychology offers a theoretical framework that takes into account various elements of well-being, i.e., positive emotion (feeling positive sentiments), engagement (being absorbed in life pursuits), relationships (having adequate relations with others), meaning (having a purpose and bigger goal), and accomplishment (regularly achieving successes) [1] . Well-being is a far better predictor of psychological distress than earlier reports of distress [1]. Due to its numerous health and psychological benefits, the construct of well-being has recently gotten the interest of researchers who are yet to explore its predictors and correlates. One study in South Korea explored the mediating role of well-being (using PERMA) on the quality of life of emergency workers and found that the better the PERMA of these workers was, the better their life satisfaction and quality of life were [3]. Another study also established the relationship between quality of life with PERMA. In an Irish study, higher levels of quality of life were also associated with greater well-being and resilience [4]. A study designed to develop the PERMA profiler as a measure of well-being based on the PERMA model of Seligman found a positive relationship between self-efficacy and well-being [5]. In a study, self-efficacy was found to be a significant positive predictor of well-being, accounting for a 22% variance in well-being [6]. Coping with self-efficacy is a vital aspect of socio-cognitive

DOI: https://doi.org/10.54393/pjhs.v5i04.1349

theory. Coping self-efficacy refers to the perception of positive and optimistic self-beliefs or a sense of subjective competence to deal effectually with various situations [7]. Self-efficacy is the conviction of a person concerning the making of the desired effect by means of their actions. It is the most esteemed constituent in the human agency and potentially plays the part of a rudimentary motivator to cope with any circumstances in the face of difficulties [8]. Most males report the poorest self-efficacy compared to females [9]. A high level of self-efficacy fortifies the individual's immune system by decreasing the release of hormones linked with stress, which improves psychological well-being [10]. One study emphasized the need for incorporating self-efficacy in the treatment plan for clients due to its high significance in contributing to their quality of life [11]. WHO terms quality of life as a condition entailing complete mental as well as social and physical well-being, not just the lack of disease. It is an individual's own perception regarding their position in life in the context of the culture, norms, and value systems in which they live and in relation to their standards, expectations, goals, and concerns [12]. Research on diabetics reported that self-efficacy could empower the patients and play the role of enhancer of quality of life. This research also found the strong predicting role of self-efficacy in increasing quality of life [13].

Based on the relationship between coping self-efficacy, quality of life, and well-being, it was hypothesized that coping self-efficacy will directly affect overall well-being. It was further hypothesized that the quality of life would mediate the effect of coping self-efficacy on well-being. Following these suppositions, the present study aimed to address two major objectives. Firstly, to test the direct and indirect (through quality of life) effects of coping self-efficacy on well-being. Secondly, to explore the relationship between demographic and study variables.

METHODS

A cross-sectional correlational research design was utilized to conduct the study. Purposive sampling was used to carry out the study. According to G*Power, for a model of one predictor with mediation of quality of life, an effect size of 0.015, a power of 0.95, and an alpha of 0.05, a total of 150 participants were calculated as sample size, and data were collected from literate adults aged 18 and above. The duration of the study was from December 2021 to September 2022. The sample's inclusion criteria were educated participants who could understand English and were at least 18 years old. Exclusion criteria included individuals below 18 years and individuals unable to comprehend English. They were excluded because the instruments used were in the English language. The participants were given an informed consent form to seek their willingness to participate. They were briefed about the objectives of the study. They were also assured about the confidentiality of their identities and responses. The sample's age ranged from 18 to 36 years, with mean age = 22.65 years (SD = 4.43) having an average of 14 years of formal education (SD = 2.35). The participants included 51 Males (34%) and 99 Females (66%). Most of the participants were unmarried (i.e., 84.7%) and had no current ailment (95.3 %). Most participants were students (77.3), whereas 22.7% were on the job. Most of the sample was from the joint family system (56 %), compared to the nuclear family system (44 %). PERMA profiler is a self-report scale of well-being using an 11-point Likert scale, having 23 items in total and eight subscales (3 items in each subscale except Loneliness subscale that consist of a single item), namely Meaning, Positive Emotion, Relationships, Engagement, Accomplishment, Negative Emotion, Loneliness, and Health [5]. Overall well-being is calculated using all the items other than the items in subscales, namely 'Negative Emotion', 'Health', and 'Loneliness', that are used as filler subscales. A high score on PERMA shows high overall well-being. The scale showed good Cronbach's alpha reliability (a =0.76). World Health Organization Quality of Life-Brief (WHOQOL-BREF) is a self-report scale measuring the quality of life [14]. It is a 5-point Likert scale that has 26 items and four subscales, namely psychological functioning (6 items), Environment (8 items), Physical health (7 items), and social relationships (3 items). The scale showed satisfactory Cronbach's alpha reliability (a = 0.89). Coping Self-Efficacy was measured via the generalized self-efficacy scale (GSES), having ten items that rate responses on a 4-point Likert scale. High scores on GSES indicate high coping self-efficacy [7]. The scale showed good Cronbach's alpha reliability (a =0.79). The preliminary analyses included Pearson correlation analysis, to study the correlation among demographic and study variables, and t-test for analyzing gender difference on study variables. Process macro by Hayes was utilized to carry out the main analyses. Simple mediation analysis was tested by applying model 4 in process macro. Although our institution does not have a formal Ethics Committee, it is claimed that informed permission was obtained, and the authors followed all applicable ethical guidelines.

RESULTS

Correlation analysis shows that overall well-being significantly correlates with quality of life and coping self-efficacy. Among the demographics, age, and education correlate significantly with high coping self-efficacy and low negative emotions and loneliness levels. Income significantly correlates with overall well-being and coping self-efficacy (Table 1).

DOI: https://doi.org/10.54393/pjhs.v5i04.1349

Table 1: Pearson Correlation Between Study Variables (N = 150)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Age	-	0.84**	0.23**	0.004	-0.06	-0.15	-0.06	0.10	0.07	-0.31**	-0.15	-0.28**	-0.06	0.18*
2	Education	-	-	0.18*	0.07	0.01	-0.10	-0.03	0.19*	0.11	-0.31**	-0.08	-0.29**	-0.10	0.26**
3	Income	-	-	-	0.18*	0.10	0.14	0.09	0.15	0.14	-0.19*	0.12	-0.09	0.13	0.16*
4	Overall Well-being	-	-	-	-	0.82**	0.74**	0.74**	0.83**	0.60**	-0.15	0.73**	0.05	0.67**	0.71**
5	Positive Emotion	-	-	-	-	-	0.71**	0.71**	0.73**	0.18*	-0.11	0.68**	0.01	0.72**	0.64**
6	Engagement	-	-	-	-	-	-	0.60**	0.55**	0.19*	0.04	0.59**	0.10	0.55**	0.49**
7	Relationship	-	-	-	-	-	-	-	0.69**	0.07	-0.16*	0.65**	-0.09	0.69**	0.49**
8	Meaning	-	-	-	-	-	-	-	-	0.26**	-0.12	0.69**	-0.09	0.59**	0.69**
9	Accomplishment	-	-	-	-	-	-	-	-	-	-0.10	0.23**	0.19*	0.15	0.36**
10	Negative Emotion	-	-	-	-	-	-	-	-	-	-	-0.22**	0.52**	-0.28**	-0.21*
11	Health	-	-	-	-	-	-	-	-	-	-	-	-0.01	0.67**	0.66**
12	Loneliness	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01
13	Quality of Life	-	-	-	-	-	-	-	-	-	-	-	-	-	0.64**
14	Coping Self-Efficacy	-	-	-	-	-	-	-	-	-	-	-	-	-	-

***: p <0.01, *: p < 0.05*

Gender differences were observed with coping self-efficacy, health, and negative emotions. Males scored significantly higher on coping self-efficacy ($M = 30.96$, $p < 0.05$) and health ($M = 22.75$, $p = 0.001$) in comparison to the female participants. Females scored higher on negative emotion ($M = 16.30$, $p = 0.001$) than their counterparts. Process macro by Hayes was utilized to carry out the main analysis. Simple mediation analysis was tested by applying model 4 in process macro. The results exhibited a significant direct and indirect effect of coping self-efficacy on well-being through quality of life. The analysis was controlled for gender, age, education, income, and family system, as the initial analysis showed differences across these demographics on study variables. After controlling for the effects of these variables, model 1 shows that coping self-efficacy has a positive effect (B = 3.98, p < 0.01) on well-being. The meditational model showed a significantly positive direct effect (B = 0.278, p > 0.01) as well as the indirect effect of coping self-efficacy on well-being (B = 1.20, 95% *CI* = 0.46, to 1.90). The bold-faced lines in figure 1 show the significant direct and indirect paths. These results show that having higher coping self-efficacy will have an accelerating effect on well-being. Similarly, coping self-efficacy also increases the quality of life and well-being (Table 2).

Table 2: Mediating effect of quality of life for the relationship between coping self-efficacy and well-being (N = 150)

Predictors	Well-being			
	Model 1	Model 2		
	B	*B*	95% CI	
			LL	UL
Constant	4.95	-30.69	-61.78	0.39
Gender	5.30	4.82	-0.88	10.52
Age	-1.05	-1.27*	-2.33	-0.20
Education	0.53	1.77	-0.34	3.87
Income	0.00002	0.00002	-0.00001	0.00004
Family System	-8.95**	-6.37*	-11.76	-0.98
Coping Self-Efficacy	3.98**	2.78**	1.97	3.58
Quality of Life	-	0.59**	0.31	0.87
R^2	0.58	0.63	-	-
ΔR^2	-	0.05	-	-
F	33.20**	34.10**	-	-

**p < 0.05, **p < 0.01*

The meditational model confirmed the positive meditational role of quality of life in increasing the effect of coping self-efficacy on well-being. The model explained a 5% variance in outcome variable well-being (Figure 1).

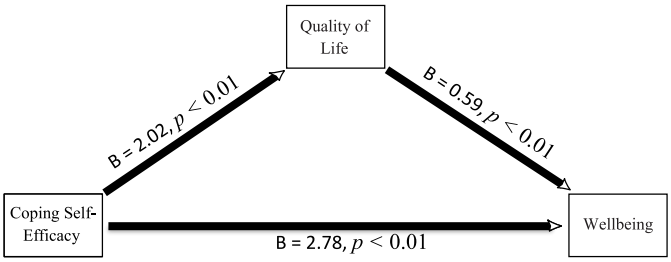

Figure 1: Mediating Effect of Coping Self-Efficacy on Well-being through Quality of Life

DISCUSSION

Self-efficacy and quality of life are closely linked with an individual's well-being. A number of studies examined the interplay among these variables [15, 16]. These studies found that quality of life is largely affected by self-efficacy and it adds to their well-being. The results of previous studies were largely supported by socio-cognitive theory [17]. The nexus between self-efficacy, well-being and quality of life is of quite significance in order to enhance overall well-being and prevent negative states of being. In this context, the PERMA model in positive psychology bears global significance for fostering flourishing on a

DOI: https://doi.org/10.54393/pjhs.v5i04.1349

broader scale. The current study was also undertaken to examine this nexus between self-efficacy, well-being and quality of life. One of the objectives of the current study was to explore the relationship between demographic and study variables. Initial analysis indicated that age and education significantly correlate with coping self-efficacy, negative emotions, and loneliness. Moreover, income significantly correlates with overall well-being and coping self-efficacy. These findings align with previous studies that showed similar results [18, 19]. These findings, in support with past researches, underscore the substantial role of different demographic groups in enhancing self-efficacy and aspects of wellbeing. Gender differences were also observed on coping self-efficacy, health, and negative emotions. Findings illustrated that males reported higher coping self-efficacy in comparison to female participants. In contrast, previous studies show that, in general, males report the poorest self-efficacy compared to females [9]. Nevertheless, these findings are supported by an indigenous study in Pakistan that also reported higher coping self-efficacy in men. Saeed explained this disparity through cultural differences [11]. It was stated that male dominance is observed in Pakistani culture, which can be related to elevated self-efficacy among men as compared to their female counterparts. In the present study, males also reported higher health scores than female participants, who in contrast scored higher on negative emotion. The results are supported by literature, e.g., one study on diabetics in Pakistan, showed similar results where men exhibited higher physical health than females whereas females showed higher diabetes-related distress and emotional problems [11]. These gender differences accentuate the substantial role of cultural effect in Pakistan that account for the differences found specifically in this cultural group when compared with studies done in other cultures. In simple terms, we can say that male dominancy in society can be attributed to facilitating one gender (male) in comparison to another (female). The second main objective of the study was to test our supposition of the direct and indirect effect of coping self-efficacy on well-being through quality of life. Based on the relationship between coping self-efficacy, quality of life, and well-being, it was hypothesized that coping self-efficacy will directly affect overall well-being. It was further hypothesized that the quality of life would mediate the effect of coping self-efficacy on well-being. Following these suppositions, the mediation analysis utilized process *Marco* by *Hayes* in 2013. The analysis was controlled for the effect of gender, age, income, education, and family system. Initial analysis of correlation and mean differences has shown that these variables significantly influenced the study variables in one way or another, so their effect was controlled in the advanced analysis to obtain precise results. The results confirmed our hypotheses. Results showed that increased coping self-efficacy was significantly directly associated with elevated well-being. These findings align with the previous research that described the direct positive relationship between coping self-efficacy with well-being and as a substantial predictor for improved well-being [5, 6]. Similarly, one study utilized mediation analysis and showed that a high level of self-efficacy improves the psychological well-being of individuals through their immune systems [10]. Other studies have also pointed at the facilitating role of self-efficacy in patients with myocardial infarction and diabetes mellitus [11, 20]. The improvement in well-being linked with increased self-efficacy may stem from these health outcomes reported by earlier researches. Likewise, the results from the present study also confirm the mediating effect of quality of life on the relationship between coping self-efficacy and well-being. It was established that, indirectly, after being mediated by the quality of life, the increase in coping self-efficacy was also significantly associated with a further increase in well-being. Researches from the past also support these results. One research found a strong predicting role of self-efficacy in increasing quality of life [13]. Another study indicated the relationship between quality of life with PERMA, where higher levels of quality of life were associated with greater well-being [4]. Similar results were reported in South Korea, where a strong relationship between quality of life was associated with better well-being using the PERMA measure [3]. A recent study on elderly population in Iran, explored the direct and indirect link between well-being and quality of life through self-efficacy. The study found that self-efficacy had direct association with quality of life and well-being. In addition, well-being directly and indirectly increases quality of life through self-efficacy [15]. The findings of the current study align with existing literature emphasizing the importance of quality of life and coping self-efficacy in promoting well-being. Consequently, intervention programs aimed at enhancing well-being could focus on targeting quality of life and coping self-efficacy to facilitate a more fulfilling life. It is suggested to improve well-being at a population level by enhancing the quality of life and self-efficacy to create more resilient and happy citizens for better-off societies. The present study contributes to the existing literature regarding the PERMA model of well-being. Literature also highlighted that such multi-component interventions in positive psychology have proven to be most effective among clinical and non-clinical populations for improving well-being [21]. Well-being is associated with several health and psychological benefits. Through this study,

DOI: https://doi.org/10.54393/pjhs.v5i04.1349

insights are gained into the factors that contribute to well-being, ultimately paving the way for a more fulfilling life. There are certain limitations of the present study, despite the significant findings. The sample was convenient, and the sample size was small due to the limited research time. The sample only included educated individuals, and most were from universities. Future research can address these limitations using a larger, more diverse sample.

CONCLUSIONS

We can summarize the findings by concluding that coping self-efficacy increases overall well-being. An individual's well-being increases further in the presence of a better quality of life. Moreover, demographic variables showed substantial role in affecting well-being and self-efficacy. Age and education positively correlated with coping self-efficacy and negatively correlated with loneliness and negative emotions. Overall well-being and coping self-efficacy were found greater among high income group. Gender comparison indicates that males have higher level of coping self-efficacy and health whereas; females have higher level of negative emotion.

Authors Contribution

Conceptualization: SS, SA
Methodology: SS
Formal analysis: SS
Writing-review and editing: SS, HM

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

The authors received no financial support for the research, authorship and/or publication of this article.

REFERENCES

[1] Seligman ME. Flourish: A visionary new understanding of happiness and well-being. Simon and Schuster; 2011 Apr.

[2] Forgeard MJ, Jayawickreme E, Kern ML, Seligman ME. Doing the right thing: Measuring wellbeing for public policy. International Journal of Wellbeing. 2011 Jan; 1(1). doi: 10.5502/ijw.v1i1.15.

[3] Choi MY. Mental and physical factors influencing wellbeing among South Korean emergency workers. International Journal of Environmental Research and Public Health. 2021 Jan; 18: 70. doi: 10.3390/ijerph 18010070.

[4] Bracken-Scally M, McGilloway S, Gallagher S, Mitchell JT. Life after the emergency services: An exploratory study of well-being and quality of life in emergency service retirees. International Journal of Emergency Mental Health and Human Resilience. 2014; 16(1): 44-61. doi: 10.4172/1522-4821.1000108.

[5] Butler J and Kern ML. The PERMA-Profiler: A brief multidimensional measure of flourishing. International Journal of Wellbeing. 2016 Oct; 6(3). doi: 10.5502/ijw.v6i3.526.

[6] Shakespeare-Finch J, Rees A, Armstrong D. Social support, self-efficacy, trauma and well-being in emergency medical dispatchers. Social Indicators Research. 2015 Sep; 123: 549-65. doi: 10.1007/s11205-014-0749-9.

[7] Schwarzer R, Jerusalem M. Generalized self-efficacy scale. J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs. 1995;35(37):82-003. doi: 10.1037/t00393-000.

[8] Bandura A. Social cognitive theory: An agentic perspective. Annual Review of Psychology. 2001 Feb; 52: 1-26. doi: 10.1146/annurev.psych.52.1.1.

[9] Messina R, Rucci P, Sturt J, Mancini T, Fantini MP. Assessing self-efficacy in type 2 diabetes management: validation of the Italian version of the Diabetes Management Self-Efficacy Scale (IT-DMSES). Health and quality of life outcomes. 2018 Dec; 16: 1-9. doi: 10.1186/s12955-018-0901-3.

[10] Schwerdtfeger A, Konermann L, Schönhofen K. Self-efficacy as a health-protective resource in teachers? A biopsychological approach. Health Psychology. 2008 May; 27: 358. doi: 10.1037/0278-6133.27.3.358.

[11] Saeed S. Personal and Environmental Antecedents of Diabetes Control and Quality of Life: Elaborating Adherence from a Socio-Cognitive Perspective. [Master Thesis]. National Institute of Psychology. Quaid-i-Azam University: Islamabad, Pakistan; 2018

[12] Chakrabarty A, Das US, Kushwaha S. QOL Barometer for the Well-being of Citizens: Leverages during Critical Emergencies and Pandemic Disasters. Decision Sciences for COVID-19: Learning Through Case Studies. 2022 Feb: 457-481. doi: 10.1007/978-3-030-87019-5_25.

[13] Bowen PG, Clay OJ, Lee LT, Vice J, Ovalle F, Crowe M *et al.* Associations of social support and self-efficacy with quality of life in older adults with diabetes. Journal of Gerontological Nursing. 2015 Dec; 41: 21-9. doi: 10.3928/00989134-20151008-44.

[14] World Health Organization. WHOQOL-BREF: introduction, administration, scoring and generic version of the assessment: field trial version, World Health Organization. 1996 Dec.

[15] Bagheri MJ, Asgharnejad Farid A, Nasrolahi B. The Relationship between self-efficacy and quality of life

DOI: https://doi.org/10.54393/pjhs.v5i04.1349

through the mediating role of psychological well-being in the Elderly. Aging Psychology. 2022 Apr; 8(1): 54-39. doi: 10.22126/JAP.2022.7431.1602.

[16] McAuley E, Konopack JF, Motl RW, Morris KS, Doerksen SE, Rosengren KR *et al.* Physical activity and quality of life in older adults: influence of health status and self-efficacy. Annals of Behavioral Medicine. 2006 Feb; 31: 99-103. doi: 10.1207/s15324796abm3101_14.

[17] Bandura A and López-Angulo. Self-Efficacy: the exercise of control: New York: Freedom and Company. 1997; 10.

[18] Killingsworth MA. Experienced well-being rises with income, even above $75,000 per year. Proceedings of the National Academy of Sciences. 2021 Jan; 118: e2016976118. doi: 10.1073/pnas.2016976118.

[19] Povey J, Boreham P, Tomaszewski W. The development of a new multi-faceted model of social wellbeing: Does income level make a difference? Journal of Sociology. 2016 Jun; 52: 155-72. doi: 10.1177/1440783313507491.

[20] Joekes K, Van Elderen T, Schreurs K. Self-efficacy and overprotection are related to quality of life, psychological well-being and self-management in cardiac patients. Journal of Health Psychology. 2007 Jan; 12: 4-16. doi: 10.1177/1359105306069096.

[21] Van Agteren J, Iasiello M, Lo L, Bartholomaeus J, Kopsaftis Z, Carey M *et al.* A systematic review and meta-analysis of psychological interventions to improve mental wellbeing. Nature Human Behavior. 2021 May; 5: 631-52. doi: 10.1038/s41562-021-01093-w.