Psychocentrum Review

Resilience, Stress and Subjective Well-Being among Medical Co-Assistants during COVID-19 Pandemic

Risa Anggreini*, Nadia Amanda Meldi, Arini Rachmawati, Syaikha Nabila, Aulia Iskandarsyah

Departement of Clinical Psychology, Universitas Padjadjaran, Indonesia

SCROLL DOWN TO READ THIS ARTICLE

Original Article

Resilience, Stress and Subjective Well-Being among Medical Co-Assistants during COVID-19 Pandemic

Risa Anggreini*, Nadia Amanda Meldi, Arini Rachmawati, Syaikha Nabila, Aulia Iskandarsyah

Departement of Clinical Psychology, Universitas Padjadjaran, Indonesia

Abstract. Medical co-assistants are at significant risk during the COVID-19 pandemic due to exposure to more substantial stressors, including handling patients, academic pressure, and reduced rest times. Moreover, their continuous exposure to disease during the COVID-19 pandemic places them in significant psychological distress. These challenges can potentially affect their subjective well-being. Effective stress management strategies are imperative to reduce susceptibility to adverse consequences. Resilience has been identified as a key protective factor against the detrimental impact of stress. A study involving 102 medical students who became co-assistants during the COVID-19 pandemic investigated the relationship between resilience, stress, and subjective well-being among medical co-assistants. The study found that resilience among medical co-assistants in Indonesia was negatively correlated with stress and negative affect, and positively correlated with life satisfaction, positive affect, and affective balance in subjective well-being. Resilience plays a crucial role in helping individuals recover from challenges and failures, viewing these setbacks as opportunities for growth and learning. This positive outlook contributes to increased positive affect and enhances their subjective well-being. Ultimately, this lowers their stress levels and reduces negative aspects that may impede their performance as medical co-assistants.

Introduction

The COVID-19 pandemic has presented unprecedented challenges to healthcare systems worldwide, exerting substantial pressure on healthcare workers (Doleman et al., 2023). Specifically, this pandemic has escalated the workload of healthcare workers, primarily attributed to a significant surge in hospitalizations, particularly stemming from COVID-19 cases and related illnesses (Cheong et al., 2022). This surge in patient numbers has resulted in healthcare workers grappling with significantly increased workloads, often working tirelessly to provide care in exceptionally demanding conditions. Furthermore, as frontline responders during the early stages of the pandemic, healthcare workers faced heightened exposure to the COVID-19 virus due to close contact with infected individuals and limited access to resources, potentially jeopardizing their health (Billings et al., 2021).

Medical co-assistants are another group of future healthcare professionals that play an essential role in shaping the healthcare system. These individuals are medical students currently in the practical training phase, having completed a medical undergraduate program

and presently enrolled in a professional practice program to attain their medical degree, which includes passing through several clinical rotations (Unika Soegijapranata, 2023).

Medical co-assistants are placed in hospitals during their training phase, where they engage in medical practice under the supervision of experienced doctors or supervisors (Kristiningrum et al., 2017). This training phase exposes them to a variety of significant stressors, including an overwhelming academic workload, perceived inadequacy in handling patients, and reduced rest time. These responsibilities enable them to have a strong medical knowledge foundation and apply their skills in real-life settings under supervision (Christyanti et al., 2010). Simultaneously managing these responsibilities becomes the primary cause of increased stress levels among medical co-assistants. The distinct demands of these roles create challenges for medical co-assistants in effectively fulfilling their dual roles as both young doctors and interns, ultimately leading to heightened stress. These challenges arise from differences in roles, responsibilities, and varying demands that can result in role conflicts within the medical co-assistant profession (Amelia Pangesti, 2012).

A study conducted by Putri, S.A, and Zulharman., (2016) revealed that 67.6% of medical co-assistants reported moderate stress levels, while 29.6% had high levels of stress. Furthermore, particularly during the COVID-19 pandemic, they are required to fulfill their responsibilities amid the ongoing COVID-19 outbreak, which poses significant risks to their health and safety. The emergence of the COVID-19 pandemic has compounded these stressors, and medical co-assistants have become more vulnerable to the virus.

The stressors faced by medical co-assistants during their training phase in the COVID-19 pandemic can exert a substantial influence on their levels of stress. According to Lazarus & Folkman, (1984), stress is defined as a particular interaction between an individual and their environment that is evaluated by the individual as imposing demands or surpassing their available resources, thereby jeopardizing their overall well-being. This definition highlights three main factors contributing to stress: unpredictable conditions, uncontrolled conditions, and work overload (Lazarus & Folkman, 1984). According to this definition, the way an individual perceives situations plays a pivotal role in determining both stress reactions and coping efforts (Lazarus & Folkman, 1984).

Perceptions of stressors can have divergent consequences based on how individuals interpret them. This is because individual responses to stressful situations are influenced by various factors, including personal characteristics, available resources, cultural features, and social support systems (Biggs et al., 2017). When individuals perceive stressors as a challenge, they may experience positive effects such as heightened arousal and increased motivation to overcome difficulties. In contrast, when stressors are perceived as threats and persist over an extended period, they can harm individuals (Myers, 2010). It is imperative to recognize that stressful situations that place high demands on an individual can negatively impact their subjective well-being (Gillett & Crisp, 2017). As they can affect health and academic performance (Sletta et al., 2019).

Subjective well-being (SWB) is defined as an individual's perception and evaluation of their quality of life according to a set of criteria that is subjective, stable, and holistic criteria. SWB is a multidimensional construct that has three distinct but related components: a) cognitive evaluations of life satisfaction; b) frequent positive affect; and c) infrequent negative affect (Diener et al., 1999).

In the phase of the COVID-19 outbreak, subjective well-being is critical for individuals to cope with challenges in uncontrollable life events. However, there is limited knowledge available about the effects of stress on life satisfaction (Shamblaw et al., 2021). Previous studies have revealed that unexpected events, such as natural disasters and pandemics, could have the potential to adversely affect the subjective well-being of individuals (Paredes et al., 2021). Multiple research endeavors have highlighted a noticeable decrease in life satisfaction (Möhring et al., 2021), a significant increase in the prevalence of negative emotional states,

and a simultaneous decrease in the occurrence of positive emotional states during the pandemic (Foa et al., 2020).

However, subjective well-being is important for medical co-assistants, especially during the pandemic. It can help them cope with issues, maintain health, enhance academic performance, and uphold professional values (Wu et al., 2021). Based on these findings it is imperative to consider the subjective well-being of medical co-assistants. A decrease in their subjective well-being not only impacts their academic performance but also has significant implications for the quality of health services, increased medical errors, reduced overall healthcare system effectiveness, and potentially leads to decreased patient satisfaction.

To maintain subjective well-being, it is necessary to reduce susceptibility to the adverse consequences of stress. It is imperative to employ stress management strategies effectively. Stress management, when approached from a situational standpoint, necessitates continuous cognitive and behavioral efforts aimed at effectively handling specific external and or internal stressors perceived as overwhelming or exceeding an individual's available resources (Lazarus & Folkman, 1984). Tomyn & Weinberg, (2018) comprehensive study has illuminated resilience as one of the key protective factors against the detrimental impacts of (Lin et al., 2019; Septiani & Fitria, 2016). Additionally, resilience has been identified as positively correlated with an individual's subjective well-being (life satisfaction and positive and negative affect) (Chen, 2016).

Resilience is a personal quality defined as the capacity that empowers individuals to thrive when confronted with adverse situations (Connor & Davidson, 2003), including challenging circumstances like a pandemic (Zager Kocjan et al., 2021). This quality assists individuals in adapting and bouncing back when faced with adversity (Tomyn & Weinberg, 2018). According to Connor & Davidson (2003), resilience encompasses five key aspects: a) personal competence; b) trust in one's instincts; c) positive acceptance of change and secure relationships; d) control and factors; and e) spiritual influences. Resilience has been consistently associated with a negative correlation with levels of perceived stress, anxiety, and depression, playing a protective role in these direct relationships (Lara-Cabrera et al., 2021). A study found that subjective well-being is positively associated with psychological resilience (Wu et al., 2021). Furthermore, it's worth noting that resilience isn't solely confined to its impact on mental health, it also holds significance in the realm of physical health (McGowan et al., 2018).

Previous research found that resilience is significantly correlated with stress in medical students in the practical training phase in the United States (Lin et al., 2019) and Taiwan (Houpy et al., 2017). However, another study conducted in Indonesia found no significant correlation between the two variables (Wilda et al., 2016). Meanwhile, many researchers found that there are significant correlations between resilience and subjective well-being in college students (Chen, 2016) parents (Dey, Amponsah, & Wiafe-Akenteng, 2021), and patients with chronic illness (Tecson et al., 2019). This indicates the presence of a gap in the research.

Based on the exposition that has been presented, it is important to understand the dynamics of resilience, stress, and subjective well-being among medical co-assistants during the COVID-19 pandemic is of paramount importance. These healthcare workers are at the forefront of battling the pandemic, facing many challenges that may have far-reaching consequences for their psychological, emotional, and physical well-being. Understanding how resilience shapes their ability to cope with stress and maintain subjective well-being can offer valuable insight into the strategies that can be employed to foster their well-being and effectiveness in the healthcare setting and academic performance.

By examining these relationships, we can gain valuable insights into the factors that contribute to their resilience, the impact of stress on their mental health, and the potential implications for their overall well-being. Such knowledge is not only crucial for improving the support systems available to medical co-assistants but also for developing strategies to

enhance their resilience and mitigate the negative effects of stress, ultimately ensuring the delivery of high-quality healthcare services during these challenging times. This can help them manage their stress with resilience to have good subjective well-being, which can impact their mental health. However, this study that specifically investigated the relationship of resilience, stress, and SWB in medical co-assistants during the COVID-19 pandemic is still limited.

Therefore, the purpose of this study is to examine the relationship between resilience, stress, and subjective well-being among medical co-assistants during the COVID-19 pandemic. The following hypotheses have been adopted: 1) Resilience has a negative relationship with stress. 2) Resilience has a positive relationship with subjective well-being.

Method

This study adopts a quantitative research approach, specifically a non-experimental design, aimed at describing variables without manipulation. Within the non-experimental paradigm, a correlational approach is employed to assess the degree of relationship between measured variables (Christensen, 2007). The variables measured in this study were resilience, stress, and subjective well-being.

Participants

This study involved 102 medical co-assistants during the COVID-19 pandemic. The participants were both male and female, ranged in age from 20 to 26 years old, and had experience as co-assistants for 1 to 37 months. They came from various provinces in Indonesia, including the Special Capital Region of Jakarta, West Java, Central Java, East Java, Lampung, South Sumatra, Riau, Bali, the Special Region of Yogyakarta, and South Sulawesi.

Sampling Procedures

The sampling method was non-probability sampling, employing a convenience sampling technique based on the researcher's convenience in selecting samples according to practical criteria (Fricker Jr, 2016). However, this sampling technique may not be representative of the entire population because it can only be generalized to the population that is easily accessible (Andrade, 2021). In this study, researchers selected samples that were easily accessible and met certain criteria, including a willingness to participate and the availability of time to engage in the research, given the busy schedules of medical co-assistants during the pandemic.

Materials and Apparatus

This study was conducted on medical students who were serving as co-assistants during the COVID-19 pandemic, utilizing an online questionnaire through Google Forms. The online questionnaire was structured into five sections: 1) informed consent; 2) sociographic data (gender, age, and duration of practice); 3) resilience; 4) stress; and 5) subjective well-being. All of the variables in the research were measured by self-report questionnaires.

Resilience: The measurement of resilience was carried out using the Connor-Davidson Resilience Scale (CD-RISC), which consists of 25 items. Each item offers a five-point range of response options: not true at all, rarely true, sometimes true, often true, and true nearly all of the time. This instrument was adapted to the Indonesian

version by Listyandini & Akmal (2015) from Connor & Davidson, (2003). This demonstrated very good reliability (α = 0.87). Below is the outline of the CD-RISC measurement instrument, which is presented in Table 1.

Table 1. Item summary with dimensions of the CD-RISC

Dimension	Items by Dimension	Item Description Example
Positive acceptance of change and secure relationship	1, 2, 4, 5, 8.	Able to adapt to change
Trust in one's instincts	6, 7, 14, 15, 18, 19, 20.	See the humorous side of things
Personal competence	10, 11, 12, 16, 17, 23, 24, 25.	Best effort no matter what
Control and Factor	13, 21, 22.	Strong sense of purpose
Spiritual influences	3, 9.	Sometimes fate or God can help me

Stress: Stress levels were assessed using the Perceived Stress Scale Modified for COVID-19 (PSS-10-C), which consists of 10 items. Each item offers five response options: never, almost never, occasionally, almost always, and always. The scale includes favorable and unfavorable items. The Indonesian version of the scale was by Gunawan & Bintari (2021) from Pedrozo-Cortez, & Campo-Arias (2020). The scale exhibited good reliability (α = 0.852). Below is an item summary of the PSS-10-C measurement instrument presented in Table 2.

Table 2. Item summary of PSS-10-C

Items by Dimension		Item Description Example	
Favorable	**Unfavorable**	**Favorable**	**Unfavorable**
1,2,3,6,9,10	4, 5, 7, 8.	I have felt as if something serious was going to happen unexpectedly with the epidemic.	I have felt that i have everything under control in relation to the epidemic.

Subjective Well-Being: There are two scales used to measure aspects of subjective well-being: Diener's Satisfaction with Life Scale (SWLS) and Watson's Positive Affect and Negative Affect Schedule (PANAS). Diener's Satisfaction with Life Scale (SWLS) comprises five items to measure the cognitive aspect of subjective well-being by Diener et al., (1985). Each item offers a seven-point range of response options: strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree, strongly agree. The scale has very good reliability (α = 0.828). An example of a SWLS instrument item is presented in Table 3.

For the assessment of the affective aspect of subjective well-being, Watson's Positive Affect and Negative Affect Schedule (PANAS) was employed. These instruments consist of 10 items to measure positive affect and 10 items to measure negative affect by Watson & Clark, (1988). Each item offers a five-point range of response options: very slightly or not at all, a little, moderately, quite a bit, and extremely. PANAS has very good reliability (positive affect's α = 0.861; negative affect's α = 0.853). Both SWB questionnaires had previously been adapted to the Indonesian version by Akhtar, (2019).

Table 3. Item summary with dimensions of the SWLS.

Dimension	Items by Dimension	Item Description Example
Cognitive	1, 2, 3, 4, 5.	In most ways my life is close to my ideal.

Table 4. Item summary with dimensions of the PANAS

Dimension	Items by Dimension	Item Description Example
Positive Affect	1, 3, 5, 9, 10, 12 ,14 ,16 ,17 ,19.	Interested, excited
Negative Affect	2, 4, 6, 7, 8, 11, 13, 15, 18, 20.	Distressed, upset.

Procedures

This study was conducted on medical co-assistants in Indonesia who practiced during the COVID-19 pandemic. Data collection was carried out from October 2021 to November 2021. To obtain data, researchers used an online questionnaire, a Google Form, with the consideration of being more practical to reach the audience in Indonesia during the COVID-19 pandemic. There were three instruments used in this study, namely CD-RISC to measure resilience, PSS-10-C to measure the level of stress during the pandemic, and SWLS and PANAS to measure aspects of subjective well-being. In addition, informed consent and sociographic data such as gender, age, duration of practice (in months), and university of the respondents were also included in the questionnaire.

To gain respondents, researchers compiled a list of universities in Indonesia that could be easily reached. Then, researchers contacted potential participants to explain the purpose of the study and ask for their willingness to participate in it. If agreed, researchers would provide the Google Form link that had been created. In its implementation, this research was conducted by adhering to research ethics principles, including:

1. Informed consent
   Informed consent contains a set of information related to the research, including the purpose and objectives of the research as well as a guarantee of data confidentiality. Medical co-assistants were asked to fill out informed consent on the front page of the online questionnaire. If the potential participant agrees to participate in this study, they can choose the option 'yes, I agree' to proceed to the next page, and if not, they can choose the option 'do not agree'. This research was conducted based on willingness and without coercion.
2. Anonymity
   To maintain the confidentiality of data from respondents, researchers did not include the respondent's names in the data collection results.
3. Confidentiality
   Although data collection was carried out online, researchers ensured data confidentiality by deleting all information and closing access links used in data collection to prevent information leakage.

Design or Data Analysis

This study employed several statistical analyses to examine the data collected. Descriptive statistical analysis was used to examine the percentages in sociographic data, including age, gender, duration of practice (in months), stress, life satisfaction (the cognitive aspect of SWB), and positive and negative affect (the affective aspect of SWB). Normality test were conducted on the variables of resilience, stress, and subjective well-being to determine if the data had a normal distribution. The Kolmogorov-Smirnov test was used with a significance level of $\alpha = 0.05$. If the p-value > 0.05, it indicates that the data had a normal distribution. After conducting the analysis, it was found that the variables of resilience, stress, positive affect, and satisfaction with life do not follow a normal distribution.

This research uses a simple correlation model to measure the relationship between one independent variable and two dependent variables separately. The aim is to understand how the independent variable is related to two different dependent variables simultaneously. This study focuses on the correlation between the level of resilience and the level of stress, as well as between resilience and subjective well-being. Since all the data did not have a normal distribution, the Spearman's rank correlation test was used with a significance level of $\alpha = 0.05$. If the p-value < 0.05, it indicates that the variables were correlated. The correlation coefficients were then interpreted using the correlation interpretation from Guilford (Van Aswegen & Engelbrecht, 2009).

Table 5. Interpretation of Guilford's correlation

Correlation Coefficient	Interpretation
< 0.19	Slight; almost no relationship
0.20 – 0.39	Low correlation; definite but small relationship
0.40 – 0.69	Moderate correlation; substantial relationship
0.70 – 0.89	High correlation; strong relationship
0.90 – 1.00	Very high correlation; very dependable relationship
≥ 0.30	Practically significant relationship

Results

This study involved 102 medical co-assistants from various universities in Indonesia. From Table 6, the majority of the respondents were female (79.4%), and their age range varied from 20 to 26 years old. The largest percentage of respondents participating in the study was 23 years old (37.3%), while the smallest percentage was between 20 and 26 years old (1%). Most of the respondents had been on duty for 12 months (11.8%), while some had just started their duties for 1 month (5.9%), and the longest-serving respondents had been on duty for 37 months (1%). The respondents came from Bali, Central Java, East Java, Riau, South Sulawesi, South Sumatera, the Special Capital Region of Jakarta, the Special Region of Yogyakarta, West Java, dan Lampung, with the largest percentage of respondents coming from universities in West Java (32.4%).

Table 6. Sociographic data

Characteristics	Frequency	Percentage (%)
Sex		
Female	81	79.4
Male	21	20.6
Age (In Years); *Mean = 22.83, SD = 1.044*		
20	1	1
21	6	5.9
22	33	32.4
23	38	37.3
24	18	17.6
25	5	4.9
26	1	1
University Location		
Bali	6	5.9
Central Java	23	22.4
East Java	13	12.7
Riau	8	7.8
South Sulawesi	1	1.0
South Sumatera	4	3.9
Special Capital Region of Jakarta	5	4.9
Special Region of Yogyakarta	6	5.9
West Java	33	32.4
Lampung	3	2.9
Duration of practice (in a months)		
1	6	5.9
2	7	6.9
3	4	3.9
4	2	2.0
5	3	2.9
6	11	10.8
7	3	2.9
8	8	7.8
9	4	3.9
10	5	4.9
11	2	2.0
12	12	11.8
13	3	2.9
14	4	3.9
15	2	2.0
16	1	1.0
18	6	5.9
19	4	3.9
20	1	1.0
21	2	2.0
22	3	2.9
23	2	2.0
24	5	4.9
36	1	1.0
37	1	1.0

In addition to describing sociographic data, we examined each variable, including stress, resilience, and aspects of subjective well-being: satisfaction with life scale (SWLS), positive affect, negative affect, and affect balance. Table 7 shows that the smallest minimum,

maximum, and mean values are found in affect balance (-22, 48, 4.92) and the lowest standard deviation values are in the satisfaction with life scale (5.179), where the highest values for minimum, maximum, and mean are found in resilience (64, 124, 96.01), with the highest standard deviation (13.707).

Table 7. Descriptive data of variable

	N	Minimum	Maximum	Mean	Std. Deviation
Stres	102	14	44	26.67	5.799
Resilience	102	64	124	96.01	13.707
Satisfaction with Life Scale	102	5	32	23.33	5.179
Positive Affect	102	21	49	36.25	6.224
Negative Affect	102	16	48	31.32	7.155
Affect Balance	102	-22	29	4.92	9.907
Valid N (listwise)	102				

A correlation test was performed to establish the relationship between stress, resilience, and the subjective well-being of medical co-assistants during the COVID-19 pandemic. Before testing the hypothesis, the researchers first did the classical assumption test, a normality test. The Kolmogorov-Smirnov test showed significant values of 0.032, 0.018, and 0.008, the value < 0.05, so it can be concluded that the data of variable resilience, stress, positive affect, and satisfaction with life were not distributed normally. The linearity test showed a significant value of the deviation from linearity of 0.362 > 0.05, so it can be concluded that resilience has a linear relationship with stress.

Since the data is not normally distributed, it is analyzed with Spearman's rank correlation test. Table 8 presents the results of the correlation test between resilience and stress, resilience and life satisfaction, resilience and positive affect, resilience and negative affect, and resilience and affective balance.

The correlation test results between resilience and stress yielded a *p-value* of 0,00 < 0.05 and a correlation coefficient of - 0.419. Indicating a significant negative relationship between resilience and stress. Based on Guilford's criteria for correlation coefficients, this relationship can be considered weak, with almost no relationship. This means that the higher the resilience, the lower the stress experienced.

Furthermore, the correlation between subjective well-being is divided into three aspects: life satisfaction, positive affect, negative affect, and affective balance. The correlation test results between resilience and life satisfaction showed a *p-value* of 0.000 < 0.05 and a correlation coefficient of 0.539, signifying a significant with positive moderate correlation and substantial relationship, suggesting that higher resilience is associated with higher satisfaction with life.

The correlation test result between resilience and positive affect yielded a *p-value* of 0.00 < 0.05 and a correlation coefficient of 0.728, indicating a positive significant relationship between resilience and positive affect, implying that higher resilience corresponds to higher positive affect.

Furthermore, the correlation between resilience and negative affect resulted in a *p-value* of < 0.05 and a coefficient of correlation of - 0.335, indicating a negative significant, definite but small relationship, suggesting that higher resilience is associated with lower negative affect. Lastly, the correlation test between resilience and affective balance showed a p-value of 0.00 < 0.05 and a correlation coefficient of 0.730, indicating a strong positive significant relationship between resilience and affective balance and indicating that higher resilience corresponds to higher affective balance.

Table 8. Spearman's Rho Correlation Test Results

		Stress	Life Satisfaction	Positive Affect	Negative Affect	Affect Balance
Resilience	Correlation Coefficient	-.419**	.539**	.728**	-.335**	.730**
Spearman's Rho	Sig. (2-tailed)	.000	.000	.000	.001	.000
	N	102	102	102	102	102

Discussion

The present study aimed to explore the relationship between resilience, stress, and subjective well-being among medical co-assistants. The correlation analysis revealed a relationship between resilience and stress in medical co-assistants with a *p-value* of 0.000 < 0.05 and an *r-value* of -0.419. Based on Guilford's coefficient criteria, the relationship can be considered weak, and a negative coefficient value indicates that the higher the resilience, the lower the stress. This finding is in line with previous research by Septiani & Fitria, (2016), Maharani & Panjaitan., (2019), and García-León et al., (2019) that emphasizes the positive impact of resilience on stress levels. Higher levels of resilience were associated with better stress management and the ability to survive and bounce back from challenging situations during the clerkship amidst the COVID-19 pandemic.

This negative relationship between resilience and stress is attributed to the fact that resilience can create positive attitudes in individuals, enabling them to effectively manage their stress (Reivich & Shatté, 2002). Medical co-assistants who have high resilience tend to view stressful situations and conditions as challenges, perceiving these circumstances as opportunities for personal growth. This perspective aligns with the findings of Connor & Davidson's, (2003) research, which concludes that resilient people will see change or stress as a challenge and an opportunity. Thus, fostering resilience among medical co-assistants could be beneficial because they experience lower stress levels compared to their counterparts, who possess lower levels of resilience. It is also essential for maintaining composure and professionalism when dealing with patients. This phenomenon highlights the pivotal role played by resilience in shaping our response. Possessing resilience facilitates appropriate responses, while experiencing stress may struggle with our emotions, and battling fatigue leads to avoidance reactions, impacting patient care performance (Gilbert, 2005; Lown et al., 2015).

The second correlation test explored the link between resilience and life satisfaction (the cognitive aspect of subjective well-being) among medical co-assistants. The findings indicated a correlation between resilience and life satisfaction with a *p-value* of 0.000 < 0.05 and an *r-value* of 0.539, according to Guilford's coefficient criteria the relationship moderate correlation and substantial relationship, positive coefficient value indicates that the higher the resilience, the greater satisfaction with life. Aboalshamat et al., (2018) found similar outcomes among medical students in Arabia, suggesting that those with higher resilience levels tend to experience more happiness and life satisfaction. Shi et al., (2015) also discovered a positive association between resilience and life satisfaction among Chinese medical students. Akbar et al., (2014), and Bintamur, (2019), have previously reported a positive correlation between resilience and life satisfaction.

According to Tamarit et al., (2023), resilience played a crucial role in balancing the effect of COVID-19 worries on mental health and life satisfaction. This can be attributed to medical co-assistants ability to overcome challenges and promptly rebound from adversity, leading to increased satisfaction with life. Elevated life satisfaction significantly contributes to an individual's subjective well-being, as it constitutes a fundamental component of the cognitive aspects of subjective well-being. Diener et al., (1997) also revealed that someone who has a high level of subjective well-being is a person who can feel life satisfaction, often feels positive emotions such as joy, and affection, and rarely feels negative emotions such as sadness and anger.

Based on the preceding correlation analysis, a strong and significant positive relationship between resilience and positive affect among medical co-assistants is evident, as indicated by a *p-value* of 0.000 < 0,05 and an *r-value* of 0.728. These results suggest that higher resilience corresponds to higher positive affect. This finding aligns with the research conducted by Liu et al., (2013) also found that resilience was firmly found to be positively correlated with positive affect.

Moreover, the examination demonstrates a significant relationship between resilience and negative affect, as suggested by a *p-value of* 0.001 < 0.05 and an *r-value* - 0.355, implying a low correlation, a definite but small relationship. The presence of a negative coefficient correlation implies that higher resilience is linked to a lower negative aspect. These results are in line with previous studies conducted by Hu et al., (2015) and Shi et al., (2015) who indicated a negative correlation between resilience and negative affect. Similarly, Yildirim & Belen, (2019) found a positive correlation between resilience and positive affect, as well as a negative correlation with negative affect.

Finally, the correlation test revealed a positive association between resilience and affective balance, as indicated by a *p-value* of 0.00 < 0.05 and an *r-value of* 0.730. The coefficient correlation suggests that resilience and affective balance have a strong relationship, suggesting that higher resilience corresponds to heightened affective balance. Avey et al., (2011) discovered that resilience serves as a source of positive emotions and contributes to affective balance. Affective balance, characterized by the equilibrium between positive and negative affect, has been identified as particularly influential in shaping individual judgments of life satisfaction (Schimmak, 2005).

Considering that the emergence of COVID-19 and its potential repercussions have led to a range of psychological distress experienced by individuals (Ahorsu et al., 2022). Resilience appears to act as a safeguard against the adverse effects of negative events in daily life and enhances an individual's capacity to confront potential threats, these factors are of substantial importance in enhancing the positive affect (Hu, Zhang, and Wang, 2014). Research results suggest limited evidence for a positive correlation between resilience and the negative aspects of subjective well-being. However, few studies generally examine subjective well-being in general.

Personal resources, such as resilience, can significantly determine the way people comprehend the environment, formulate it, and respond to it. It is hypothesized that resilience can facilitate a positive appraisal of the circumstances, ultimately leading to a more positive evaluation of one's life over time (Paul et al., 2019). Medical co-assistants, who find themselves on the front lines during the COVID-19 pandemic, must cultivate resilience to effectively manage the potential threats they encounter, ultimately enhancing their subjective well-being.

Despite the valuable findings, this research has some limitations. First, the sample size was limited, potentially affecting representativeness within the broader population of medical co-assistants. To ensure that the sample is representative, future researchers can employ alternative sampling techniques such as purposive sampling. Secondly, the correlation analysis only identifies relationships between variables. Therefore, we recommend conducting

regression analysis for a more comprehensive examination that can show the influence of the independent variable on the dependent variable.

Conclusion

Based on the research conducted to examine the relationship between resilience, stress, and subjective well-being among medical co-assistants during the COVID-19 pandemic, the study's findings reveal several significant correlations. Firstly, there exists a negative relationship between resilience and stress. Secondly, there is a positive relationship between resilience, life satisfaction, positive affect, and affective balance. Thirdly, resilience is negatively correlated with the negative affect of subjective well-being. These findings suggest that medical co-assistants who exhibit resilience in the face of potential threats during the COVID-19 pandemic tend to experience subjective well-being.

Resilience plays a pivotal role in shaping an individual's perceptions, fostering a more positive outlook on situations and challenges, and consequently enhancing subjective well-being. Moreover, when individuals face stress or difficulties, resilient individuals tend to employ beneficial coping strategies, further enhancing positive affect. Resilience also helps individuals recover better from challenges and failure; they view failures as opportunities for growth, and learning, rather than obstacles, and this can contribute to an increase in positive affect, which in turn enhances their subjective well-being.

These findings suggest that a medical co-assistant should possess good resilience skills, as these skills improve their ability to endure and recover from the challenges they may encounter during their duties in the COVID-19 pandemic. This, in turn, lowers their stress levels and reduces negative aspects that may impede their performance as medical co-assistants.

Acknowledgments

References

Aboalshamat, K. T., Alsiyud, A. O., Al-Sayed, R. A., Alreddadi, R. S., Faqiehi, S. S., & Almehmadi, S. A. (2018). The relationship between resilience, happiness, and life satisfaction in dental and medical students in Jeddah, Saudi Arabia. *Nigerian Journal of Clinical Practice*, *21*(8), 1038–1043. https://doi.org/10.4103/njcp.njcp_278_17

Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2022). The Fear of COVID-19 Scale: Development and Initial Validation. *International Journal of Mental Health and Addiction*, *20*(3), 1537–1545. https://doi.org/10.1007/s11469-020-00270-8

Akbar, M., Akram, M., Ahmed, M., Hussain, M. S., Lal, V., & Ijaz, S. (2014). Relationship between Resilience and Life Satisfaction among Nomadic. *International Journal of Innovation and Applied Studies*, *6*(3), 9324.

Akhtar, H. (2019). Subjective Well Being Properti Psikometris Analisis Faktor Konfirmatori. *Jurnal Psikologi*, *18*(1), 29–40.

Amelia Pangesti, A. (2012). Pengaruh Konflik Peran Terhadap Terjadinya Burnout Pada Mahasiswa Koass. *JPPP - Jurnal Penelitian Dan Pengukuran Psikologi*, *1*(1), 1–6. https://doi.org/10.21009/jppp.011.01

Andrade, C. (2021). The Inconvenient Truth About Convenience and Purposive Samples. *Indian Journal of Psychological Medicine*, *43*(1), 86–88. https://doi.org/10.1177/0253717620977000

Avey, J. B., Wernsing, T. S., & Mhatre, K. H. (2011). A longitudinal analysis of positive psychological constructs and emotions on stress, anxiety, and well-being. *Journal of Leadership and Organizational Studies*, *18*(2), 216–228. https://doi.org/10.1177/1548051810397368

Biggs, A., Brough, P., & Drummond, S. (2017). Lazarus and Folkman's Psychological Stress and Coping Theory. In *The handbook of stress and health: A guide to research and practice* (pp. 351–364). Wiley-Blackwell. https://doi.org/10.5040/9781408168745.ch-004

Billings, J., Ching, B. C. F., Gkofa, V., Greene, T., & Bloomfield, M. (2021). Experiences of frontline healthcare workers and their views about support during COVID-19 and previous pandemics: a systematic review and qualitative meta-synthesis. *BMC Health Services Research*, *21*(1), 1–17. https://doi.org/10.1186/s12913-021-06917-z

Bintamur, D. F. (2019). Hubungan resiliensi dan kepuasan hidup pada dewasa muda. Satya Wacana University Pers, (pp. 402-412). Salatiga

Chen, C. (2016). The Role of Resilience and Coping Styles in Subjective Well-Being Among Chinese University Students. *Asia-Pacific Education Researcher*, *25*(3), 377–387. https://doi.org/10.1007/s40299-016-0274-5

Cheong, H. S., Kwon, K. T., Hwang, S., Kim, S., Chang, H., Park, S. Y., Kim, B., Lee, S., Park, J., Heo, S. T., Oh, W. S., & Kim, Y. (2022). *Workload of Healthcare Workers During the COVID-19 Outbreak in Korea : A Nationwide Survey*. *37*(6), 8–16.

Christensen. (2007). *Experimental Methodolgy* (Vol. 10).

Christyanti, D., Dewi, M., & Sulistiani, W. (2010). Hubungan antara Penyesuaian Diri terhadap Tuntutan Akademik dengan Kecenderungan Stres pada Mahasiswa Fakultas Kedokteran Universitas Hang Tuah Surabaya. *INSAN Media Psikologi - Journal Unair*, *12*(03). https://doi.org/10.1057/9780230274099

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new Resilience scale: The Connor-Davidson Resilience scale (CD-RISC). *Depression and Anxiety*, *18*(2), 76–82. https://doi.org/10.1002/da.10113

Dey, N. E. Y., Amponsah, B., & Wiafe-Akenteng, C. B. (2021). Spirituality and subjective well-being of Ghanaian parents of children with special needs: the mediating role of resilience. Journal of Health Psychology, 26(9), 1377-1388.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). *The Satisfaction With Life Scale*. *49*. https://doi.org/10.1207/s15327752jpa4901

Diener, E., Suh, E., E, R., Lucas, & Smith, H. (1999). Subjective Well-Being: Three Decades of Progress. *Psychological Bulletin*, *125*(2), 276–302. https://doi.org/10.1006/pupt.1998.0157

Diener, E., Suh, E., & Oishi, S. (1997). Recent findings on subjective well-being. In *Indian Journal of Clinical Psychology* (Vol. 24, Issue 1, pp. 25–41). http://psycnet.apa.org/psycinfo/1997-43193-002

Doleman, G., De Leo, A., & Bloxsome, D. (2023). The impact of pandemics on healthcare providers' workloads: A scoping review. *Journal of Advanced Nursing*, *March*, 1–21. https://doi.org/10.1111/jan.15690

Foa, R., Gilbert, S., & Fabian, M. O. (2020). COVID-19 and Subjective Well-Being: Separating the Effects of Lockdowns from the Pandemic. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3674080

Fricker Jr, R. D. (2016). *The Sage Handbook of Sampling methods for online* (2nd ed.). SAGE

Publications. https://doi.org/10.31842/jurnal-inobis.v2i1.60

García-León, M. Á., Pérez-Mármol, J. M., Gonzalez-Pérez, R., García-Ríos, M. del C., & Peralta-Ramírez, M. I. (2019). Relationship between resilience and stress: Perceived stress, stressful life events, HPA axis response during a stressful task and hair cortisol. *Physiology and Behavior*, *202*(February), 87–93. https://doi.org/10.1016/j.physbeh.2019.02.001

Gilbert, P. (2005). *Compassion: Conseptualisations Research and Use in Psychoteraphy*. Routledge.

Gillett, J. E., & Crisp, D. A. (2017). Examining coping style and the relationship between stress and subjective well-being in Australia's 'sandwich generation.' *Australasian Journal on Ageing*, *36*(3), 222–227. https://doi.org/10.1111/ajag.12439

Gunawan, A., & Bintari, D. R. (2021). Kesejahteraan Psikologis, Stres, dan Regulasi Emosi pada Mahasiswa Baru Selama Pandemi Covid 19. Jurnal Penelitian Dan Pengukuran Psikologi, 10(1), 51-64.

Houpy, J. C., Lee, W. W., Woodruff, J. N., & Pincavage, A. T. (2017). Medical student resilience and stressful clinical events during clinical training. *Medical Education Online*, *22*(1). https://doi.org/10.1080/10872981.2017.1320187

Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, *76*, 18–27. https://doi.org/10.1016/j.paid.2014.11.039

Kristiningrum, F., Bachtiar, M., & Dasrol, D. (2017). *Tanggung Jawab Dokter Muda (Ko Ass) Dalam Penanganan Kesehatan Terhadap Pasien di RSUD Arifin Achmad Pekanbaru*. *IV*(April), 1–13.

Lara-Cabrera, M. L., Betancort, M., Muñoz-Rubilar, C. A., Novo, N. R., & De las Cuevas, C. (2021). The mediating role of resilience in the relationship between perceived stress and mental health. *International Journal of Environmental Research and Public Health*, *18*(18), 1–10. https://doi.org/10.3390/ijerph18189762

Lazarus, R., & Folkman, S. (1984). *Stress, Appraisal and Coping*. Springer Publishing Company.

Lin, Y. K., Lin, C. Der, Lin, B. Y. J., & Chen, D. Y. (2019). Medical students' resilience: A protective role on stress and quality of life in clerkship. *BMC Medical Education*, *19*(1), 1–9. https://doi.org/10.1186/s12909-019-1912-4

Listyandini, R. A., & Akmal, S. A. (2015). Hubungan antara kekuatan karakter dan resiliensi pada mahasiswa. Prosiding Temu Ilmiah Nasional Psikologi. Jakarta: Fakultas Psikologi Universitas Pancasila.

Liu, Y., Wang, Z., & Lü, W. (2013). Resilience and affect balance as mediators between trait emotional intelligence and life satisfaction. *Personality and Individual Differences*, *54*(7), 850–855. https://doi.org/10.1016/j.paid.2012.12.010

Lown, M., Lewith, G., Simon, C., & Peters, D. (2015). Resilience: What is it, why do we need it, and can it help us? *British Journal of General Practice*, *65*(639), e708–e710. https://doi.org/10.3399/bjgp15X687133

Maharani, A. P., & Panjaitan, R. U. (2019). The resilience and its relationship with stress levels of parents who have children with autism spectrum disorder. *Jurnal Ilmu Keperawatan Jiwa*, *2*(1), 47–54.

Mak, W. W. S., Ng, I. S. W., & Wong, C. C. Y. (2011). Resilience: Enhancing well-being through the positive cognitive triad. Journal of Counseling Psychology, 58(4), 610-617.

McGowan, J. A., Brown, J., Lampe, F. C., Lipman, M., Smith, C., & Rodger, A. (2018). Resilience and Physical and Mental Well-Being in Adults with and Without HIV. *AIDS and Behavior*, *22*(5), 1688–1698. https://doi.org/10.1007/s10461-017-1980-6

Möhring, K., Naumann, E., Reifenscheid, M., Wenz, A., Rettig, T., Krieger, U., Friedel, S., Finkel, M., Cornesse, C., & Blom, A. G. (2021). The COVID-19 pandemic and subjective well-being: longitudinal evidence on satisfaction with work and family.

European *Societies*, *23*(S1), S601–S617. https://doi.org/10.1080/14616696.2020.1833066

Myers, D. G. (2010). Psychology in Modules. New York: Worth Publishers.

Paredes, M. R., Apaolaza, V., Fernandez-Robin, C., Hartmann, P., & Yañez-Martinez, D. (2021). The impact of the COVID-19 pandemic on subjective mental well-being: The interplay of perceived threat, future anxiety and resilience. *Personality and Individual Differences*, *170*(July 2020), 110455. https://doi.org/10.1016/j.paid.2020.110455

Paul, H., Bamel, U., Ashta, A., & Stokes, P. (2019). Examining an integrative model of resilience, subjective well-being and commitment as predictors of organizational citizenship behaviours. *International Journal of Organizational Analysis*, *27*(5), 1274–1297. https://doi.org/10.1108/IJOA-08-2018-1514

Pedrozo-Pupo, J. C., Pedrozo-Cortés, M. J., & Campo-Arias, A. (2020). Perceived stress associated with COVID-19 epidemic in Colombia: an online survey. Cadernos de saude publica, 36.

Putri, S.A., Zulharman., F. (2016). Hubungan Adversity Quotient dengan Stres Akademik pada dokter muda Universitas Riau. *Journal Online Mahasiswa*.

Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. Broadway Books.

Schimmak, U. (2005). *The Structure of Subjective Well-being*. https://doi.org/10.38189/jtbh.v3i2.93

Septiani, T., & Fitria, N. (2016). Hubungan Antara Resiliensi Dengan Stres Pada Mahasiswa Sekolah Tinggi Kedinasan. *Jurnal Penelitian Psikologi*, *07*(02), 59–76.

Shamblaw, A. L., Rumas, R. L., & Best, M. W. (2021). Coping during the COVID-19 pandemic: Relations with mental health and quality of life. Canadian Psychology/Psychologie canadienne. http://dx.doi.org/10.1037/cap0000263

Sletta, C., Tyssen, R., & Løvseth, L. T. (2019). Change in subjective well-being over 20 years at two Norwegian medical schools and factors linked to well-being today: A survey. *BMC Medical Education*, *19*(1), 1–12. https://doi.org/10.1186/s12909-019-1476-3

Shi, M., Wang, X., Bian, Y., & Wang, L. (2015). The mediating role of resilience in the relationship between stress and life satisfaction among Chinese medical students: A cross-sectional study. *BMC Medical Education*, *15*(1), 1–7. https://doi.org/10.1186/s12909-015-0297-2

Sternberg, E. M. (2001). The Balance Within: The Science Connecting Health and Emotions. New York: Freeman. (p. 538)

Tamarit, A., De la Barrera, U., Schoeps, K., Castro-Calvo, J., & Montoya-Castilla, I. (2023). Analyzing the role of resilience and life satisfaction as mediators of the impact of COVID-19 worries on mental health. *Journal of Community Psychology*, *51*(1), 234–250. https://doi.org/10.1002/jcop.22900

Tecson, K. M., Wilkinson, L. R., Smith, B., & Ko, J. M. (2019). Association between psychological resilience and subjective well-being in older adults living with chronic illness. *Baylor University Medical Center Proceedings*, *32*(4), 520–524. https://doi.org/10.1080/08998280.2019.1625660

Tomyn, A. J., & Weinberg, M. K. (2018). Resilience and Subjective Wellbeing: A Psychometric Evaluation in Young Australian Adults. *Australian Psychologist*, *53*(1), 68–76. https://doi.org/10.1111/ap.12251

Unika Soegijapranata. (2023). Dokter Muda FK SCU Jalani Koas di RSUD RAA Soewondo Pati. *SCU*. Retrieved from https://www.unika.ac.id/news/dokter-muda-fk-scu-jalani-koas-di-rsud-raa-soewondo-pati/

Van Aswegen, A. S., & Engelbrecht, A. S. (2009). The relationship between transformational leadership, integrity and an ethical climate in organisations. *SA Journal of Human Resource Management*, *7*(1). https://doi.org/10.4102/sajhrm.v7i1.175

Watson, D., & Clark, A. L. (1988). Development and Validation of Brief Measures of Positive

and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology*, *54*(6). https://doi.org/10.4135/9781483398839.n13

Wilda, T., Elda, N., & Firdaus. (2016). Hubungan Resiliensi Diri Terhadap Tingkat Stres Pada Dokter Muda Fakultas Kedokteran Universitas Riau. *Jurnal Online Mahasiswa Fakultas Kedokteran Universitas Riau*.

Wu, W., Qi, Q., Cao, X., Li, S., Guo, Z., Yu, L., Ma, X., Liu, Y., Liu, Z., You, X., Chen, Y., Long, Q., Teng, Z., & Zeng, Y. (2021). Relationship Between Medical Students' Empathy and Occupation Expectation: Mediating Roles of Resilience and Subjective Well-Being. *Frontiers in Psychology*, *12*(September), 1–10. https://doi.org/10.3389/fpsyg.2021.708342

Yildirim, M., & Belen, H. (2019). The role of resilience in the relationships between externality of happiness and subjective well-being and flourishing: A structural equation model approach. In *Journal of Positive Psychology and Wellbeing* (Vol. 3, Issue 1, pp. 62–76).

Zager Kocjan, G., Kavčič, T., & Avsec, A. (2021). Resilience matters: Explaining the association between personality and psychological functioning during the COVID-19 pandemic. *International Journal of Clinical and Health Psychology*, *21*(1). https://doi.org/10.1016/j.ijchp.2020.08.002