

Psychological resilience of dairy farmers, life satisfaction, and the moderating role of age; Is there a link?

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Abstract. Psychological resilience, life satisfaction, and the moderating role of age in their relationship have been largely overlooked in the literature that discusses business resilience, particularly in small-scale farming in developing countries like Indonesia. This research has the purpose to fill a research gap by exploring the influence of farmers' psychological resilience on life satisfaction. It employs cross-sectional data, observing 210 dairy farmers in Indonesia who have been in their business for a minimum of 10 years. The data is subsequently tested for validity and reliability and analyzed using a quantitative multivariate approach, Structural Equation Modeling (SEM), with smartPLS software. The research demonstrates that psychological resilience has a positive influence on farmers' life satisfaction. Additionally, age has also been proven to moderate psychological resilience and life satisfaction. Based on these outcomes, we recommend that all stakeholders pay attention to formulating policies that support the enhancement of farmers' psychological resilience in facing uncertainties, such as endemic disasters like Foot and Mouth Disease (FMD) and Lumpy Skin Disease (LSD). The implications of these result can provide insights for stakeholders to enhance business resilience from intangible aspects, such as the psychology of farmers, which has been shown to impact life satisfaction, and the moderating role of age in this relationship. Thus, it is expected that entrepreneurs can establish a sustainable dairy cattle business amidst an increasingly uncertain business landscape in the future.

Keyword: Psychological resilience, life satisfaction, FMD (Foot and Mouth Disease), dairy cattle; Indonesia.

1 Introduction

In recent years, the business world has been struck by various forms of uncertainty, such as the fragility of supply chains due to restrictive policies during the pandemic, climate change causing disruptions in production, and threats of diseases.¹⁻¹⁰ It can lead to entrepreneurs being unable to maintain their competitive advantages¹¹, as several international studies have

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shown that when they cannot sustain, there is a decline in profit and business performance. For example, according to the empirical outcomes revealed by ¹² conducted in the agricultural sector in the Netherlands, there is a connection between psychological issues and financial problems for entrepreneurs. Farmers experiencing psychological pressure often do so because they are facing financial difficulties. However, according to ¹³ attitudes, behaviors, environment, motivation, psychology, emotions, and business activities influence attitudes that indicate sustainability in entrepreneurship. This is also corroborated by the outcomes of research ¹⁴ which examined psychological resilience in the context of the sustainability opportunities of small businesses contributing to the circular economy. The research's results indicate changes in business sustainability in response to the financial vulnerability experienced by entrepreneurs during the pandemic. This is due to the impact of stress levels on entrepreneurs, making them unable to support business resilience.¹⁵. Therefore, studies related to psychological resilience have attracted the attention of researchers on the international stage for further investigation, particularly in relation to its connection to life satisfaction, enabling entrepreneurs to focus on the sustainability of their businesses amidst uncertainty threats. This is because empirical studies have proven that entrepreneurs who attain life satisfaction will have an impact on the resilience of their businesses¹⁶. Furthermore, according to the outcomes of research ¹⁷ business resilience is a crucial aspect in achieving subjective well-being. Research ¹⁶ provides evidence that even when entrepreneurs face uncertainty and business threats, they tend to be resilient in overcoming negative impacts and strive to restore their businesses to their previous state.

International studies have confirmed the association between psychological resilience and entrepreneurs' life satisfaction. Medically, the outcomes of research ¹⁸ have demonstrated a link between psychological resilience and the life satisfaction of mentally and physically healthy adults. The results of empirical research in the tourism sector in India, as shown in research ¹⁶ have also demonstrated a positive influence of psychological capital on life satisfaction. Empirical research conducted by ¹⁹ with a sample of university students in Turkey has similarly confirmed that psychological resilience has a positive impact on students' life satisfaction.

Unfortunately, to date, there has been no research confirming the role of psychological resilience in life satisfaction, especially in the livestock sector for dairy farming businesses in developing countries like Indonesia. However, along with dairy cooperatives, the dairy cattle industry in Indonesia has the potential to make a significant contribution to the country's economy ²⁰. On the other hand, the threats of climate change and the emergence of diseases, such as Foot and Mouth Disease (FMD) and Lumpy Skin Disease (LSD), which are significant epidemics, pose a serious threat to the resilience of ruminant businesses in Indonesia, causing social and economic harm to farmers due to a decrease in the quality and quantity of milk.^{21,22}. Furthermore, to date, there has been no research considering age as a moderating variable that is suspected to either strengthen or weaken the relationship between psychological resilience and life satisfaction. However, according to some studies ²³⁻²⁵ it has been demonstrated that different age groups can influence an individual's level of life satisfaction, with life satisfaction being indicated to decrease in individuals aged over 65 years.

This research contributes to several important aspects. Firstly, it contributes to the existing literature related to the impact of psychological resilience on life satisfaction. Secondly, it contributes to assisting dairy farmers in achieving life satisfaction amidst business uncertainty. Thirdly, it contributes to the literature related to the middle theory of imperative strategies that aid entrepreneurs in sustaining their businesses by their ability to attain life satisfaction moderated by age.

2 Research Method

2.1 Measurement of research variables

The key variables in this research include psychological resilience and life satisfaction. Items related to the resilience variable are based on the outcomes of research ²⁶ which encompass the entrepreneur's ability to bounce back from tough times, the challenges entrepreneurs face when dealing with cases of Foot and Mouth Disease (PMK) and Lumpy Skin Disease (LSD) that cause them stress, the difficulty entrepreneurs encounter in stepping back from their livestock farming business when adverse events occur, and the extended time required by entrepreneurs to overcome failures in life due to the serious impact of PMK and LSD on their business. As for the dependent variable in this research, which is life satisfaction, it is referred to the results of a research ²⁶ comprising five statement items, including: entrepreneurs feel that in many aspects of what has occurred, their lives are almost approaching the ideal; entrepreneurs feel that the current condition of their life is very good; entrepreneurs feel satisfied with their lives; so far, entrepreneurs have achieved the important things they desired in their lives; and if entrepreneurs could rewind time, they would not change anything in their lives. This research also involves a moderating variable suspected to strengthen the relationship between psychological resilience and life satisfaction. The instrument used for measurement employs a questionnaire with a Likert scale scoring, where 1 corresponds to "strongly disagree" and 5 corresponds to "strongly agree."

2.2 Sampling

The aim of this research is to explore the role of psychological resilience in life satisfaction moderated by the age of entrepreneurs. Therefore, an instrument is needed to measure respondent's answers. Consequently, the construct is formed in accordance with the desired research model, where the dependent variable is influenced by independent variables, and there is a moderating variable to strengthen or weaken that relationship. This research was conducted over a period of two months, from July to August 2023. The research was carried out in the area with the highest population of dairy cattle in East Java, namely in Pasuruan regency, with a population of 97,101 head in 2021, increasing to 100,080 head in 2022. <https://jatim.bps.go.id/statictable/2023/03/21/2590/-populasi-ternak-sapi-perah-dan-sapi-potong-menurut-kabupaten-kota-dan-jenis-ternak-di-provinsi-jawa-timur-ekor-2021-dan-2022.html>. This research employs a multivariate approach with Structural Equation Modeling (SEM) analysis.

3 Empirical Result

3.1 Analysis of Validity and Reliability

Based on the outer model testing, it was found that the items forming the construct have valid and reliable contributions. In accordance with the minimum standards recommended by multivariate SEM quantitative experts ²⁷ the minimum AVE value is 0.6, the minimum CA and CR values are 0.7, and the minimum factor loading value is 0.6.

Table 1. Outer Model Testing

Construct	Item	Loading	CA	CR	AVE
Psychology Resilience²⁶	X1		0.765	0.826	0.640
I tend to bounce back from the tough times of Foot and Mouth Disease (PMK) and Lumpy Skin Disease (LSD).	x1.1	0.727			
I struggle to get through the incidents of PMK and LSD that cause me stress.	x1.2	0.780			
It is difficult for me to step back from the livestock farming business when bad things happen to my venture.	x1.3	0.724			
It takes me a long time to overcome failures in life due to the serious impact of Foot and Mouth Disease (PMK) and Lumpy Skin Disease (LSD) on my business.	x1.4	0.787			
Life Satisfaction²⁶	Y		0.741	0.812	0.659
In many aspects of what has occurred, my life is almost approaching the ideal.	Y1	0.710			
My current life circumstances are very good.	Y2	0.767			
I am satisfied with my life.	Y3	0.716			
So far, I have achieved the important things I desired in my life.	Y4	0.725			
If I could rewind time, I would not change anything in my life.	Y5	0.731			

3.2 Structural Measurement Model

In the inner model testing, the results showed that hypothesis 1 was accepted with a t-value of 8.934, and similarly, hypothesis 2 was also accepted with a t-value of 3.666. This means that from the structural model testing, psychological resilience has a positive impact on the

life satisfaction of entrepreneurs, and age plays a moderating role in the relationship between psychological resilience and life satisfaction. The following are the results of hypothesis testing.

Table 2. Hypothesis testing

Hypothesis	Relationship	Std.Beta	Std.Error	t-value	p-values	Decision
Direct effect						
H1	PR >> LS	0.479	0.051	8.934	0.000	Yes
Indirect effect						
H2	PR_age >> LS	0.217	0.063	3.666	0.000	Yes

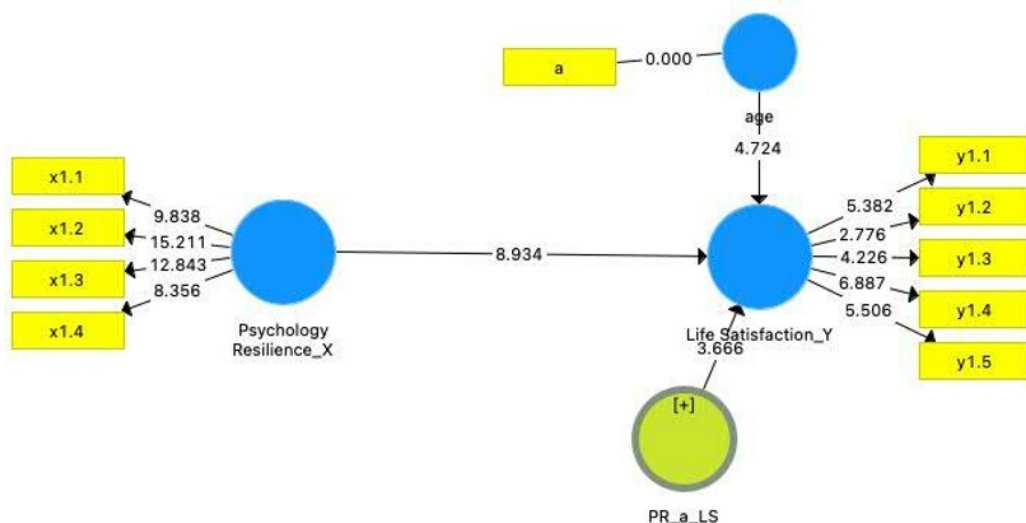


Fig. 2. Empirical Model of the Role of Psychological Resilience in Life Satisfaction Moderated by the Age of Dairy Farmers in East Java, Indonesia

4 Discussion

The result of this research indicate that psychological resilience has a positive impact on the life satisfaction of entrepreneurs. Psychological resilience refers to an individual's ability to cope with pressure, challenges, trauma, and their capacity to recover effectively from difficult experiences they have gone through.²⁸⁻³⁰ Based on the empirical research conducted by reference 31, it has been demonstrated that entrepreneurs who can endure tend to have the ability to manage their thinking and cope with stress, enabling them to handle difficulties with better actions and decisions. Entrepreneurs tend to engage in positive activities³². Therefore, these approaches can have a positive impact on individuals' levels of life satisfaction because entrepreneurs are considered better able to overcome obstacles and engage in more productive business activities with behaviors that make them happy.³³ This is also triggered by several important factors such as social support, life experiences, and individual mindset.³⁴⁻³⁶

Furthermore, the second outcome in this research provides evidence of the significant moderating role of age between psychological resilience and life satisfaction. For

instance, as suggested by the opinion of reference ³⁷ if entrepreneurs have relatively stable financial conditions and a better economic situation, individuals are considered capable of achieving life satisfaction. According to several studies ³⁸⁻⁴⁰ it has been demonstrated that individuals experiencing financial problems tend to experience anxiety and lower life satisfaction. This is because an individual's achievements play a crucial role in motivating them to attain life satisfaction. Therefore, for individuals who can achieve their life goals, they will experience life satisfaction.⁴¹ In this context, age plays a crucial role in both bolstering and weakening the psychology of resilience concerning life satisfaction. ⁴¹⁻⁴⁵. As individuals age, their psychological resilience improves, allowing them to achieve a higher level of life satisfaction compared to younger entrepreneurs. This is because, throughout the course of life, an individual's priorities and goals tend to change with age^{46,47}. If someone might be more focused on education and career at a young age, while at an older age, the focus can shift to social relationships, family, or seeking meaning in life. ^{48,49}. These changes can influence the level of life satisfaction. Similarly, an individual's ability to adapt to changes in life, those who tend to be adaptive to changes are actually more satisfied with their lives.⁵⁰⁻⁵².

4.1 Theoretical Contribution

This research contributes to several important aspects in the literature. First, the research identifies the role of psychological resilience in life satisfaction. Second, the research provides empirical evidence for the mediating role of age in the relationship between psychological resilience and life satisfaction, particularly in the livestock sector, focusing on dairy farming businesses currently experiencing the complexity of uncertainty factors such as climate change and diseases like Foot and Mouth Disease (PMK) and Lumpy Skin Disease (LSD) in a developing countries.

4.2 Limitation

This study is limited to the research of dairy cattle farming in the business development centers located in East Java. Furthermore, this research has not yet proven the measurement of each business based on the scale of operations, as demonstrated by previous research (reference 11), which indicates that the size of businesses in terms of assets can show differences in the resilience of entrepreneurs when facing threats.

5 Conclusion

This research concludes that psychological resilience has a positive influence on the life satisfaction of entrepreneurs. Similarly, age plays a moderating role in the relationship between psychological resilience and life satisfaction. The model in this research can be implemented in other sectors in both developing and developed countries to assess the psychological resilience of entrepreneurs seeking life satisfaction in the face of uncertainty.

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