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Original Research Article

Pattern of Mean-Level in Personality Traits and Work Performance of Cocoa Farmers in Malaysia

NurAin Syafiqah Nor Zaki[1], Jasmin Arif Shah[1,2,*], Winoryantie Sulaiman[3], Nur Bahiah Mohamed Haris[1]

[1]Department of Agriculture Technology, Faculty of Agriculture, Universiti Putra Malaysia (UPM), nurainsyafiqahnorzaki@gmail.com; jasmin.arifshah@upm.edu.my; nurbahiah@upm.edu.my

[2]Institute for Social Science Studies, Universiti Putra Malaysia (UPM), jasmin.arifshah@upm.edu.my

[3]Malaysian Cocoa Board (MCB), winoryantie2019@gmail.com

**Corresponding author: Jasmin Arif Shah, Department of Agriculture Technology, Faculty of Agriculture, Universiti Putra Malaysia (UPM); jasmin.arifshah@upm.edu.my

Abstract: Since 2006, the work performance of cocoa farmers has been essential in providing more than 95% of Malaysia's cocoa production. The poor output was observed due to the poor cocoa bean output of the producers. This article aims to determine the pattern of mean level in personality traits of cocoa farmers in Malaysia that influence work performance. This research used a quantitative research method. Seven independent variables and a dependent variable were identified. A total of 357 respondents were collected. Data were collected by descriptive analysis using IBM SPSS 29. It provided the mean level of farmers' personality traits. Results revealed that farmers' decision-making (M=4.51) and discipline (M=4.63) were perceived as having a high skill level while work performance, investment, networking, problem-solving, information seeking, and risk-taking were moderate, respectively This research helps to improve understanding of the current state level of personality traits toward the work performance of cocoa farmers in Malaysia. Hence, it is recommended that the MCB formulate a policy framework that focuses on creating training modules according to the level of personality traits of farmers. These modules should be designed to consider each farmer's traits at each level. Farmers with advanced expertise possess the capacity to serve as mentors to fellow farmers. The absence of low levels in personality traits proves an opportunity for improvement.

Keywords: cocoa farmers; work performance; personality traits

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1. Introduction

Cocoa is also known as Theobroma cacao L. It is one of the significant perennial crops around the world. Cocoa is one of the five agricultural commodities that contribute to the economy of Malaysia (Olagunju *et al.*, 2019). Malaysia was once South East Asia's third-largest producer of dry cocoa beans. However, cultivation began to decline gradually in the nineties. Since then, plantation companies have made significant contributions to cocoa beans. The unbalanced demand between the upstream and downstream sectors has shown a trend that may have caused challenges in Malaysia's cocoa industry. This situation has emerged due to cocoa becoming a minor lucrative crop for growers. The plantation business and smallholder farmers have stopped growing cocoa in favour of more profitable crops, including oil palm, rubber, and pepper (Fadzim *et al.*, 2017). Since 2006, cocoa farmers have significantly contributed to more than 95% of Malaysia's cocoa production. The low production was attributed to farmers' low cocoa bean productivity. Work performance in 2020 was 0.19 tonne, representing a 38% improvement over the expected result. Cocoa farmers play a crucial role in ensuring their farms' high returns. To boost cocoa production, the Malaysian Cocoa Board (MCB) increased its spending on teaching and fertilizer for cocoa producers. However, the low output was associated with farmers' low cocoa bean productivity (Sulaiman *et al.*, 2022).

There has been some quantitative research on farmer performance, but it has primarily examined the personality characteristics of paddy farmers (Hassan & Abdullah, 2015; Demba, 2017). Rather than cocoa producers, most of the research focuses on cocoa extension officers (Motolani *et al.*, 2017; Olagunju *et al.*, 2019; Hassan *et al.*, 2021; Pakri *et al.*, 2022; Abd Halim *et al.*, 2022). A minimal article about cocoa farmers' personality traits and work performance has been published (Fadzim *et al.*, 2017; Sulaiman *et al.*, 2022). No recent study has examined the Relationship Between Personality Traits and the Work Performance Of Productive Malaysian Cocoa Farmers in Malaysia. Hassan (2011) found that rice farmers in northwest Selangor exhibited seven personality characteristics: information seeking, risk takers, high capital producers, problem solvers, networking, courage in decision making, and highly disciplined, which was the best trait in predicting paddy farmers' performances. Based on these findings, studying the pattern of personality traits and work performance of cocoa farmers in Malaysia is crucial before implementing any strategies for the cocoa sector. Thus, this investigation was conducted to ascertain the pattern of mean-level personality traits and work performance of cocoa farmers in Malaysia.

2. Methodology

2.1. Population and Sampling

This study was carried out to determine the personality traits and work performance of cocoa farmers in Malaysia. This study employed a quantitative research methodology and focused on the population of Productive Cocoa Farmers in Malaysia (PMCF). There are 3 755 PMCFs in Malaysia. The total number of samples from the population was decided using Raosoft Calculator. The based simulation number corresponds to 349. The data collection consisted of 357 respondents to add sufficient data as backup.

The present study utilizes a stratified sample technique to encompass the entirety of Malaysia, which is geographically separated into three distinct regions: Peninsular, Sabah, and Sarawak. The Peninsular region is home to 715 cocoa growers, whereas Sabah has 2,068 cocoa farmers, and Sarawak has 972 cocoa farmers. The population was stratified into homogeneous strata by classifying individual farmers into zoning clusters. The list of productive cocoa farmers in each region was obtained from the Malaysia Cocoa Board. Using the formula in equation 1, the proportionate stratified random sampling formula determines the sample by taking the same number of samples from each stratum. Next, a simple random technique was used to choose the respondents from each stratum, with 66 respondents from the peninsular region, 193 from Sabah, and 90 from Sarawak. The data collection for this study was accomplished through face-to-face interactions.

$$\mathfrak{n}h = \frac{\mathcal{N}h}{\mathcal{N}} \times \mathfrak{n} \tag{1}$$

Where:
$\mathfrak{n}h$=Sample size of stratum
$\mathcal{N}h$=Population size of the stratum
$\mathcal{N}$ = Entire Population size
$\mathfrak{n}$ = Entire Sample size

2.2. Instrument

A survey that comprised both closed- and open-ended questions was (used to conduct this study. The questionnaire was written in Malay. The question was adopted from Sulaiman *et al.* (2022). The questionnaire was designed into four parts: Section A, Respondent Profile; Section B, Cocoa Farm Profile; Section C, Personality Traits; and Section D, Work Performance.

2.3. Reliability Analysis

The questionnaire's reliability was determined using Cronbach's Alpha coefficient. Cronbach's alpha was used to determine the internal consistency of the instruments. For the basis of reliability, the rules of thumb of Cronbach's alpha coefficient according to Tavakol & Dennick (2011) are > 0.9 – Excellent, > 0.8 – Good, > 0.7 – Acceptable, > 0.6 – Questionable, > 0.5 – Poor, < 0.5 – Unacceptable. The cutoff line indicates an alpha value of 0.70, which must be met or exceeded for the instrument to be deemed acceptable.

2.4. Descriptive Analysis

Descriptive analysis was used to analyze the data to determine the mean level of personality traits and work performance cocoa in Malaysia using IBM SPSS software version 29. The independent variables were analyzed based on seven (7) personality traits (disciplines, risk-taking, investment, decision-making, problem-solving, networking and information-seeking). On the other hand, work performance is the dependent variable. The respondents were categorized into low, moderate and high levels, and their frequencies were obtained. The study used a range to set up the cutoff point, which is the maximum score minus the minimum score for each level; it was then divided by the number of desired categories, which is three (3) based on this study. Using a six-point Likert scale, a high level of skills ranges between 4.34–6.00, a moderate level of skills score falls between 2.67–4.339, and a low level of skills at 1.00–2.669 (Hassan & Abdullah, 2015).

3. Results and Discussion

3.1. Working Experiences of Cocoa Farmers

A total of 357 farmers were interviewed for this study. Most of the farmers interviewed have less than ten years of experience in cocoa farming. Figure 3.1 shows the percentage of farmers' years experienced in the cocoa farming sectors.

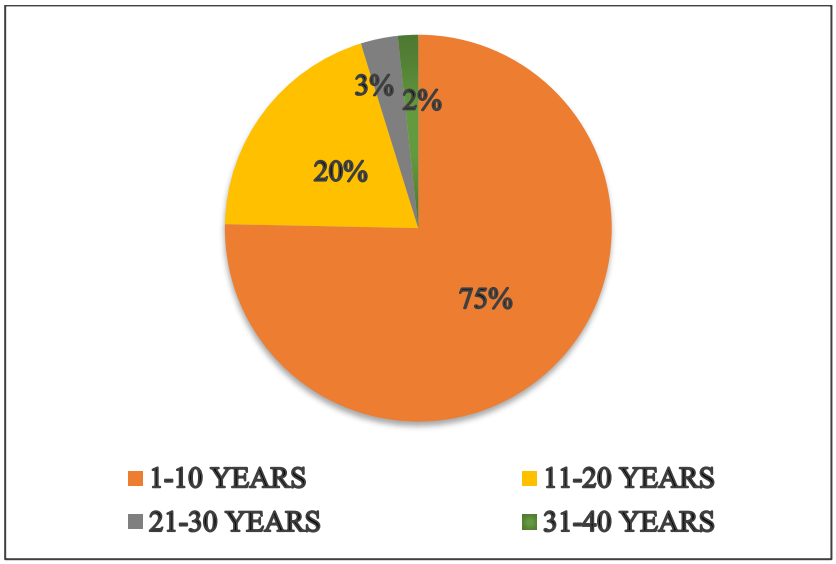

Figure 1. The respondents ' years of farming experience are involved in this research.

Farmer with extensive expertise has the potential to create long-lasting influence on their behaviour since they are more knowledgeable compared with those who have less experience (Kendler *et al.*, 2002; Wuyep *et al.*, 2015; Zhou & Li, 2022). Figure 1 shows that a vast majority of respondents have production experience of fewer than ten years, followed by those with less than 20 (20%), 30 (3%), and 40 years (2%) of experience in the industry.

3.2. Reliability Analysis

The reliability test for this instrument encompassed a total of 357 respondents, focused on productive cocoa producers in Malaysia. According to the findings in Table 1, Cronbach's Alpha coefficient indicates that all variables examined in the study had values exceeding 0.7.

Table 1. Cronbach's Alpha for each variable

Variable	Number of items	Cronbach's Alpha (n=357) _
Work Performance	20	0.910
Personality Traits		
Risk-taking	15	0.935
Problem-solving	15	0.935
Decision -making	11	0.944
Investment	22	0.956
Networking	16	0.944
Disciplines	19	0.971
Information-seeking	20	0.948

3.3. Descriptive Statistical Analysis at the Level of Factors

According to the survey, respondents exhibited seven personality traits: a willingness to take risks in their profession, a capacity for problem-solving, a propensity for networking, a capacity for making decisions, and discipline with work performance.

3.3.1 Risk-taking

Half of the respondents (52.4%) evaluate their readiness to take risks as moderate, whereas the high and low levels, as indicated in Table 2, are respectively 39.2% and 8.4%. The overall mean value of 4.03 (SD=1.025) shows that most farmers are somewhat ready to accept risks.

Table 2. Farmer willingness to take risk (n=357)

Level	Frequency	Percent
Low (1.00–2.669)	30	8.4
Moderate (2.67–4.339)	187	52.4
High (4.34–6.00)	140	39.2
Mean = 1.025		
SD= .725		

This could happen because farmers may be concerned about not making a profit that is appropriate for their risk. Farmers will avoid cutting corners to prevent loss and minimal profit. Moreover, Ullah *et al.* (2016) documented that farmers with strong experience frequently take greater chances than others.

3.3.2. Problem-solving

The finding in Table 3 demonstrates that the high and low levels of problem-solving ability are 27.5% and 12.3%, respectively, with more than half of the respondents (60%) having a moderate level. The overall mean value of 3.76 (SD=1.037) revealed that farmers' ability to solve the problem is moderate.

Table 3. Farmer capacity to solve the problem *(n=357)*

Level	Frequency	Percent
Low (1.00–2.669)	44	12.3
Moderate (2.67–4.339)	215	60.2
High (4.34–6.00)	98	27.5
Mean=3.76		
SD=1.037		

These findings indicate that farmers with lesser experience may have limited knowledge of the current issue within the cocoa farming industry. According to Drinkwater & Falkowski (2020), farming involves routine tasks or activities; thus, experience increases one's aptitude for problem-solving. Besides, experienced farmers are more inventive in coming up with solutions to problems they encounter on their farms.

3.3.3. Decision-making

The findings in Table 4 demonstrate that the majority of farmers' decision-making is at a high level (58.8%), followed by moderate (38.4%) and low level (2.8%). The overall mean value of 4.51 (SD=0.927) indicates a high level of decision-making skill among farmers.

Table 4. Level of farmers' ability to make decisions (n=357)

Level	Frequency	Percent
Low (1.00–2.669)	10	2.8
Moderate (2.67–4.339)	137	38.4
High (4.34–6.00)	210	58.8
Mean=4.51		
SD=0.927		

The findings in Table 4 demonstrate that the majority of farmers' decision-making is at a high level (58.8%), followed by moderate (38.4%) and low level (2.8%). These results aligned with those recorded by Demba (2017) and Sulaiman *et al.* (2022), which stated that most of the farmers interviewed had a high decision-making ability. This suggests that farmers could identify their problem and decide according to the demand of their cocoa farm situation. A well-defined farm management plan will assist farmers in implementing decision-making strategies for better farm production systems (Drinkwater & Falkowski, 2020)

3.3.4. Investment

Table 5 shows that the level of farmers' investment was at a moderate level (46.8%), followed closely by a low level (39.2%) and the least high level (14%). The overall mean value 3.09 (SD=1.101) shows that the readiness of farmer to invest in their farming is at a moderate level.

Table 5. Level farmers' readiness to invest money in their farming (n=357)

Level	Frequency	Percent
Low (1.00–2.669)	140	39.2
Moderate (2.67–4.339)	167	46.8
High (4.34–6.00)	50	14.0
Mean=3.09		
SD=1.101		

Some factors influencing farmers' investment in their cocoa farming industry are lack of capabilities, farmers' income, government subsidies and policies, and the high machinery cost (Alkon & Urpelainen, 2018; Wang *et al.*, 2019). Furthermore, a study by Adimassu *et al.* (2012) claimed that years of farming experience also affected farmers' investment behaviour.

3.3.5. Networking

Half of the respondents' networking levels are moderate (50.7%), followed by low and high levels with 32.5% and 16.8%, respectively, as shown in Table 6. The overall mean value of 3.25 (SD=1.105) demonstrates farmers' readiness to engage in networking activities is modest.

Table 6. Level of farmers' willingness to network

Level	Frequency	Percent
Low (1.00–2.669)	116	32.5
Moderate (2.67–4.339)	181	50.7
High (4.34–6.00)	50	16.8
Mean=3.25		
SD=1.105		

The results were corroborated by a study by Sulaiman *et al.* (2022), which found that most of the cocoa farmers interviewed also have moderate networking levels. This situation may occur due to farmers' lack of trust because Wang *et al.* (2020) reported that most farmers trust people within their social circle, such as close friends, relatives, and family. Besides, limited knowledge contributed to the lower level of farmers' networking (Pratiwi & Suzuki, 2017).

3.3.6. Discipline

Table 7 displays the level of farmers' discipline towards their farming at a high level (63.3%), followed by moderate and low levels (34.5%) and (2.2%). The overall mean value

is 4.63 (SD=0.931), indicating that farmers exhibit a high level of discipline in their farming practices.

Table 7. Level of farmers' discipline towards their farming

Level	Frequency	Percent
Low (1.00–2.669)	8	2.2
Moderate (2.67–4.339)	123	34.5
High (4.34–6.00)	226	63.3
Mean=4.63		
SD=0.931		

In this study, farmers tend to be more disciplined in their cocoa farming. This research aligned with the findings of Hassan and Abdullah (2015), demonstrating that a highly disciplined personality is the most compelling factor influencing the performance of most farmers. Factors that may lead to farmers' good discipline are awareness and willingness to comply with all farm management, seeking to improve knowledge, and open-minded attitudes and behaviour (Hasibuan & Silvya, 2019).

3.3.7. Information-seeking

A vast number of respondents showed a moderate level of information seeking (60.8%), followed by a high level (29.1%) and low level (10.1%). The overall mean value of 3.87 (SD=0.992) represented the level of farmers as information seekers at a moderate level.

Table 8. Farmers' level of information-seeking

Level	Frequency	Percent
Low (1.00–2.669)	36	10.1
Moderate (2.67–4.339)	27	60.8
High (4.34–6.00)	104	29.1
Mean=3.87		
SD=0.992		

Most respondents in this study actively sought information about their cocoa farming on a moderate level. In an article published by Rahman *et al.* (2020) and Haumba & Kaddu (2021), farmers' experience and informal networking might influence their information or knowledge-seeking ability. Information seeking in cocoa farming is crucial because farmers with more experience and who are well-informed are likely to produce better than those without less experience.

3.3.8. Work performance

The highest percentage of work performance (66.4%) was detected at a moderate level, while high and low levels were 19% and 14.6%, respectively, as presented in Table 9. The overall mean value of 3.51 (SD=0.828) shows that the work performance of cocoa farmers was still moderate, as most of the personality traits studied were also moderate.

Table 9. Level of farmers' work performance

Level	Frequency	Percent
Low (1.00–2.669)	52	14.6
Moderate (2.67–4.339)	237	66.4
High (4.34–6.00)	68	19.0
Mean=3.51		
SD=0.828		

This study supported the findings reported by Demba (2017), who claimed that their personality traits heavily influenced the work performance of farmers.

4. Conclusions

This research aimed to determine Malaysian cocoa farmers' average personality traits and work performance levels. Among the personality traits studied are information seekers, risk takers, high capital producers, problem solvers, networking, decision daring, and discipline. According to the findings, recorded traits such as investment, networking, problem-solving, information-seeking, risk-taking, and work performance were moderate. In contrast, decision-making and discipline were high among the farmers surveyed. This data suggests Malaysian cocoa farmers were productive due to the moderate to high mean level of traits and work performance determined in this study. On the other hand, work performance could be optimized by increasing the moderate-level traits to a higher level. Therefore, initiatives such as better module development for cocoa farming management program training and extension agent deployment to assist the farmers' practices should be considered to improve Malaysian cocoa farmers' personality traits and work performance in the future.

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