



Cashiers' and Vendors' Knowledge, Skills, and Abilities (KSA) in Recognizing Philippine Counterfeit Currency

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RESEARCH ARTICLE INFORMATION	ABSTRACT
<p>Received: July 30, 2024 Reviewed: November 15, 2024 Accepted: December 07, 2024 Published: December 30, 2024</p> <p> Copyright © 2025 by the Author(s). This open-access article is distributed under the Creative Commons Attribution 4.0 International License.</p>	<p>Money is essential for daily life, but the rise of counterfeit currency persists. This study aimed to determine the knowledge, skills, and abilities of cashiers and vendors in recognizing counterfeit currency. A descriptive cross-sectional research design was used, employing a survey questionnaire distributed randomly to cashiers and vendors. The majority of respondents from Siniloan, Laguna, were vendors, mostly female, aged 35-42 years, and employed as cashiers and vendors in business establishments. Many had reached and graduated from college, holding degrees. It was revealed that cashiers and vendors had not attended any seminars or training in recognizing counterfeit money. However, their knowledge, skills, and abilities in recognizing counterfeit money were often practiced, showing excellent performance in this area at work. Significant differences were found between cashiers and vendors, with cashiers demonstrating superior knowledge and skills due to their frequent handling of cash. This concludes that cashiers and vendors in Siniloan, Laguna, possess a generally high level of knowledge, skills, and abilities in recognizing Philippine counterfeit currency. The researchers recommend implementing targeted training programs focusing on practical, hands-on techniques and the latest counterfeit detection technologies. The study findings highlight a critical need for continuous and practical training for cashiers and vendors to maintain and enhance their counterfeit detection skills.</p>

Keywords: *abilities, counterfeit currency, knowledge, Philippine banknotes, skills*

Introduction

Among currencies, U.S. dollars, particularly hundred-dollar bills (\$100), are the most counterfeited. Despite being a common target for counterfeiters in the U.S., these bills are considered some of the most difficult to fake (Yaqub, 2024). In the Philippines, December is a peak time for counterfeit activity, as offenders take advantage of the holiday season. Law enforcement officials frequently warn the public about fake bills, urging caution during transactions at markets and malls. The Philippine National Police (PNP) also reminds people that fake bills are not accepted by banks, especially if someone has been away for an extended period, and advises them to only exchange money at authorized money changers (Mangosing & Santo, 2022).

Cashiers are particularly vulnerable to counterfeit money, as they handle transactions and interact with many customers. In contrast, vendors in supermarkets and malls often do not provide receipts, unlike cashiers in establishments that require them for transactions. Both cashiers and vendors are responsible for receiving and collecting money from customers and clients, whether in stores, banks, or other settings and must carefully track the amounts they handle (Trundy, 2022).

Since 2010, the Bangko Sentral ng Pilipinas (BSP) has stepped up efforts to combat fake money, seizing over 35 million pesos worth of counterfeit bills. The BSP has filed 194 counterfeiting cases, of which 78 have been resolved. Of these, 76 cases (or 97.4%) resulted in guilty verdicts (Ta-Asan, 2024). Despite the BSP's ongoing efforts, counterfeit money remains a persistent issue. In the first nine months of 2021 alone, the BSP seized over 500 counterfeit Philippine banknotes, worth a total of 480,000 pesos (Cuaresma, 2021). As reported by Agcaoili (2022), 161 criminal cases related to counterfeiting were filed in court, with 63 convictions, and 98 cases still pending. The conviction rate from 2010 to 2021 was 98.41%. In the past decade, 176 counterfeiters have been apprehended, including 127 members of criminal syndicates and 48 self-made criminals (Bangko Sentral ng Pilipinas, 2021).

In Siniloan, Laguna, the Siniloan Municipal Police Station has reported several cases of counterfeit money among market vendors, with amounts ranging from 500 to 1,000 pesos. However, no prosecutions have been pursued, as vendors have not filed lawsuits, for reasons that remain unclear.

With this premise, this study aimed to answer the following questions:

1. What are the respondents' profile variables in terms of occupation, age, sex, highest educational attainment, and training and seminars attended related to money counterfeiting?
2. What are the cashiers' and vendors' knowledge, skills, and abilities (KSA) in recognizing Philippine counterfeit currency?
3. What are the preferred methods of information dissemination among cashiers and vendors to enhance their KSA in recognizing counterfeit currency?

Methods

The study employed a descriptive cross-sectional research design to assess the knowledge, skills, and abilities (KSA) of cashiers and vendors in recognizing Philippine counterfeit currency. The respondents were cashiers and vendors from various establishments in Siniloan, Laguna, including those in wet and dry markets, as well as

peddlers and sidewalk vendors. Respondents were required to be at least 18 years old with one to three years of relevant experience and some knowledge of counterfeit currency. A simple random sampling technique was used to distribute the survey questionnaire. With over 1,221 establishments in Siniloan, a sample size of 293 was determined using the Raosoft sample size calculator, ensuring a 95% confidence level and a 0.5 margin of error. The researchers obtained approval from the Municipal Mayor of Siniloan before the face-to-face distribution of the questionnaire. They also explained the questionnaire content to the respondents and conducted an informal interview.

The survey questionnaire comprised three parts: profile variables of respondents (*occupation, age, sex, educational attainment, and training related to counterfeiting*); assessment of respondents' knowledge, skills, and abilities in recognizing counterfeit currency, and preferred methods in information dissemination to enhance KSA in recognizing counterfeit currency. The survey questionnaire underwent validation by a subject specialist, technical editor, statistician, language critic, and chairman. After incorporating feedback, a pilot test was conducted, revealing a Cronbach's alpha of 0.86, indicating high reliability. It was affirmed by Frost (2024), that 0.70 is a benchmark value for Cronbach's alpha.

Basic statistical tools like frequency, percentage, and ranking were used to interpret and analyze the profile variables of the respondents. The mean, standard deviation, and ranking were used to interpret and analyze the cashiers' and vendors' knowledge, skills, and abilities (KSA) in recognizing Philippine counterfeit currency, and to identify the preferred methods of information dissemination to enhance their KSA. The Shapiro-Wilk test for normality and Levene's test for homogeneity of variances were conducted. Therefore, a t-test and ANOVA were used to test the significant differences in the knowledge, skills, and abilities of cashiers and vendors in recognizing Philippine counterfeit currency when grouped according to the profile variables of the study. The researchers followed ethical guidelines to protect the anonymity and identity of the respondents. No one was harmed or forced to participate in the study.

Results and Discussion

Table 1 presents the frequency and percentage distribution of the profile variables of cashiers and vendors.

Table 1. Profile Variables of the Respondents

Profile Variables	Frequency	Percentage
Occupation		
Vendor	176	60.07
Cashier	117	39.93
Age		
18-26 years old	49	16.72
27-34 years old	50	17.07
35-42 years old	79	26.96
43-50 years old	66	22.53
51-58 years old	24	8.19
59-66 years old	16	5.46
67-71 years old	6	2.05

72 years old and above	3	1.02
Sex		
Male	80	27.3
Female	213	72.7
Highest Educational Attainment		
Elementary Graduate	22	7.51
High School Graduate	100	34.13
Senior High School Graduate	9	3.07
College Graduate	106	36.18
College Undergraduate	56	19.11
Seminar and Training Attended		
Yes	2	0.68
No	291	99.23
Total	293	100

The majority of the respondents were vendors, accounting for 60.07% (176 individuals). Most of them were within the age group of 35-42 years old, comprising 26.96% of the total sample. Additionally, 72.7% of the respondents were female, 36.18% of them were college graduates, and most had not attended training and seminars related to counterfeit currency. This indicates that most cashiers and vendors rely on their existing experience and the guidance of more experienced colleagues, rather than formal training, to recognize counterfeit money.

Table 2.1. Knowledge of Cashiers and Vendors in Recognizing Philippine Counterfeit Currency

Items	Mean	Standard Deviation	Verbal Interpretation	Rank
1. Crumpling the paper bill	3.53	1.278	Often	5
2. Measuring the length of paper bill	3.29	1.085	Sometimes	7
3. The thickness of paper bill	3.49	1.183	Often	6
4. Looking at the watermark	3.69	0.985	Often	3
5. Tilting the currencies	3.60	1.101	Often	4
6. The color of paper bill	4.13	1.035	Often	1
7. Familiarizing the person/s in paper bill	3.75	0.969	Often	2
Overall Mean & Standard Deviation	3.68	0.734	Often	--

Legend: Always (4:21 - 5:00), Often (3:41- 4:20), Sometimes (2:61 - 3:40), Rarely (1:81 - 2:60), Never (1:00 - 1:80)

The findings in Table 2.1 present the knowledge of cashiers and vendors in recognizing counterfeit currency. The survey revealed that the highest-ranked, “*the color of the paper bill*,” obtained a mean score of 4.13 (SD=1.035), interpreted as “often.” This indicates that cashiers and vendors frequently rely on color as a primary indicator of authenticity. Such reliance underscores the significance of color as an easily noticeable and critical feature in distinguishing genuine bills from counterfeit ones. As affirmed by van der Horst, et a. (2020), visual features are important in counterfeit detection. The second-ranked item, “familiarizing the person/s on the paper bill,” obtained a mean score of 3.75 (SD=0.969), also interpreted as “often.” This suggests that respondents place substantial emphasis on recognizing the portraits or notable figures on the currency as a visual cue, further contributing to their ability to validate the authenticity of the bills. This finding is corroborated by studies conducted by van der Horst et al. (2020), indicating that experts and non-experts alike utilize visual cues from portraits to authenticate banknotes.

In addition, the third-ranked indicator is “looking at the watermark,” with a mean score of 3.69 (0.985), interpreted as “often.” Watermarks, as a commonly recognized security feature, are frequently used by cashiers and vendors, reflecting their awareness of this deterrent against counterfeit bills. As supported by Telrandhe, et a. (2022), tactile and visual inspections of watermarks can significantly improve detection rates among both experts and non-experts. The least utilized was “measuring the length of the paper bill,” which received a mean score of 3.29 (SD=1.085), interpreted as “sometimes.” This result implies that while length measurement can be an effective strategy, its practicality in fast-paced transactions is limited, leading to its less frequent application.

Surprisingly, this finding is against the study conducted by Ahmed and Muhamad (2021), as this reflects practical limitations in fast-paced environments where quick assessments are necessary. While length measurement can be effective, its application is less frequent due to time constraints during transactions. In general, the cashier and vendor-respondents demonstrated a high level of knowledge in recognizing counterfeit currency, with an aggregate mean score of 3.68 (SD=0.734), interpreted as “often.” This finding suggests that cashiers and vendors consistently apply a variety of techniques to identify counterfeit bills, highlighting their awareness and vigilance in ensuring the authenticity of the currency they handle.

Table 2.2. Skills of Cashiers and Vendors in Recognizing Philippine Counterfeit Currency

Items	Mean	Standard Deviation	Verbal Interpretation	Rank
1. Running my fingers through the paper and feel:	3.84	0.960	Often	7
1.1 the security paper	4.04	0.838	Often	2
1.2 the embossed print				
2. Looking out for the:				
2.1 watermark	4.06	0.883	Often	1
2.2. security fiber	3.93	0.822	Often	3
2.3. asymmetrical serial number	3.91	0.957	Often	5
2.4. see-through mark	3.92	0.936	Often	4

3. Holding the bills on my hand and titling the:	3.88	0.996	Often	6
3.1 security thread	3.68	0.863	Often	10
3.2 concealed value	3.74	0.917	Often	8
3.3 optically variable ink	3.73	0.927	Often	9
3.4 optically variable devise				
Overall Mean & Standard Deviation	3.87	0.653	Often	--

Legend: Always (4:21 – 5:00), Often (3:41- 4:20), Sometimes (2:61 - 3:40), Rarely (1:81 - 2:60), Never (1:00 - 1:80)

Table 2.2 presents the skills of cashiers and vendors in recognizing counterfeit currency. The top-ranked skill, “looking out for the watermark,” obtained a mean score of 4.06 (SD=0.883), interpreted as “often.” This finding highlights the critical role of watermarks as the most frequently relied-on method for counterfeit detection. The prominence of this technique reflects its reliability and ease of verification, making it a cornerstone of counterfeit recognition strategies. The second-ranked skill, “running fingers through the paper and feeling it,” had a mean score of 4.04 (SD=0.839), also interpreted as “often.” This underscores the significance of tactile verification as a crucial method for identifying counterfeit bills. As supported by van der Horst et al. (2020), who emphasized the combined use of vision and touch to enhance counterfeit detection accuracy. Ranking third, the indicator about “looking out for security fiber” received a mean score of 3.93 (SD=0.822), interpreted as “often.” This demonstrates the importance of security fibers as a commonly recognized feature, further supporting the proficiency of cashiers and vendors in detecting counterfeit bills. According to WebstaurantStore (2024), security fibers, which are embedded in banknotes, play a crucial role in authenticating currency. These fibers can be detected visually or through specialized equipment, underscoring their importance in training cashiers and vendors to recognize genuine bills effectively.

However, “tilting the bill to check for concealed values” ranked the least, with a mean score of 3.68 (SD=0.863), also interpreted as “often.” Despite being a useful method, it is less frequently employed compared to the top strategies. This may be due to its reliance on environmental factors, such as adequate lighting, which are not always present in typical transaction settings. As supported by Chitnis (2023), effective detection methods often rely on adequate lighting to reveal hidden security features like watermarks or color-shifting inks. Inadequate lighting can hinder the effectiveness of visual checks, leading to a preference for more reliable methods that do not depend on environmental conditions. In general, the cashiers and vendors have a high level of proficiency in recognizing counterfeit currency with an overall mean score of 3.87 (SD=0.653), interpreted as “often”. This result underscores the need for ongoing training programs to reinforce these skills and adapt to evolving counterfeit methods.

Table 2.3. Abilities of Cashiers and Vendors in Recognizing Philippine Counterfeit Currency

Items	Mean	Standard Deviation	Verbal Interpretation	Rank
1. Counting the:				
1.1. Digits of paper bill	4.00	0.963	Often	3
1.2. Tactile of paper bill	3.83	0.869	Often	5
2. Looking out for:				
2.1. Enhanced value panel	3.84	0.907	Often	4
2.2. Optically valuable ink	3.70	0.907	Often	6
3. Distinguish the color of paper bill	4.25	0.945	Always	1
4. Feeling the important parts of paper bill	4.17	0.868	Often	2
5. Spelling of words	3.66	0.999	Often	7
Overall Mean & Standard Deviation	3.92	0.631	Often	--

Legend: Always (4:21 – 5:00), Often (3:41- 4:20), Sometimes (2:61 - 3:40), Rarely (1:81 - 2:60), Never (1:00 - 1:80)

Table 2.3 presents the abilities of cashiers and vendors to recognize counterfeit currency. The survey findings revealed that the indicator “*distinguish the color of paper bill*” ranked first, with a mean score of 4.25 and a standard deviation of 0.946, interpreted as “*always*.” This shows that cashiers and vendors consistently rely on color to identify counterfeit currency. “Feeling the important parts of the paper bill” ranked second, with a mean score of 4.17 and a standard deviation of 0.868, interpreted as “often,” indicating that tactile verification is a common practice. As supported by Singh et al. (2018), the forged banknotes which have a unique authentication system inclined to use the technology with security features such as security thread, latent images, and embedded prints to help legitimate banknotes by method of extraction and encoding the data. This was found accurate which indicates touching through banknotes is an essential step in identifying fake bills. “Counting the digits on the paper bill” ranked third, with a mean score of 4.00 and a standard deviation of 0.963, interpreted as “often,” showing that numerical verification is also frequently used. However, “spelling of words” ranked lowest, with a mean score of 3.66 and a standard deviation of 0.999, interpreted as “often.” While this method is used, it is less reliable or less frequently employed compared to others.

In general, the abilities of cashiers and vendors to recognize counterfeit currency have an average mean score of 3.92 and a standard deviation of 0.631, interpreted as “often.” This indicates that, on average, they frequently use a combination of methods to identify counterfeit currency.

Table 3. Preferred Medium to Increase Cashiers and Vendors Knowledge, Skills, and Abilities in Recognizing Philippine Counterfeit Currency

Preferred Medium	Frequency	Percentage	Rank
1. Social Media	97	33.11	1
2. Pliers/Brochure/Poster	13	4.44	7
3. Program Conducted by PNP	23	7.85	5
4. Program Conducted by Municipality	17	5.80	6
5. Program Conducted by Bangko Sentral ng Pilipinas	58	19.80	2
6. News	30	10.24	4
7. Training	46	15.70	3
8. Cellphone Application	9	3.07	8
Total	293	100	--

Table 3 presents the preferred mediums for increasing cashiers' and vendors' knowledge, skills, and abilities in recognizing counterfeit currency. The survey revealed that "social media" ranked first, preferred by 97 respondents (33.11%). This indicates a strong inclination towards using widely accessible technology for educational purposes. "Programs conducted by Bangko Sentral ng Pilipinas" ranked second, with 58 respondents (19.80%), reflecting the trust and credibility associated with the central bank's expertise. "Training" ranked third, with 46 respondents (15.70%), suggesting the effectiveness of hands-on, practical sessions for skill development. The least preferred medium was "cellphone application," with only 9 respondents (3.07%). This low preference might be due to unfamiliarity with such apps or perceived difficulty in using them.

Overall, the preferences highlight the importance of using accessible and credible platforms for education. Social media's top ranking suggests integrating educational content into popular platforms can enhance engagement, while the preference for BSP programs underscores the value of authoritative training. The low preference for cellphone apps indicates a need to improve the acceptance and effectiveness of digital tools in this context.

Table 4.1a. Test of Significant Difference in the Respondents' Knowledge in Recognizing Philippine Counterfeit Currency When Grouped According to Occupation, Sex, and Seminar and Training Attended

	N	Mean	SD	df	t-test	p-value	Decision	Interpretation
Occupation								
Vendor	176	3.52	.725	291	-	.001	Reject H_0	Highly Significant
Cashier	117	3.91	.689		4.556			
Sex								
Male	80	3.58	.634	291	-	.186	Failed to	Not
Female	213	3.17	.767		1.327		Reject H_0	Significant

Seminar & Training								
Yes	7	3.79	.451	290	.424	.520	Failed to	Not
No	285	3.67	.741				Reject <i>H</i> ₀	Significant

*Significant at 0.05

Table 4.1a presents that an independent sample *t*-test was performed to test the significant difference between the respondents’ knowledge in recognizing Philippine counterfeit currency when grouped according to occupation, sex, and seminar and training attendance.

There was a significant difference in the knowledge of the respondents in recognizing Philippine counterfeit currency between vendors (mean score of 3.52, SD=.725) and cashiers (mean score of 3.91, SD=.689); $t(291) = -4.556, p=.001$. This indicates that cashiers possess better knowledge of identifying counterfeit currency than vendors do. The slightly lower standard deviation among cashiers implies a more consistent level of knowledge within this group compared to vendors. The negative sign of the *t*-value shows that the mean knowledge score of vendors is significantly lower than that of cashiers. The *p*-value of .001 is less than the accepted threshold of .05, confirming that the difference in knowledge between vendors and cashiers is statistically highly significant. This implies that the likelihood of this difference occurring by chance is extremely low.

However, there was no significant difference in the knowledge of the respondents in recognizing Philippine counterfeit currency between males (mean score of 3.58, SD = 0.634) and females (mean score of 3.17, SD = 0.767); $t(291) = -1.327, p = .186$. This implies that there was no significant difference in the knowledge of recognizing counterfeit currency between males and females. The *p*-value of .186, which is greater than the standard significance threshold of .05, suggests that any observed difference in knowledge between the sexes is not statistically significant. This implies that sex does not play a significant role in the respondents’ knowledge of recognizing counterfeit currency.

Likewise, there was no significant difference in the knowledge of the respondents in recognizing Philippine counterfeit currency between those who attended related training and seminars (mean score of 3.79, SD = 0.451) and those who did not attend related training and seminars (mean score of 3.67, SD = 0.741); $t(290) = 0.424, p = .520$. This implies that attending training sessions does not significantly enhance one’s knowledge of recognizing counterfeit currency. It could indicate that the quality or effectiveness of the training programs may need to be reassessed, or that informal, on-the-job learning might be equally effective.

Table 4.1b. Test of Significant Difference in the Respondents’ Knowledge in Recognizing Philippine Counterfeit Currency When Grouped According to Age and Highest Educational Attainment

	Sum of Squares	df	Mean Square	F	p-value	Decision	Interpretation
Age							
Between	16.748	7	2.393	4.848	.001	Reject	Highly
Groups	140.642	285				<i>H</i> ₀	Significant

Within Groups Total	157.390	292						
HEA								
Between Groups	1.983	4	.496	.914	.456	Failed to Reject H_0	Not Significant	
Within Groups Total	155.198	286	.543					
	157.181	290						

*Significant at 0.05

Table 4.1b shows that there is a highly significant difference in the knowledge of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' age ($F [7, 285] = [4.848]$), $p=.001$. The F-ratio (4.848) and the p-value (.001) both suggest that age is a significant factor influencing the knowledge to recognize counterfeit currency. The p-value is less than the standard significance threshold of .05, confirming that the observed differences in knowledge across age groups are statistically significant. Different age groups may have varying levels of experience, cognitive abilities, and exposure to counterfeit detection. Younger respondents might be more adept with technology, which can aid in recognizing counterfeit currency, while older respondents might rely more on experience and manual methods.

However, there is no significant difference in the knowledge of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' highest educational attainment ($F [4, 286] = [.914]$), $p=.456$. The F-ratio (0.914) and the p-value (.456) suggest that educational attainment does not significantly impact respondents' ability to recognize counterfeit currency. The p-value is greater than .05, indicating that any differences observed are likely due to chance rather than a true effect of educational attainment. This result implies that knowledge of recognizing counterfeit currency is not strongly influenced by the level of formal education. Practical experience and specific training in counterfeit detection might be more important factors.

Table 4.2a. Test of Significant Difference of the Respondents' Skills in Recognizing Philippine Counterfeit Currency When Grouped According to Occupation, Sex, and Seminar and Training Attended

	N	Mean	SD	df	t-test	p-value	Decision	Interpretation
Occupation								
Vendor	176	3.81	.647	291	-	.036	Reject H_0	Significant
Cashier	117	3.97	.653		2.112			
Sex								
Male	80	3.18	.600	291	-2.173	.024	Reject H_0	Significant
Female	213	3.97	.666					
Seminar & Training								
Yes	7	4.20	.420	290	1.337	.082	Failed to Reject H_0	Not Significant
No	285	3.87	.657					

*Significant at 0.05

Table 4.2a shows that there is a significant difference in the skills of the respondents in recognizing Philippine counterfeit currency between vendors (mean score of 3.81, SD=.647) and cashiers (mean score of 3.97, SD=.653); $t(291) = -2.112$, $p=.036$. The nature of cashier's work, which involves frequent handling of cash and likely more exposure to training on counterfeit detection, may contribute to their higher skill levels compared to vendors.

Likewise, there is a significant difference in the skills of the respondents in recognizing Philippine counterfeit currency between males (mean score of 3.18, SD=.600) and females (mean score of 3.97, SD=.666); $t(291) = -2.173$, $p=.024$. The higher skills among females could be due to a variety of factors, including different approaches to training, attention to detail, or other social and cognitive factors.

However, there is no significant difference in the skills of the respondents in recognizing Philippine counterfeit currency between those who attended related training and seminars (mean score of 4.20, SD=.420) and those who did not attend related training and seminars (mean score of 3.87, SD=.657); $t(290) = 1.337$, $p=.082$. This result suggests that merely attending training and seminars may not be sufficient to significantly enhance skills in recognizing counterfeit currency.

Table 4.2b. Test of Significant Difference of the Respondents' Skills in Recognizing Philippine Counterfeit Currency When Grouped According to Age and Highest Educational Attainment

	Sum of Squares	df	Mean Square	F	p-value	Decision	Interpretation
Age							
Between Groups	5.209	7	.744	1.777	.092	Failed to Reject H_0	Not Significant
Within Groups	119.329	285	.419				
Total	124.538	292					
HEA							
Between Groups	5.066	4	4	3.033	.018	Reject H_0	Significant
Within Groups	119.44	286	286				
Total	124.506	290	290				

*Significant at 0.05

Table 4.2b reveals that there is no significant difference in the skills of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' age ($F [7, 285] = [1.777]$), $p=.092$. The F-ratio of 1.777 and a p-value of .092 suggest that age does not significantly impact the skills to recognize counterfeit currency. The p-value is greater than the standard significance threshold of .05, indicating that any observed differences in skills across age groups are likely due to chance. This finding implies that age alone is not a determining factor in the skills required for recognizing counterfeit currency. The similarity in skills across different age groups suggests that factors other than age, such as experience and training, might play a more crucial role.

However, there was a significant difference in the skills of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' highest educational attainment ($F [4,286] = [3.033]$), $p=.018$. The F-ratio of 3.033 and a p-value of .018 indicate that educational attainment significantly affects counterfeit detection skills. The p-value is less than .05, confirming that the observed differences in skills are statistically significant. Higher educational attainment appears to correlate with better skills in recognizing counterfeit currency. This may be due to individuals with higher education levels having better critical thinking skills, more exposure to relevant information, or greater access to training resources.

Table 4.3a. Test of Significant Difference of the Respondents' Abilities in Recognizing Philippine Counterfeit Currency When Grouped According to Occupation, Sex, and Seminar and Training Attended

	N	Mean	SD	df	t-test	p-value	Decision	Interpretation
Occupation								
Vendor	176	3.86	.613	291	-	.024	Reject	Significant
Cashier	117	4.03	.647		2.300		Ho	
Sex								
Male	80	3.86	.434	291	-	.258	Reject	Not Significant
Female	213	3.95	.690		1.134		Ho	
Seminar & Training								
Yes	7	4.12	.355	290	.825	.196	Failed to Reject	Not Significant
No	285	3.92	.636				Ho	

*Significant at 0.05

Table 4.3a presents that there is a significant difference in the abilities of the respondents in recognizing Philippine counterfeit currency between vendors (mean score of 3.86, $SD=.613$) and cashiers (mean score of 4.03, $SD=.647$); $t(291) = -2.300$, $p=.024$. Cashiers have a higher mean score compared to vendors, with a t-value of -2.300 and a p-value of .024. This p-value is less than the standard significance threshold of .05, indicating that the difference in abilities is statistically significant. The higher ability levels among cashiers could be attributed to their job role, which involves frequent handling of cash and likely more exposure to training and experience in counterfeit detection. This suggests that their daily tasks and the necessity to accurately identify counterfeit currency result in better abilities.

However, there is no significant difference in the abilities of the respondents in recognizing Philippine counterfeit currency between males (mean score of 3.86, $SD=.434$) and females (mean score of 3.95, $SD=.690$); $t(291) = -1.134$, $p=.258$. Females have a higher mean score compared to males, with a t-value of -1.134 and a p-value of .258. This p-value is greater than .05, indicating that the observed difference in abilities is not statistically significant. This finding suggests that sex does not play a significant role in the ability to recognize counterfeit currency. Training and experience are likely more critical factors influencing these abilities.

Likewise, there is no significant difference in the abilities of the respondents in recognizing Philippine counterfeit currency between those who attended related training

and seminars (mean score of 4.12, SD=.355) and those who did not attend related training and seminars (mean score of 3.92, SD=.636); $t(290) = .825$, $p=.196$. Attendees have a mean score higher than the non-attendees, with a t-value of 0.825 and a p-value of .196. This p-value is greater than .05, indicating that the observed difference in abilities is not statistically significant. This result suggests that attending related training and seminars does not significantly enhance the ability to recognize counterfeit currency. The effectiveness of the training programs may need to be reassessed to ensure they provide practical, impactful learning experiences.

Table 4.3b. Test of Significant Difference of the Respondents' Abilities in Recognizing Philippine Counterfeit Currency When Grouped According to Age and Highest Educational Attainment

	Sum of Squares	df	Mean Square	F	p-value	Decision	Interpretation
Age							
Between Groups	9.734	7	1.391	3.03	.001	Reject H_0	Highly Significant
Within Groups	106.567	285	.374	3			
Total	116.302	292					
HEA							
Between Groups	4.9734	4	1.198	3.07	.017	Reject H_0	Significant
Within Groups	111.496	28	.390	4			
Total	116.290	6					
		290					

*Significant at 0.05

Table 4.3b presents that there is a significant difference in the abilities of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' age ($F[7, 285] = [3.033]$), $p=.001$. It indicates a highly significant difference in the abilities to recognize counterfeit currency when respondents are grouped according to age. The F-ratio of 3.003 and a p-value of .001 suggest that age significantly impacts the ability to recognize counterfeit currency. The p-value is less than the standard significance threshold of .05, indicating that the observed difference in abilities across age groups is statistically significant. This finding implies that age is a factor in the ability to recognize counterfeit currency. Younger or older respondents might have different levels of exposure, experience, or training, influencing their abilities.

Moreover, there is a significant difference in the abilities of the respondents in recognizing Philippine counterfeit currency when grouped according to respondents' highest educational attainment ($F[4,286] = [3.074]$), $p=.017$. The F-ratio of 3.074 and a p-value of .017 indicate that educational attainment significantly affects counterfeit detection abilities. The p-value is less than .05, confirming that the differences in abilities are statistically significant. Higher educational attainment appears to correlate with better abilities in recognizing counterfeit currency. This could be due to better critical thinking skills, more exposure to relevant information, or greater access to training resources among those with higher education levels.

Conclusion and Future Works

Cashiers and vendors possess a high level of knowledge about counterfeit currency, frequently employing various methods to identify it. They also demonstrate strong skills in recognizing counterfeit bills, with cashiers generally exhibiting greater proficiency than vendors. This underscores the importance of continuous, targeted training programs, particularly for vendors who may have less exposure and fewer skills compared to cashiers. Leveraging accessible platforms like social media and authoritative initiatives by the BSP can enhance the dissemination of knowledge and skills. Training content should emphasize practical, scenario-based learning to address gaps in existing programs. Additionally, tailored approaches that consider participants' age and educational background can further improve the effectiveness of these initiatives.

In addition, cashiers and vendors demonstrate strong skills in detecting counterfeit currency, though vendors often lag behind cashiers in proficiency. To address this gap, future efforts should focus on improving training programs through practical, scenario-based methods. Evaluating the effectiveness of existing programs and exploring digital platforms like social media and mobile apps can make learning more accessible and engaging. Tailored strategies that consider age, education, and experience are essential for inclusivity, especially for vendors with limited exposure. The Bangko Sentral ng Pilipinas (BSP) can play a key role by optimizing public awareness campaigns and introducing advanced tools for detection. Research comparing urban and rural challenges or analyzing demographic influences can further refine approaches. By prioritizing training innovations, leveraging technology, and supporting inclusive policies, cashiers and vendors can be better equipped to safeguard currency integrity, ensuring a more secure financial system.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.