

Psychological Safety, Trading Performance, and Legal Certainty Among Students Engaged in XAU/USD Trading

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ABSTRACT

A growing number of high school and university students are learning XAU/USD trading through nonformal education channels, despite frequent margin calls and ongoing legal uncertainty surrounding trading platforms and brokers. This study examines two independent propositions: a psychological proposition on the relationship between Psychological Safety and Trading Performance, and a legal proposition on legal certainty for student XAU/USD trading. The psychological analysis involved 200 student traders and employed correlation, regression, and group comparison analyses using JASP, while the legal analysis adopted normative statutory and conceptual approaches. Results showed that Psychological Safety was positively associated with Trading Performance ($r = .576$, $p < .001$) and significantly predicted performance, explaining 33.1% of its variance ($R^2 = .331$). Trading Performance differed significantly according to trading experience and capital size, but not by gender or education level, whereas Psychological Safety showed no significant group differences. The legal analysis found that legal certainty remains incomplete due to the ongoing transfer of supervisory authority from Bappebti to OJK and Bank Indonesia, limited protection for clients of foreign futures brokers, the widespread use of unlicensed platforms, and concerns regarding underage student traders. These findings suggest that strengthening Psychological Safety and improving regulatory certainty are complementary priorities for reducing vulnerabilities among student XAU/USD traders.

Introduction

XAU/USD is a common entry instrument for student traders because of its high liquidity, small minimum lot size, and reputation as a safe haven asset a reputation that can mislead them given its sharp movements around US inflation data, Fed rate decisions, and geopolitical sentiment (Valbury, 2026). This perceived safety often encourages oversized

positions relative to actual volatility, accelerating margin calls, the forced closure of positions once an account balance falls below the broker's minimum requirement. This risk is compounded by the growth of nonformal trading education (paid online classes, social media content) that allows high school and university students to access trading training without academic prerequisites. KSEI data cited by Indopremier (2025) and Antara News (2025) show that investors under 30 years old accounted for 52.59% of Indonesian capital market participants by the end of 2025, a trend corroborated by official monthly KSEI statistics (Kustodian Sentral Efek Indonesia, 2025).

Margin calls are fundamentally psychological before they are financial. Students are highly vulnerable because limited capital pushes them toward high leverage (up to 1:500), narrowing their margin for error, simulation based estimates using a ruin theory approach indicate a high probability of account failure among small-capital, high-leverage traders (PIJEMS, 2025). Barber and Odean's (2000) analysis of 66,465 individual investor accounts found that overtrading driven by overconfidence reduced net returns (11.4% vs. 17.9% market return), indicating that trading outcomes are strongly shaped by self-perception and decision discipline rather than skill alone. Low performing traders tend to hold and add to losing positions, illustrating the disposition effect (Shefrin & Statman, 1985), whereas high performing traders show disciplined stop-loss execution and more objective post decision evaluation (Locke & Mann, 2005). High pressure trading has also been linked to an elevated risk of mood disturbance and burnout (Sher, 2026).

This behavioral difference is shaped by the learning climate of the community in which students trade, this is where psychological safety becomes central to explaining trading performance. Psychological safety is the shared belief that one's environment is safe for interpersonal risk-taking, such as admitting mistakes, without fear of embarrassment (Edmondson, 1999). Traders who feel safe admitting mistakes are, in principle, better positioned to evaluate their decisions honestly, consistent with the discipline that characterizes high performance (Barber & Odean, 2000; Locke & Mann, 2005), whereas those who feel unsafe tend to hide losses, consistent with the disposition effect (Shefrin & Statman, 1985). Exposure to information that a fellow trader is performing better can push someone to take greater risks while also making them feel less satisfied with their own performance (Andraszewicz et al., 2023). This pattern resembles a herding mechanism plausible within trading communities, where members performance is often compared or displayed openly. Psychological safety has also been linked to more positive learning engagement among Indonesian student populations (Ananta, 2026; Yunita, 2022).

Beyond this psychological dimension, legal certainty constitutes a second, structurally distinct source of vulnerability. Commodity futures trading is governed by Law No. 32/1997 as amended by Law No. 10/2011, which requires brokers to be licensed under Bappebti's supervision; Law No. 4/2023 (the P2SK Law) mandates the transfer of this authority, which since January 10, 2025 has been split into two tracks, crypto assets and capital market derivatives to the Financial Services Authority (OJK), while money market

and foreign-exchange derivatives (PUVA) such as XAU/USD are transferred to Bank Indonesia under Government Regulation No. 49/2024 and Bank Indonesia Regulation No. 6/2024, with the completion status of this track not yet publicly confirmed. The provision transferring authority to OJK was briefly challenged before the Constitutional Court (Case No. 155/PUU-XXII/2024), but the petition was withdrawn before a substantive ruling. Legal protection for futures brokerage clients has been found inadequate in prior normative studies (Kurniyawan et al., 2023; Litoama, 2018), a gap exploited by unregistered platforms and robot-trading schemes such as Auto Trade Gold and NET89 (2025), as well as the earlier DNA Pro case (Pluang, 2023). For high school students, who are still legally classified as children, this also intersects with the child economic-exploitation provisions of Law No. 35/2014 (Article 76I in conjunction with Article 88) a dimension noted here as warranting further research, not as a definitive legal conclusion.

The novelty of this study lies in examining psychological safety as a driver of trading performance within informal, non-institutional learning communities rather than the formal team/organizational settings from which the construct originates while simultaneously treating legal certainty as a parallel, structurally independent vulnerability faced by the same student population. This combination has not previously been addressed jointly in either the psychological-safety literature or the futures-trading legal literature. Two research questions follow. First, is the psychological safety experienced by students in XAU/USD trading communities and training associated with their trading performance? Second, to what extent has legal certainty been achieved for students engaged in XAU/USD trading, given that supervisory authority is now split between OJK and Bank Indonesia, with the completion status of the track relevant to foreign-exchange instruments such as XAU/USD not yet fully clear?

Accordingly, this study advances two propositions. The psychological proposition the primary focus of hypothesis testing states that psychological safety within XAU/USD trading communities and training is positively associated with trading performance among students. The legal proposition states that legal certainty for students engaged in XAU/USD trading remains incompletely fulfilled due to supervisory authority being split across two tracks with an untransparent completion status for foreign-exchange derivatives, weak enforcement of service-provider licensing, and limited client understanding of binding agreements. The psychological proposition is tested quantitatively; the legal proposition is examined through normative legal analysis, positioned as a contextual complement rather than a competing focus.

Literature Review

This study rests on two structurally independent submodels: a psychological submodel linking psychological safety to trading performance, and a legal submodel analyzing the legal-certainty framework for student XAU/USD traders, connected only through the same population.

Trading Performance

Trading performance is operationalized here as perceived trading performance self-rated success based on outcome expectancy, perceived competitiveness, and decision satisfaction deliberately distinguished from objective financial metrics (return, drawdown, risk-adjusted return, win rate, expectancy), which require verified brokerage records rather than self-report data. This definition adapts the Investment Performance construct from Luong and Ha (2011), as reused by Cao, Nguyen, and Tran (2021). Three researcher developed items extend its dimensions into the trading context; all three were derived directly from the theoretical definitions of the same construct dimensions (Luong & Ha, 2011; Cao et al., 2021), giving them a theoretical content-validity basis, although they have not undergone independent content or construct validation beyond the item-total correlation and reliability testing reported in this study. This construct is grounded in Barber and Odean (2000), whose analysis of 66,465 accounts found that overtrading driven by overconfidence reduced net returns (11.4% vs. 17.9% market return), accordingly, high performance is linked to disciplined stop loss execution (Locke & Mann, 2005), and low performance to the disposition effect (Shefrin & Statman, 1985).

Psychological Safety

Psychological safety the shared belief that one's environment is safe for interpersonal risk-taking without fear of embarrassment or punishment (Edmondson, 1999) originates from formal team settings with stable membership. Because trading communities and classes are informal, fluid, and sometimes anonymous, this study operationalizes psychological safety as an individual level perceptual construct rather than an aggregate team climate, following precedent from adaptations to non-institutional groups (Yunita, 2022; Ananta, 2026). Its relevance to trading is supported experimentally: exposure to information about a peer's superior performance increases risk-taking and decreases performance satisfaction (Andraszewicz et al., 2023), and a parallel financial-stress context has been documented among online-loan users (Pertiwi & Muminin, 2025), analogous to the stress induced by margin calls among student traders.

Legal Certainty in Commodity Futures Trading

This study adopts Gustav Radbruch's classical theory of the purposes of law legal certainty (*rechtszekerheid*), justice, and expediency as a normative lens for assessing legal certainty. Legal certainty is treated as requiring three cumulative conditions: (a) the existence of a clear, applicable norm governing the conduct in question; (b) consistent and predictable enforcement of that norm by the competent authority; and (c) the absence of unresolved conflict or gaps among overlapping regulatory regimes. Legal certainty is not achieved if any one condition is unmet, even when the underlying substantive norm formally exists. This three part criterion, rather than a merely descriptive summary of applicable rules, is used in the Results and Discussion to assess the state of legal certainty for student XAU/USD traders.

Commodity futures trading is governed by Law No. 32/1997 as amended by Law No. 10/2011 (a *lex specialis* requiring brokers to be licensed under Bappebti). Law No.

4/2023 (the P2SK Law) Article 8(4) and Article 312(1) mandates the transfer of this supervisory authority to consolidate financial sector oversight; the formal transfer process began on January 10, 2025. Under Government Regulation No. 49/2024 and Bank Indonesia Regulation No. 6/2024, this transfer is split into two tracks: crypto assets and capital-market derivatives moved to OJK (declared complete by OJK and Bappebti on January 20, 2026), while money-market and foreign-exchange derivatives (PUVA) such as XAU/USD were transferred to Bank Indonesia, with the completion status of this track not yet publicly confirmed as of this writing (Kementerian Perdagangan RI et al., 2025; Otoritas Jasa Keuangan, 2026). Four Futures Broker Representatives filed a judicial review of the provision transferring authority to OJK with the Constitutional Court (Case No. 155/PUU-XXII/2024) but withdrew their petition on November 21, 2024, formalized through a Court Order on January 2, 2025 (Mahkamah Konstitusi RI, 2025); under Article 35(2) of the Constitutional Court Law, the petition cannot be refiled, so the provision's constitutionality was never substantively adjudicated. For instruments such as XAU/USD that categorically more likely fall under the BI track, the more relevant uncertainty stems not from this litigation but from the lack of public transparency regarding the completion status of the PUVA track itself.

This gap is structurally distinct from another one: unregistered foreign platforms and robot-trading schemes operate entirely outside the territorial jurisdiction of Bappebti, OJK, and Bank Indonesia alike, placing affected clients beyond the reach of Indonesian consumer protection mechanisms. Prior normative studies address the domestic licensing gap (Kurniyawan, Siwi K., & Silalahi, 2023; Litoama, 2018) but do not address this extraterritorial enforcement problem, which is the focus of this study. For high school students, who are still legally classified as children, an additional layer of protection applies, Article 76I in conjunction with Article 88 of Law No. 35/2014 prohibits the economic exploitation of children (carrying penalties of up to ten years' imprisonment), a specific protective norm distinct from the general licensing framework applicable to all traders.

Method

Research Design

This study uses a convergent parallel mixed-methods design. The psychological proposition is tested through a quantitative, cross-sectional correlational approach, the legal proposition is examined through a normative juridical approach analyzing written legal norms without statistical testing (Soekanto & Mamudji, 2007). The two approaches proceed in parallel and complement one another; integration occurs at the Discussion stage through a narrative joint display comparing the quantitative and normative findings, following convergent parallel design procedures (Creswell & Plano Clark, 2011). The mixing point occurs at the interpretation stage rather than at data collection or analysis, without a formal meta inference procedure integrating both strands into a single claim; accordingly, this design is more accurately characterized as a parallel multi method study with integration at the interpretation stage, rather than a fully integrated convergent mixed methods design in the stricter methodological sense.

Population and Sample

The population consists of active high school/vocational school students and university students participating in XAU/USD trading classes or communities, aged 16 to 25 (Arnett, 2000), with at least three months of active trading experience and membership in at least one trading community or class. Sampling used non-probability purposive sampling due to the absence of a formal sampling frame. The sample size ($N = 200$) was determined through a priori power analysis for a Pearson correlation (Cohen, 1988), computed in JASP for a medium effect size ($r = .30$), $\alpha = .05$ two-tailed, power $(1-\beta) = .80$, requiring a minimum of approximately 84 respondents; this study's sample exceeds that threshold with an adequate margin. This population is analytically distinct from the broader capital-market investor base or licensed commodity futures derivative traders directly supervised by Bappebti/OJK, and is internally heterogeneous, spanning minors aged 16–17 (high school/vocational students) and adults aged 18–25 (university students) a distinction relevant to informed-consent procedures and to the child-protection analysis in the Legal Study Results.

Instrument

Psychological Safety was measured with 7 items adapted from Edmondson (1999) on a 7-point scale, three of which were unfavorable statements. Trading Performance was measured with 6 items on a 5-point scale, spanning 3 dimensions of the Luong and Ha (2011)/Cao et al. (2021) construct: outcome-expectation fit, perceived competitiveness relative to other traders, and decision/outcome satisfaction each dimension comprising 1 original item plus 1 parallel researcher-developed item, yielding 6 items in total. The three additional items are direct derivations from the theoretical definitions of their construct dimensions (Luong & Ha, 2011; Cao et al., 2021), giving them a theoretical content-validity basis, although they did not undergo a separate pilot study or formal expert judgement; their psychometric adequacy on this 200-respondent dataset was subsequently evaluated through item-rest correlations and Cronbach's Alpha (reported in Data Analysis). Both instruments retained their original response formats rather than being forced onto a common scale; because both variables were standardized into composite mean-item scores before analysis, the difference in response ranges does not bias the statistical comparisons reported in the Results.

Data Analysis

All statistical analyses were conducted in JASP. Data were analyzed in stages: assumption testing (normality, homoscedasticity, linearity, residual independence, outliers/influential cases, and common method bias), item validity, reliability, and the correlation between Psychological Safety and Trading Performance, simple linear regression to test the first proposition and mean difference tests with Tukey HSD post hoc tests by trading tenure and capital size. Normality was assessed as adequate both for the raw composite variable scores (Table 2, Shapiro-Wilk) and for the regression residuals prior to interpreting the regression coefficients, consistent with standard OLS diagnostic practice.

Legal Analysis

Approach

The legal study uses the statute approach and the conceptual approach (Soekanto & Mamudji, 2007), analyzed according to the hierarchy of legal materials under Law No. 12/2011 (the 1945 Constitution as the highest touchstone, followed by statutes, then implementing regulations), using grammatical and systematic interpretation to trace the ratio legis behind the transfer of supervisory authority from Bappebti to OJK and Bank Indonesia under the P2SK Law, Government Regulation No. 49/2024, and Bank Indonesia Regulation No. 6/2024. Legal materials were identified through purposive searches of official government and court databases (peraturan.go.id, the Constitutional Court's decision database, and OJK/Bappebti/Bank Indonesia publications); the validity status of each legal material (in force, amended, or revoked/undecided) was verified at the time of writing.

Legal Materials

Primary legal materials: Law No. 32/1997 in conjunction with Law No. 10/2011 on Commodity Futures Trading; Law No. 4/2023 (P2SK); Government Regulation No. 49/2024 on the Transfer of Regulatory and Supervisory Duties over Digital Financial Assets and Financial Derivatives; Bank Indonesia Regulation No. 6/2024 on the Money Market and Foreign Exchange Market; Law No. 35/2014 on Child Protection; and Constitutional Court Order No. 155/PUU-XXII/2024 (petition withdrawn, no substantive ruling on the merits). Secondary legal materials, Purnomo, Hariyani, & Serfiyani (2013), Batu (2010);,Widoatmodjo (2013), Kementerian Perdagangan RI et al. (2025), Otoritas Jasa Keuangan (2026).

Analysis Techniques

The legal materials were analyzed descriptively qualitatively with a prescriptive character, assessing the fit between applicable norms and the phenomenon of legal certainty for student XAU/USD traders, without rendering a judgment against any party.

Results

Demographic Description of Respondents (N = 200)

Table 1.

Demographic Description of Respondents			
Characteristic	Category	n	%
Gender	Male	114	57.0
	Female	86	43.0
Education	SMA/SMK	75	37.5
	University Student	125	62.5
Age	16-24 years (M=19.17; SD=2.24)	200	100
Trading Experience	< 1 years	73	36.5
	1-2 years	68	34.0
	3-4 years	44	22.0
	> 5 years	15	7.5
Capital Size	< 100 USD	84	42.0
	100-500 USD	66	33.0

Characteristic	Category	n	%
	600-1000 USD	28	14.0
	> 1000 USD	22	11.0

Overall, respondents were dominated by university students (62.5%) compared to high school students (37.5%), with the majority having less than 2 years of trading experience (70.5%) and capital under USD 500 (75.0%), indicating that most respondents are novice traders with limited capital, a profile consistent with this study's target population.

Table 2.
Normality Assumption Test (Shapiro-Wilk)

	W	p
Psychological Safety	0.988	0.098
Trading Performance	0.989	0.137

Both variables met the normality assumption ($p > .05$). The Breusch-Pagan test on the regression model also showed no indication of heteroscedasticity ($LM = 0.549$; $p = 0.459$), so all parametric test assumptions were satisfied.

Table 3.
Reliability Analysis

Scale	Estimate
Psychological Safety	0.939
Trading Performance	0.855

Both instruments showed good to excellent internal consistency. However, the very high reliability of the Psychological Safety Scale ($\alpha = .939$), together with relatively homogeneous corrected item-total correlations (.764–.841; Table 4), may also indicate item redundancy. Future confirmatory factor analysis is therefore recommended to determine whether all seven items are truly necessary or whether the scale could be streamlined.

Table 4.
Item-Rest Correlation Statistics for Psychological Safety

Item	Item-rest Correlation	Cronbach's α if item dropped
PS1 (R)	0.782	0.931
PS2	0.764	0.932
PS3 (R)	0.797	0.929
PS4	0.784	0.930
PS5 (R)	0.835	0.926
PS6	0.790	0.930
PS7	0.841	0.925

Table 5.
Item-Rest Correlation Statistics for Trading Performance

Item	Item-rest Correlation	Cronbach's α if item dropped
TP1	0.620	0.835
TP2	0.655	0.829
TP3	0.632	0.833
TP4	0.636	0.832
TP5	0.649	0.830

Item	Item-rest Correlation	Cronbach's α if item dropped
TP6	0.660	0.827

All items on both instruments showed item total correlations above 0.60, so all items were retained as valid within this used try-out (embedded pilot) scheme. The three additional Trading Performance items were derived directly from the theoretical definitions of their construct dimensions (Luong & Ha, 2011; Cao et al., 2021), providing a theoretical content validity basis. High item-rest correlations and internal consistency reliability further indicate that these items are empirically consistent with the original items; construct validity through EFA/CFA remains recommended for future research to complement this theoretical basis with additional empirical evidence.

Table 6.
Correlation Table

		Psychological Safety	Trading Performance
Psychological Safety	Pearson's r	—	
Psychological Safety	p-value	—	
Trading Performance	Pearson's r	0.576***	—
Trading Performance	p-value	< .001	—

There was a positive and significant correlation between Psychological Safety and Trading Performance, $r(198) = 0.576$, $p < .001$ (95% CI [.475, .662]).

Table 7.
Linear Regression: Model Summary

Model	R	R ²	Adjusted R ²	RMSE
M1	0.576	0.331	0.328	0.531

Table 8.
Linear Regression: ANOVA

Model		Sum of Squares	df	Mean Square	F	p
M1	Regression	27.671	1	27.671	98.180	< .001
	Residual	55.805	198	0.282		
	Total	83.476	199			

Table 9.
Linear Regression: Coefficients

Model		Unstandardized (B)	Standard Error	Standardized (β)	t	p
M1	(Intercept)	1.662	0.126		13.193	< .001
M1	Skor_PS	0.294	0.030	0.576	9.909	< .001

Psychological Safety significantly predicted Trading Performance, $R^2 = .331$, $F(1, 198) = 98.180$, $p < .001$, explaining 33.1% of the variance in Trading Performance.

Table 10.
Independent Samples T-Test: Gender (Descriptives)

	Group	N	Mean	SD	SE
Psychological	Male	114	4.064	1.253	0.117
Safety	Female	86	4.022	1.290	0.139
Trading	Male	114	2.898	0.611	0.057
Performance	Female	86	2.795	0.693	0.075

Table 11.
Independent Samples T-Test: Gender (Test Statistics)

	Statistic	df	p	Mean Difference	SE Difference
Psychological Safety	0.233	198	0.816	0.042	0.181
Trading Performance	1.115	198	0.266	0.103	0.092

Table 12.
Independent Samples T-Test: Education Level (Descriptives)

	Group	N	Mean	SD	SE
Psychological	SMA/SMK	75	4.177	1.242	0.143
Safety	University Student	125	3.967	1.279	0.114
Trading	SMA/SMK	75	2.831	0.635	0.073
Performance	University Student	125	2.867	0.657	0.059

Table 13.
Independent Samples T-Test: Education Level (Test Statistics)

	Statistic	df	p	Mean Difference	SE Difference
Psychological Safety	1.138	198	0.257	0.210	0.185
Trading Performance	-0.375	198	0.708	-0.036	0.095

Table 14.
One-Way ANOVA: Trading Experience (Descriptives)

	Trading Experience	N	Mean	SD
Psychological Safety	< 1 years	73	4.004	1.316
	1-2 years	68	4.183	1.395
	3-4 years	44	3.964	1.092
	> 5 years	15	3.867	0.863
Trading Performance	< 1 years	73	2.642	0.589
	1-2 years	68	2.875	0.669
	3-4 years	44	3.072	0.642
	> 5 years	15	3.144	0.541

Table 15.
One-Way ANOVA: Trading Experience (Test Statistics)

Model	Cases	Sum of Squares	df	Mean Square	F	p
Psychological Safety	Trading Experience	2.178	3	0.726	0.449	0.718
Psychological Safety	Residuals	316.874	196	1.617		
Trading Performance	Trading Experience	6.681	3	2.227	5.683	< .001
	Residuals	76.795	196	0.392		

Psychological Safety did not differ significantly across trading-experience groups, $F(3, 196) = 0.449$, $p = 0.718$. In contrast, Trading Performance differed significantly across

trading-experience groups, $F(3, 196) = 5.683$, $p < .001$. The effect size for this omnibus difference was medium, $\eta^2 = .080$.

Table 16.
Tukey Post Hoc Comparisons (TP Score): Trading Experience

Comparison	Mean Difference	SE	t	p tukey
1-2 years – 3-4 years	-0.197	0.086	-2.300	0.101
1-2 years – <1 years	0.233	0.075	3.129	0.010
1-2 years – >5 years	-0.269	0.126	-2.134	0.150
3-4 years – <1 years	0.430	0.084	5.095	< .001
3-4 years – >5 years	-0.072	0.132	-0.548	0.948
<1 years – >5 years	-0.503	0.125	-4.008	< .001

Tukey post hoc tests showed that Trading Performance was significantly higher in the 3–4-year group than the <1-year group ($p < .001$), and significantly higher in the >5-year group than the <1-year group ($p < .001$), consistent with the significant omnibus ANOVA result in Table 15.

Table 17.
One-Way ANOVA: Capital Size (Descriptives)

	Capital Size	N	Mean	SD
Psychological Safety	< 100 USD	84	4.122	1.253
Psychological Safety	100-500 USD	66	4.104	1.390
Psychological Safety	600-1000 USD	28	3.974	1.276
Psychological Safety	> 1000 USD	22	3.669	0.848
Trading Performance	< 100 USD	84	2.651	0.588
Trading Performance	100-500 USD	66	2.965	0.673
Trading Performance	600-1000 USD	28	2.911	0.664
Trading Performance	> 1000 USD	22	3.220	0.540

Table 18.
One-Way ANOVA: Capital Size (Test Statistics)

Model	Cases	Sum of Squares	df	Mean Square	F	p
Psychological Safety	Capital Size	3.985	3	1.328	0.826	0.481
Psychological Safety	Residuals	315.066	196	1.608		
Trading Performance	Capital Size	7.309	3	2.436	6.269	< .001
Trading Performance	Residuals	76.167	196	0.389		

Trading Performance also differed significantly across capital groups, $F(3, 196) = 6.269$, $p < .001$, whereas Psychological Safety did not differ significantly across capital groups, $F(3, 196) = 0.826$, $p = .481$. The effect size for this omnibus difference was medium, $\eta^2 = .088$.

Table 19.
Tukey Post Hoc Comparisons (TP Score): Capital Size

Comparison	Mean Difference	SE	t	p tukey
100-500 USD – 600-1000 USD	0.054	0.099	0.542	0.948
100-500 USD – <100 USD	0.314	0.073	4.329	< .001
100-500 USD – >1000 USD	-0.255	0.109	-2.350	0.088

Comparison	Mean Difference	SE	t	p tukey
600-1000 USD – <100 USD	0.260	0.096	2.702	0.036
600-1000 USD – >1000 USD	-0.309	0.126	-2.460	0.067
<100 USD – >1000 USD	-0.569	0.106	-5.389	< .001

Tukey post hoc tests showed that Trading Performance was significantly higher in both the USD 100–500 and >USD 1,000 capital groups than in the <USD 100 group, consistent with the ANOVA results presented in Table 18.

Legal Study Results

The normative legal analysis shows that legal certainty for high school and university students engaged in XAU/USD trading has not been fully achieved, based on three findings: (1) supervisory authority transferred from Bappebti is now split between OJK (crypto assets and capital-market derivatives, declared complete in January 2026) and Bank Indonesia (money-market and foreign-exchange derivatives/PUVA, the category most structurally relevant to XAU/USD), with the completion status of the BI track not yet publicly confirmed; the judicial-review petition against the provision transferring authority to OJK (Case No. 155/PUU-XXII/2024) was withdrawn before the Constitutional Court issued a substantive ruling, so the transitional provision was never constitutionally tested; (2) legal protection for foreign futures-brokerage clients remains inadequate (Kurniyawan et al., 2023), as the power-of-attorney agreements underlying many trading accounts are often not adequately understood by clients (Litoama, 2018); and (3) unlicensed platforms extensively target high school and university students, as illustrated by the DNA Pro, Auto Trade Gold, and NET89 cases.

These three findings must first be distinguished as separate doctrinal domains before being integrated into an overall conclusion on legal certainty: regulatory gaps arising from the incomplete transfer of supervisory authority, consumer protection and the validity of consent in power-of-attorney agreements, and child protection from economic exploitation by unlicensed platforms. Legal certainty is not a separate fourth domain but functions as an umbrella proposition examined by analyzing normative elements separately within each of these three domains.

Doctrinally, the first finding points to a more specific diagnosis than the single-track transfer narrative commonly assumed: for capital-market derivatives and crypto assets, the OJK track has been declared complete, so formal uncertainty in that segment has been reduced. But for foreign-exchange derivatives such as XAU/USD, the uncertainty that persists does not stem from the absence of an applicable norm Government Regulation No. 49/2024 and Bank Indonesia Regulation No. 6/2024 have formally transferred authority to Bank Indonesia but from the lack of public information on the extent to which that authority has been exercised consistently and enforceably over everyday retail derivative transactions. In Radbruch's formulation, legal certainty requires not merely the existence of a rule but also its clear, stable, predictable, and publicly transparent enforcement. The withdrawal of the Constitutional Court petition concerning the OJK transfer provision further deepened

uncertainty during the period before January 2026, since the transitional provision's constitutionality was never tested by the only institution authorized to issue an authoritative constitutional ruling.

The second finding concerns consumer protection and the principle of informed consent: power-of-attorney agreements not substantively understood by clients undermine the validity of consent as the basis of contractual obligation under general principles of contract law, including the requirement of genuine mutual assent (*sepakat*) under the Civil Code, and conflict with the financial-sector consumer-protection principles the P2SK Law seeks to strengthen. When consent to a power-of-attorney agreement is obtained without adequate disclosure, the resulting information asymmetry places most of the trading risk on the party least equipped to assess it.

The third finding concerns unlicensed platforms recruiting high school and university students, some of whom are legally classified as children under Indonesian law. Article 76I in conjunction with Article 88 of Law No. 35/2014 prohibits the economic exploitation of children and imposes criminal sanctions on parties who involve children in activities endangering their physical, mental, or social welfare; recruiting minors into unlicensed, high-leverage trading schemes falls within the conduct this provision addresses. The difficulty that arises stems not from the absence of a relevant legal norm but from jurisdictional and enforcement gaps among the child-protection framework, financial-sector supervision, and criminal law enforcement; such platforms have not consistently been made an enforcement priority.

Taken together, these three findings support this study's second proposition: legal certainty for this population has not been fully achieved, not because of an absence of relevant substantive law, but because of coordination, implementation, and enforcement that remain incomplete. This conclusion rests on the available legal materials and doctrinal reasoning. It is descriptive-prescriptive in nature and has not been statistically tested.

Discussion

This study's findings show that Psychological Safety correlated positively and significantly with Trading Performance, $r = .576$, $p < .001$, explaining 33.1% of the variance in Trading Performance ($R^2 = .331$). This is theoretically consistent with Edmondson's (1999) proposition that individuals who feel psychologically safe are more likely to acknowledge and openly discuss mistakes; in a trading context, students who feel more psychologically safe may thus be better able to evaluate their errors objectively, refrain from impulsive decisions, and apply risk-management strategies more consistently. It should be emphasized, however, that this behavioral mechanism was not measured directly in this study; the explanation above is interpretive, drawn from the literature, and should be tested explicitly as a mediating variable in future research rather than inferred directly from the observed correlation.

The findings on trading experience present an interesting picture. Trading Performance differed significantly across experience groups, $F(3, 196) = 5.683$, $p < .001$, consistent with Tukey post hoc tests showing that traders with 3–4 years or more than 5 years of experience performed significantly better than beginners (<1 year). This is consistent with the experiential-learning perspective in cognitive psychology (Kolb, 1984), which holds that repeated exposure to risky decision-making situations accompanied by outcome feedback gradually builds better risk calibration and emotional regulation. Novice traders, who lack this experiential foundation, are more susceptible to emotion-driven decisions such as panic selling or overtrading.

Interestingly, although Trading Performance differed significantly across experience groups, Psychological Safety itself did not, $F(3, 196) = 0.449$, $p = .718$. This suggests that psychological safety is relatively stable regardless of how long someone has been trading, and that the performance gains observed among more experienced traders likely reflect the accumulation of technical skill and self-regulatory maturity rather than a change in perceived psychological safety.

A similar pattern emerged for capital size. Trading Performance differed significantly across capital groups, $F(3, 196) = 6.269$, $p < .001$, with Tukey post hoc tests showing that groups with larger capital (USD 100–500 and >USD 1,000) performed significantly better than the very small-capital group (<USD 100), which can be explained by larger capital providing greater drawdown tolerance before a margin call forces liquidation. As with the experience variable, Psychological Safety did not differ significantly across capital groups, $F(3, 196) = 0.826$, $p = .481$, reinforcing the impression that psychological safety functions relatively independently of respondents' financial/structural conditions, while still playing an important role as a performance predictor through the regression pathway tested above.

Meanwhile, no significant differences were found in either Psychological Safety or Trading Performance by gender ($p = .816$ and $p = .266$) or education level ($p = .257$ and $p = .708$), indicating that psychological interventions and risk-management education should be directed evenly, without differentiating by respondents' gender or educational background.

Overall, these findings are consistent with the proposition that Psychological Safety is a significant predictor of Trading Performance, and that trading experience and capital size are structural factors that further differentiate students' trading performance, while gender and education are not differentiating factors. Practically, trading education and mentoring programs for students should strengthen the psychological dimension (a learning climate that does not punish mistakes) alongside capital-management literacy and gradual experience building before entering real money trading, particularly for novice traders, who show the lowest trading performance. Based on Cohen's (1988) conventional benchmarks for eta-squared (.01 small, .06 medium, .14 large), both omnibus effect sizes observed here ($\eta^2 = .080$ for experience, $\eta^2 = .088$ for capital) fall in the medium range. This study's specific theoretical contribution is extending Edmondson's (1999) team-level psychological safety

construct to the individual-level context of informal trading learning communities, while simultaneously treating legal certainty as a parallel, structurally independent vulnerability faced by the same population a combined psychological legal framing not previously combined in either literature.

Differences in trading performance across experience and capital groups may also reflect accumulated financial literacy, individual risk tolerance, overconfidence calibration, mentor or community quality, or prior trading success feeding back into confidence factors not measured in this study. Because Psychological Safety and Trading Performance were both self-reported at a single time point, common method variance (Podsakoff et al., 2003) and reverse causality well-performing traders may retrospectively rate their environment as more psychologically safe remain plausible alternative explanations for the observed correlation, alongside the mechanisms proposed above.

Conclusion

This study examined two propositions concerning high school and university students engaged in XAU/USD trading in Indonesia: a psychological proposition on the role of Psychological Safety in Trading Performance, and a legal proposition on legal certainty for this population.

Analysis of 200 respondents supported the psychological proposition. Psychological Safety correlated positively and significantly with Trading Performance ($r = .576, p < .001$) and significantly predicted it ($B = .294, R^2 = .331, p < .001$). Trading Performance also differed significantly by trading experience, $F(3, 196) = 5.683, p < .001$, and capital, $F(3, 196) = 6.269, p < .001$, but not by gender ($p = .266$) or education ($p = .708$), indicating that performance is shaped by psychological and structural factors rather than demographics.

The legal proposition was also supported: legal certainty for these students has not been fully achieved. Supervisory authority transferred from Bappebti is now split into two tracks crypto assets and capital-market derivatives to OJK (completed January 2026) and foreign-exchange derivatives such as XAU/USD to Bank Indonesia (Government Regulation No. 49/2024; Bank Indonesia Regulation No. 6/2024), with the completion status of the latter track not yet publicly confirmed compounded by the still untested constitutionality of the OJK transfer provision after the related Constitutional Court petition (Case No. 155/PUU-XXII/2024) was withdrawn, weak protection for foreign broker clients, and the proliferation of unlicensed platforms targeting students, particularly relevant for minors under Article 76I in conjunction with Article 88 of Law No. 35/2014 on Child Protection.

Although these two propositions were examined through entirely different methods, they complement one another by providing a more comprehensive picture of the vulnerabilities experienced by high school and university students engaged in XAU/USD trading. Psychological Safety can be strengthened through community level interventions,

whereas legal certainty requires regulatory and law-enforcement interventions that such communities cannot address on their own.

As with most cross sectional survey designs, the psychological findings should be interpreted as correlational rather than causal. Replication with a broader and more diverse trader population is needed to strengthen confidence in generalizability. The legal conclusions, by contrast, rest directly on binding and non-binding legal materials, including statutes and regulations, Constitutional Court proceedings, and legal literature. They can therefore be regarded as more directly substantiated, although they remain descriptive prescriptive in nature and do not constitute a definitive legal ruling. These legal conclusions were drawn from the legal materials available at the time of writing, recognizing that the status of the supervisory-authority transfer and related legislative processes may continue to evolve. Limitations, both psychological variables were measured through cross sectional self report, which limits causal inference (common method variance and reverse causality remain unresolved).

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