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## Article

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## **GLOBAL BUSINESS & FINANCE REVIEW**

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## Investigating the Antecedents of Investment Intention and the Mediating Effect of Investment Self-efficacy among Young Adults in Shandong, China

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#### ABSTRACT

**Purpose:** This study examines the antecedents and predictors of investment intention and the mediating role of investment self-efficacy. The study empirically investigates the complexity of the decision-making process related to financial investment in Shandong, China.

**Design/methodology/approach:** The Integrated Behavioral Model underpinned the research. The sample was selected using the judgmental-sampling method. A sample of 313 responses from young income earners aged 25 to 39 was analyzed. Twelve hypotheses were tested using the SmartPLS statistical software.

**Findings:** The resultant outcomes contradict the normative theory of finance. The findings revealed that psychological (risk perception and subjective financial knowledge) and sociological (influences of family, friends, and Internet) factors significantly influence the attitude of young income earners toward investment. Investment self-efficacy demonstrates a significant mediating role, as the indirect effect is almost half the total effect. Evidently, subjective financial knowledge positively influences investment self-efficacy, which in turn has a positive influence on investment intent. **Research limitations/implications:** The result is concerning as young wage earners appear overconfident in their financial skills. Policymakers and relevant market actors should strive to improve real financial knowledge, as real financial knowledge is known to be linked with the effectiveness of financial investments. Future research in this area may adopt a mixed-method approach as it has the potential to uncover new variables and provide a broader spectrum to understand the complexity of people's investment decision-making process.

**Originality/value:** The study highlights the complexity of the decision-making process. It highlights the central role of self-efficacy in explaining investment intention. The empirical evidence from the world's most populous nation, China, expands the relevance of behavioral finance theory in mainstream finance research.

Keywords: Behavioral finance, Investment intention, Self-efficacy, Financial knowledge, China

## I. Introduction

Financial investment ideally begins early to allow wealth growth and attain comfortable financial well-

being in the later stage of life. As signs of financial mismanagement among young adults are progressively rampant (Nielsen, 2019; Gan et al., 2020), young adults suffer more financial distress than older adults (Fenton-O'Creevy & Furnham, 2021), understanding the investment intention of this group is vital. Although normative finance theory is widely accepted to explain investment behaviors, the behavioral finance literature

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has been growing steadily since its humble beginning in the 1970s. Founded on three main pillars, namely finance, psychology, and sociology (Ricciardi & Simon, 2000), the integral argument for behavioral finance emphasizes that people are boundedly rational utilitymaximizing actors and assumptions that the Efficient Market Hypothesis (EMH) cannot be realistically applied in the real world. Financial behaviorists recognize that behavior is complex and that the factors motivating behavior can be diverse and circumstantial in relation to the environment.

The investment trends and spending habits of the younger generation in China are worrying. The 2021 China Household Finance Survey (CHFS) reported that the proportion of Chinese household allocation for investments was low, and the investment variety was concentrated on only one or two financial products, indicating a lack of investment diversification (Gan et al., 2020). Chinese youth recorded lower savings and investment rates compared to the previous generations. Their debt-management habits were worrying as they recorded a relatively high debt-to-income ratio (Nielsen, 2019). Their habit is a clear sign of poor money management and overspending. Gan et al. (2020) emphasized that much of the spending was on unnecessary items. The lower savings rate and excessive spending call for a study examining the investment intentions of Chinese young adults. If such a trend continues without intervention, their future financial well-being will be threatened.

Although previous studies examined investment intent in different countries, such as the United Kingdom (UK) (Collard & Breuer, 2009), Vietnam (Vieider et al., 2019), Malaysia (Lim et al., 2020), and India (Shanmugham et al., 2012), the concepts and perspectives on investing can be different. For example, younger and wealthier citizens in China and those living in prime cities such as Beijing and Shanghai show more positive attitudes toward investments than older people and those living in less developed regions (Gan et al., 2021). This situation points to possible differences in investment attitudes between people in prime cities and those in second-tier cities in China. The study contributes to the body of knowledge by expanding the study of self-efficacy to the realm of investing. It incorporates factors from the three main pillars of behavioral finance by examining investment attitudes and investment self-efficacy factors. In addition, it also analyses whether investment self-efficacy plays a mediating role between financial literacy and investment intention. The study focuses on young adults in second-tier cities as their investment behavior currently lacks clarity. Verick (2009) argued that understanding the financial well-being of this group is extremely complex. The financial knowledge of this group is generally low (Zaiton et al., 2008; Lusardi et al., 2010; Bucher-Koenen et al., 2017), and they are often hardest hit during economic crises (Verick, 2009).

The study highlights the complexity of the decisionmaking process by featuring the central role of selfefficacy in explaining investment intention. The empirical evidence from the world's most populous nation, China, expands the relevance of behavioral finance theory in mainstream finance research. Proving new empirical evidence based on young adults in second-tier cities can strengthen the understanding of financial investment intent among young adults. The pieces of evidence are a vital pathway leading to financial well-being improvement.

## II. Literature Review

Behavioral intention is recognized as an immediate determinant of actual behavior (Ajzen, 1991; Ajzen & Fishbein, 2000). The behavioral intention concept is regularly used in social behavior research (Ki & Hon, 2012). Ray (1973) categorized behavior intention and real behavior under the same "co-native" heading. Ki and Hon (2012) mentioned that scholars have been using behavioral intention instead of actual behavior because the intention is the most reliable indicator of people's actual behavior. Consequently, investment intent provides the best predictor of investment behavior when properly measured.

The study starts from the premise that people's

investment intentions are influenced by their investment attitudes and their investing self-efficacy. The anticipated predictive role of attitude and self-efficacy on behavioral intention is explained by the Integrated Behavioral Model, which underpins the study, which posits that cognitive assessment and self-confidence play an important role in the creation of intention (Fishbein & Cappella, 2006).

Financial knowledge can be divided into objective (actual) and subjective (perceived) knowledge (Wang, 2009) and serves as a valuable indicator for predicting the quality of people's financial actions. Previously, both actual and perceived knowledge has been studied as a factor associated with antecedent and actual investment decisions. Wang (2016) revealed that actual financial literacy, perceived financial literacy, and financial decisions are linked. On the other hand, Perry and Morris (2005) concluded that financial knowledge drives practical financial decisions. By building on a covariance-based structural equation model, Lim et al. (2020) discovered that objective and subjective knowledge were associated with attitudes toward financial investments. The same study also concluded that only subjective financial knowledge significantly explains investment intent. Interestingly, Xu et al. (2021) proved that both components of financial knowledge significantly explain the perceptions, attitudes, and actual behavior of rural breadwinners regarding financial investments. The cumulation of these findings suggests that the role of financial knowledge remained mixed.

Nevertheless, people utilize financial knowledge to build an intrinsic and valuable knowledge trait that leads to the logic and justification of their investment decisions (Alba & Hutchinson, 2000; Grohmann, 2018; Bialowolski et al., 2022). The level of actual financial knowledge is paramount, as people are also surrounded by financial misinformation (Volpe et al., 2002). Financially literate individuals can better assimilate information regarding financial investments, subsequently shaping their perceptions, attitudes, and behaviors toward investing (Litterer, 1965). Hence, people with better financial knowledge generally have a positive attitude toward financial investments and are more likely to invest because they can identify the right information and indicators to develop a constructive stance, which is making better investment decisions (Lusardi & Mitchell, 2014). Individuals with higher levels of financial knowledge can normally employ category-based processing because they are likely to develop a set of expectations regarding financial products over time (Wang, 2006). This study concurs with this idea and posits that financial knowledge leads to positive attitudes toward investing (H4) and investing self-efficacy (H5) and encourages higher intention to invest (H9).

People tend to resort to subjective judgment to deal with information when making financial investment decisions, which can lead to inconsistencies in decisions that deviate from normative theory. Frydman and Camerer (2016) highlighted many financial transactions that contradict the logical use of information. Due to their intellectual limitations and minimal financial knowledge, they make financial decisions that defy standard financial principles. In general, people who think they know more are more confident and more comfortable processing information according to what they think they know. Thus, people with high levels of subjective knowledge feel less pressure to act on information and are more likely to make decisions based on their confidence level. Consequently, greater subjective knowledge corresponds to a positive investment self-efficacy (H6) and higher intention to invest (H10).

People's dispositions and actions are linked to human interactions that generate consensus and influence decisions (Nofsinger, 2005). Previous research has shown that investment decisions are influenced by binding social norms (norms that dictate what people should think and do). Lim et al. (2020) reported that peer and Internet influence affects people's perceptions in the prime-savings group. Additionally, Xu et al. (2021) found that family influence also plays an important role in shaping the finance perception. Hilgert et al. (2003) examined the predictors of four financial management behavior types: cash flow, debt, investing, and saving. The study found that people do not only learn about financial issues from family and friends. The interactions between the two groups were also related to the improvement in financial behavior. Greenberg and Hershfield (2019) warned that favorable normative values might trigger a backlash. For example, Beshears et al. (2015) revealed that some subgroups chose to avoid saving, probably because they viewed certain social norms as upward social comparison, which was demotivating. As social norms have been shown to be compelling reasons for behavioral alterations, the study suggests that social norms may lead to investment behavior. Therefore, the study expects that the influence of family and friends will affect attitudes toward investing (H2).

The Internet is a crucial tool that has transformed how people learn and interact and widened people's social boundaries. Internet influence is far-reaching and has no boundaries. The international Internet community is supported by worldwide digital networks and communicates through them, enabling a sizable and rapid exchange of facts and opinions (Castells, 2014). In different words, the Internet increases sociability and information sharing. Viewed as the technology of freedom, a single person is no longer alone, as individualization no longer means loneliness. As people became familiar with the web, private and public institutions began adopting online platforms, which led to information dissemination (Castells, 2014). In this sense, people may turn to the Internet for financial information (and, unfortunately, misinformation), affecting their investment opinions and decisions (Nofsinger, 2005). Bargh and McKenna (2004) argued that the nature and value of the Internet impact could be a subject of disagreement while its impact on social life is undeniable. As previous evidence on the influence of the Internet on cognition, attitudes, or behavior is mixed (Shanmugham & Ramya, 2012; Lim et al., 2020; Xu et al., 2021), it would be of great interest to examine whether the Internet is causing investment attitudes among young income earners in China. Therefore, the study posits that the Internet influences investment attitude (H3).

Financial instruments are mostly intangible in nature, and investment results cannot be confirmed at the time of commitment. Therefore, people will consider investing if they perceive investment risk positively. Individual perception resembles a descriptive norm about whether they should engage in certain behavior. Montana and Kasprzyk (2015) explained that how people perceive something determines their attitude toward it. Thus, a positive perception of the financial investment risk is projected to promote a positive attitude toward investing (Litterer, 1965). Webber et al. (2002) and Trang and Khuong (2017) discovered that people made financial investment decisions when they perceived the investment risk positively. Consequently, the study suggests that risk perception affects attitudes toward investing (H1).

Attitudes can be understood as people's general assessment of an issue (Ajzen & Fishbein, 2000) and are crucial to decision-making theory (Newholm & Shaw, 2007). Several classical theories, such as the Perception Formation Model (Litterer, 1965) and the Theory of Planned Behavior (Ajzen & Fishbein, 2000), have proven that attitudes predict behavior. Based on the results of 16 studies, Ajzen (1991) concluded that the role of attitudes deserves attention as they had a notable impact on predicting behavioral intentions. Lee (2009), Shanmugham and Ramya (2012), and Lim et al. (2020) showed that people with positive attitudes toward a certain financial behavior had a positive effect on financial behavior. In terms of attitudes toward financial investments, individuals may have varying degrees of favor or dislike of investing activities. The link between attitude and intention to invest of voung adults in second-tier cities in China lack clarity due to limited empirical studies. In order to clarify this notion, the study hypothesized that there would be a correlation between attitudes toward financial investments and investment intent (H7).

New investors can feel overwhelmed by the sheer volume of financial information. Intimidated by complexity and information overload, some prefer to avoid investing altogether. Nevertheless, people who believe they are capable and have the skills to make successful investments are more likely to invest (Bandura, 1977). According to Bandura's explanation, investment selfefficacy can be defined as a section of the self-system that encompasses people's investment attitudes, skills, and cognitive abilities. Financial investment management requires more than only financial knowledge. People also need an intuition of confidence in their knowledge. Farrell et al. (2016) discovered that financial selfefficacy appears to be one of the strongest predictors of holding financial products. Therefore, people with higher self-efficacy in investing are expected to be more likely to own investment products (H8).

Although much emphasis has been placed on improving financial knowledge through financial education programs, the impact of financial knowledge on financial behavioral intentions is mixed. Rothwell et al. (2016) suggested that self-efficacy may mediate the relationship between objective financial literacy and savings outcomes. Nevertheless, no evidence exists on whether the objective and subjective components



Figure 1. Research Framework

Table	1.	Research	hypotheses
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of financial literacy would influence investment intent through self-efficacy. Therefore, the study examined the mediating role of investment self-efficacy between the association of financial knowledge and investment intention. Consequently, two hypotheses, H11 and H12, are developed, for objective and subjective knowledge, respectively. Figure 1 illustrates the research framework of the study, comprises ten direct hypotheses and two mediation hypotheses. Table 1 describes the 12 hypotheses for this cross-sectional study.

### III. Research Methods

The study focused on investment intent and only targeted respondents who had never invested in any financial instrument. Poterba (2001) categorized the population between the ages of 40 and 69 as the prime savings year and actively participated in investments. Thus, the study participants were under 40 years old, specifically income earners ages 25 to 39. In addition, the respondents must have worked for at least one year to achieve a certain level of income stability for investment. Purposive sampling was employed with the inclusion of several screening questions in the

Hypothesis	Hypothesis Statement
H1	The perception of risk has a positive influence on the attitude toward investing.
H2	Family and friends' influence positively affect attitudes toward investing.
H3	The Internet has a positive influence on attitudes toward investing.
H4	Actual financial knowledge positively influences attitudes toward investing.
Н5	Actual financial knowledge positively influences the self-efficacy of investments.
H6	Subjective financial knowledge positively influences the self-efficacy of investments.
H7	Attitude toward investments positively influences investment intention.
H8	Investment self-efficacy positively influences investment intention.
Н9	Actual financial knowledge positively influences investment intention.
H10	Subjective financial knowledge positively influences investment intention.
Hypothesis	Hypothesis Statement
H11	Investment self-efficacy mediates the influence of actual financial knowledge on investment intention.
H12	Investment self-efficacy mediates the influence of subjective financial knowledge on investment intention.

Construct	Number of Items	Source		
Actual Financial Knowledge	6	America Financial Industry Regulatory Authority (FINRA)- Financial Literacy Quiz (2012)		
Subjective Financial Knowledge	6	Flynn et al. (1999)		
Risk Perception on Investment	4	Hoffmann et al. (2013)		
Family and Friends Influence	4	Jorgensen (2010)		
Internet Influence	5	Jorgensen (2010)		
Attitude toward Investment	5	Q1 - Q4: Ramayah et al. (2009) Q5 - Mathieson (1991)		
Investment Self-efficacy	5	Q1 - Q2: Combrink et al. (2020) Q3 - Q5: Dulebohn et al. (2007)		
Intention to Invest	5	Q1 - Q3: He (2016) [In Chinese] Q4 - Q5: Shiarella et al. (2000)		

Table 2. Summary of questionnaire construct

survey instrument to ensure data was only collected from those who met the predetermined criteria.

The study used 40 items to measure eight constructs listed in Table 2. The items were adapted from previous studies and tailored to fit the research context. This practice is common and has two advantages. First, the validity and reliability of the measurements were assessed. Second, the current results are comparable to previous studies. As the study was conducted in China, the questionnaire was translated into Simplified Chinese using the back-to-back translation method. The questionnaire in English is included in Appendix A.

The data was collected in the Shandong Province, which is a second-tier city in China. Data collection took place amid the COVID-19 pandemic. Due to the restrictions on movement imposed in China, the online survey was used as the only practical option. The questionnaire was stored on the Wen Juan Xing platform (the Chinese equivalent of Google Form), and the link and QR code were disseminated using emails and social network platforms. A total of 358 respondents voluntarily completed the survey. According to Yeh's (2009) suggestion, initial screening was performed, resulting in 45 samples being excluded due to issues related to monotone and invariance responses. The final sample size was 313, which exceeded the minimum requirement of 129 samples computed using the Gpower calculator. As shown in Table 3, female respondents were more than male respondents. Three-quarters

Table 3. Profile of respondents

Demographic Variable	Variable sub-groups	Percentage (%)
Candan	Male	47%
Gender	Female	53%
	25-29	25%
Age	30-34	36%
	35-39	39%
	High School	33%
	Diploma	29%
Education	Bachelor	22%
level	Master	12%
	Doctor	4%

of the respondents were at least 30 years old, while 62% did not have a university degree.

## IV. Data Screening and Analysis

One of the requirements for regression analysis is data normality. The study estimates the univariate and Mardia's multivariate skewness and kurtosis using the Webpower online calculator (https://webpower. psychstat.org/models/kurtosis/). The latent variable scores of the eight constructs were entered for computation. The resultant outcomes based on skewness and kurtosis showed that the data were not normally distributed multivariate, Mardia's multivariate skewness ( $\beta = 9.431$ , p < 0.01) and Mardia's multivariate kurtosis ( $\beta = 108.766$ , p < 0.01). Thus, to overcome this issue, the testing of the study's hypotheses followed the bootstrapping approach explained by Hair et al. (2019).

The data for the independent, mediator and dependent variables were obtained from the same respondents. Therefore, the data must be cleared of the common method or self-informant bias before further analysis. The common method bias (CMB) issue was examined using the full-collinearity test approach, where all the variables were regressed against a common variable. Kock (2015) explained that the full collinearity variance inflation factor (VIF) tend to increase with model complexity in term of latent variables in the model. In total, this study has seven latent variables and classifiable as complex model. Accordingly, the VIF threshold used in CMB tests should be more than 3.3 (Kock, 2015). Kock and Lynn (2012) stated that a VIF threshold of 5.0 could be used. The results for the full-collinearity test are provided in Table 4. As all the VIFs are within the threshold of 5.0 with only two slightly above 3.3, the data do not inherent serious issues related to self-informant bias.

Measurement model assessment (MMA) aims to ensure that those measurement items and constructs sufficiently meet internal consistency reliability, convertgence validity, indicator reliability, and discriminant validity (Ramayah et al., 2018). Five items that did not meet the minimum factor loadings of 0.708 (Hair

Table 4. Full-Collinearity test

Constructs	VIF
Actual Financial Knowledge	1.034
Subjective Financial Knowledge	1.864
Family and Friends Influence	2.162
Internet Influence	2.252
Risk Perception	1.623
Investment Self-Efficacy	3.495
Attitude toward Investment	3.465
Investment Intention	2.297

Measurement Model Assessment

et al., 2017) were removed. As shown in Table 5, all items were adequately loaded on each construct, as proved by factor loadings of at least 0.708, discounting the issue related to unidimensionality. The composite reliability (CR) values of the constructs ranged from 0.825 to 0.947, which is between Hair et al.'s (2019) threshold of 0.60 and 0.95, indicating reliable internal consistency. The lowest convergent validity value (average variance extracted (AVE)) was 0.661, which exceeds the 0.50 threshold. Therefore, convergent validity was achieved.

The discriminant validity was examined using the heterotrait-monotrait (HTMT) criterion (Henseler et al., 2015; Franke & Sarstedt, 2019). The threshold for the HTMT values should be less than 0.85 based on the stricter criterion. The more lenient criterion suggests that the value should not exceed 0.90. Table 6 shows that all the HTMT values, except one, are lower than the stricter criterion of  $\leq$  0.85. The highest HTMT value is 0.894, which is lower than the lenient threshold of 0.90. Thus, it is concluded that the study's respondents understood that the eight constructs are distinct. Based on the results of the validity tests, the measurement items employed in the study are valid and reliable.

The inner VIF values were examined. All VIF values in Table 7 are less than 3.3, indicating that the regression model has no lateral collinearity problem (Hair et al., 2017). The coefficients of the independent variables in H1 through H10 are all positive, with eight hypotheses supported (t-value > 1.645, p-value < 0.05, bias-adjusted confidence interval (BCI) lower-level (LL) and BCI upper-level (UL) do not straddle between the value of 0). Interestingly, H4 and H5 involving actual financial knowledge as a factor was unsupported. The  $R^2$  estimates for attitude toward investment. investment self-efficacy, and investment intent were  $0.568 (O^2 = 0.392), 0.380 (O^2 = 0.274), and 0.592$  $(O^2 = 0.502)$ , respectively. The values are classified as moderate (between 0.33 and 0.67) and have a substantial explanatory power (Chin, 2010). Accordingly, the four factors of H1 to H4 can explain 56.8% of the variance in attitude toward investment. Subsequently, the two financial knowledge components (H5 and

Constructs	Items	Loadings	CR	AVE
Actual Financial Knowledge	ACT1	1.000	1.000	1.000
	ATT1	0.872		
	ATT2	0.829		
Attitude toward Investment	ATT3	0.846	0.933	0.737
	ATT4	0.875		
	ATT5	0.868		
	FFI1	0.857		
Family and Friends Influence	FFI2	0.920	0.914	0.781
	FFI3	0.873		
	INI1	0.743		
	INI2	0.836		
Internet Influence	INI3	0.804	0.907	0.661
	INI4	0.858		
	INI5	0.819		
	INVI1	0.906		
Investment Intention	INVI2	0.949	0.947	0.856
	INVI4	0.920		
Diala Damantian	RP2	0.881	0.925	0.702
Risk Perception	RP4	0.794	0.825	0.703
	SEL1	0.834		
	SEL2	0.902	0.011	0.710
Investment Self-Efficacy	SEL3	0.848	0.911	0.719
	SEL5	0.805		
	SUB1	0.827		
	SUB2	0.840		
Subjective Financial Knowledge	SUB4	0.812	0.927	0.716
	SUB5	0.871		
	SUB6	0.879		

Table 5. Measurement model assessment

Table 6. Heterotrait-Monotrait (HTMT) correlation ratio

Constructs	1	2	3	4	5	6	7	8
1. Actual Financial Knowledge								
2. Attitude toward Investment	0.074							
3. Family and Friend Influence	0.067	0.652						
4. Internet Influence	0.075	0.682	0.738					
5. Investment Intention	0.154	0.756	0.600	0.682				
6. Risk Perception	0.099	0.797	0.581	0.584	0.649			
7. Investment Self-Efficacy	0.059	0.894	0.747	0.744	0.752	0.702		
8. Subjective Financial Knowledge	0.117	0.574	0.669	0.642	0.532	0.617	0.643	

Structural Model Assessment

H6) are responsible for explaining 38% of the variance in investment self-efficacy. The study tested four direct factors (H7 to H10) on investment intention. The R-squared indicates that they explain 59.2% of the variance of the endogenous variable.

Table 8 shows the mediation test results. The tvalue (greater than 1.96, two-tailed) and the BCI that indicate the LL confidence interval and UL confidence interval are straddled between values 0. Hence, H12 was supported. Investing self-efficacy plays a significant mediating role in the relationship between subjective financial knowledge and investment intention. The actual financial knowledge hypothesis did not show a significant finding. It further proves that perceived financial knowledge is dominant over actual financial knowledge. The findings for H12 also confirm that subjective financial knowledge is positively associated with investment self-efficacy, which in turn increases investment intention.

The analysis of H12 was further extended. Figure 2 displays the simple mediation model of subjective

financial knowledge à investment self-efficacy à investment intention. Accordingly, the coefficient for path A (subjective financial knowledge à investment selfefficacy) was positive at 0.614. At the same time, the coefficient for path B (investment self-efficacy à investment intention) was also positive at 0.216. The direct path C (subjective financial knowledge à investment intention) had a positive coefficient of 0.140. Overall, the total effect of this mediation model was 0.272 (0.132 + 0.140), computed based on the sum of the indirect effect (A × B = 0.614 × 0.216 = 0.132) and the direct effect (C = 0.140). In conclusion, the indirect effect pathway seems to be almost equal. Proportionally,



Figure 2. Path Analysis Simple Mediation (H12)

Та	ble	7٠	Hypothesis	s testing	direct	effect
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Hypothesis	Relationship	Standard Beta	Standard Error	t-value	p-value	BCI LL	BCI UL	$f^2$	VIF
H1	$RP \rightarrow ATT$	0.329	0.053	6.432	p < .001	0.226	0.427	0.196	1.277
H2	$\rm FFI \rightarrow ATT$	0.171	0.069	2.564	0.010	0.042	0.307	0.031	2.168
H3	$\mathrm{INI} \to \mathrm{ATT}$	0.403	0.060	6.758	p < .001	0.283	0.512	0.166	2.263
H4	$\mathrm{ACT} \to \mathrm{ATT}$	0.020	0.035	0.578	0.563	-0.059	0.081	0.001	1.011
Н5	$\text{ACT} \rightarrow \text{SEL}$	0.016	0.044	0.347	0.729	-0.071	0.099	0.000	1.009
H6	$\text{SUB} \rightarrow \text{SEL}$	0.614	0.035	17.161	p < .001	0.541	0.679	0.603	1.009
H7	$\text{ATT} \rightarrow \text{INVI}$	0.476	0.081	5.999	p < .001	0.306	0.620	0.205	2.714
H8	$\text{SEL} \rightarrow \text{INVI}$	0.216	0.081	2.847	0.004	0.066	0.377	0.038	2.974
H9	$\text{ACT} \rightarrow \text{INVI}$	0.102	0.035	2.837	0.005	0.034	0.172	0.025	1.011
H10	$\text{SUB} \rightarrow \text{INVI}$	0.140	0.052	2.781	0.005	0.034	0.243	0.029	1.660

Note: ACT = Actual Financial Knowledge, RP = Risk Perception, FFI = Family and Friend Influence, INI = Internet Influence, ATT = Attitude toward Investment, INI = Internet Influence, SUB = Subjective Financial Knowledge, SEL = Self-efficacy, INVI = Investment Intention

Table 8	. Hypothesis	test for	mediation
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Hypothesis	Relationship	Standard Beta	Standard Error	t-value	p-value	BCI LL	BCI UL
H11	$\text{ACT} \rightarrow \text{SEL} \rightarrow \text{INVI}$	0.010	0.017	0.565	0.572	-0.026	0.04
H12	$\text{SUB} \rightarrow \text{SEL} \rightarrow \text{INVI}$	0.133	0.051	2.591	0.01	0.038	0.232

Note: ACT = Actual Financial Knowledge, SUB = Subjective Financial Knowledge, SEL = Self-efficacy, INVI = Investment Intention

Construct	Item	PLS RMSE (A)	LM RMSE (B)	PLS - LM (A) - (B)	Q <sup>2</sup> predict
Investment Intention	INVI4	0.979	0.983	-0.004	0.387
	INVI2	0.981	0.985	-0.004	0.418
	INVI1	1.013	1.028	-0.015	0.394

Table 9. PLS-Predict

the indirect route explained 48.6% of the total mediation effect (0.132/0.272).

Shmueli et al. (2016, 2019) explained that the predictive power of the statistical model is a crucial element of any quantitative study. They recommended performing PLS-Predict to assess the theoretical and practical relevance to determine the model's ability to make falsifiable predictions about new observations. The step-by-step guide by Shmueli et al. (2019) was followed, and the ten convolutions and ten replicates, as suggested by Hair et al. (2019), were used. The set k = 10 assumes that each subgroup meets the required minimum sample size, while the ten replicates assume the sample size is large enough. Table 9 shows the results of PLS-Predict. The  $Q^2$  predict > 0 indicates that the model's last endogenous construct indicators outperform the naivest benchmark. Compared to the error (root mean square error - RMSE) values of the PLS model (columns A) to the naïve LM benchmark (column B), all the errors for the PLS model are lower than the LM model. Conclusively, the research model has strong predictive power.

## V. Discussion and Conclusion

The concerning findings suggest that subjective financial knowledge dominated objective financial knowledge in shaping young adults' confidence in financial investments and their propensity to participate in investments. The lack of a significant effect of objective financial knowledge on the constructs studied suggests that young adults' propensity to invest is influenced by their self-perceived knowledge and confidence. The combination of subjective financial knowledge and investment self-efficacy may influence information seeking and potentially impact information processing and financial behavior preferences differently than objective financial knowledge (Rao & Monroe, 1988).

People with higher levels of subjective knowledge are likely to be less confused and more confident in their choices. In contrast, objective financial knowledge is known to lead to efficient investment behavior. Objective financial knowledge is often seen as an important criterion for understanding, analyzing, and making complex financial decisions (Lusardi & Mitchell, 2014). In other words, objective financial knowledge fosters people's ability to weigh the trade-off between investment risk and return, thereby maximizing the return per unit of risk taken (Chu et al., 2017). On the other hand, those with high subjective financial knowledge may find that there is no need for more information, the investment is not difficult to manage, and they feel confident and satisfied with their choice. Unfortunately, their investment decision may be less effective. Therefore, the heterogeneous results of financial knowledge led to two future research questions stated below:

- i. How do young adults in China fare in financial knowledge?
- ii. With no prior investment experience, do they unknowingly take investment risk because their investment intent is explained by their perceived knowledge rather than their actual financial knowledge?

Influences from family, friends, and the Internet were found to be significant factors in attitudes toward investing. The study further confirmed that a positive attitude toward investment increases intended investment among young adults in China. It shows that young adults

in China care about others' opinions. The opinions and potential suggestions of those around them are considered important in influencing them to make a cognitive assessment of the investment. In this context, further initiatives leading to a positive attitude toward financial investments must be intensified. This call is consistent with findings that consolidation of investment attitudes leads to greater investment intention. In addition, social factors have been emphasized to play an essential role in forming attitudes. Based on the argument that humans are social creatures. Chinese young adults who have never invested seem very likely to follow the investing habits of their family and friends. Hence, family and friends can act as information sources and powerful motivators. This situation also gives the impression that herd behavior could exist in the family and friends circle. The behavioral herd is a part of the behavioral finance phenomenon, which contradicts normative finance theory. It further justifies the importance of behavioral finance theory.

The impact of the Internet on investment attitudes can be viewed from two perspectives. First, the increasing use of social networking through Internet platforms by family and friends to connect with each other has expanded the space and opportunities for interaction. Consequently, the Internet increases its role in influencing online with the improvement of communication. Second, Internet platforms allow people to access information directly from sources or through third-party sponsored platforms without restrictions. In other words, various investment-related information can be obtained through the Internet. Since the Internet is a part of young adults' lifestyles, the significant influence of the Internet on investment behavior needs to be carefully evaluated. Information on the Internet is unrestricted and mostly unfiltered. For those who have never invested, assessing the accuracy and suitability for use in their investment context can be difficult. The situation is highly concerning as some people are confident they can inadvertently act on misinformation without further investigation. Such actions will inevitably harm their investment and make it difficult to achieve financial goals.

The study underscores the crucial role of risk perception in shaping attitudes. Hence, people's views on investment risk can serve as a guide to their stance on investment. Widening the understanding of risk perception in investment is important because it helps to clarify which investment risks people care about and how to address them. Although risk perceptions and attitudes have been found to be positively related and directly related to investing intentions, the perceptionattitude-intention relationship can be highly complex, particularly when investing is a risk-taking activity. The respondents in this study had never invested. Hence, they had no opportunity to experience investment risks. Someone who has never invested will face difficulty in anticipating investment risk. Therefore, their risk perception may be based on readings or observations of the surrounding.

The limitation of the study is that the data was collected using online surveys and from a single source. Although it is a valid method in academic research, the absence of an interviewer can sometimes be a disadvantage when undertaking an online survey. Researchers cannot directly observe the respondents' body language, indicating whether a respondent is sincere when answering the survey. In order to overcome this potential problem, the study performed data filtering to remove monotonic and invariant responses and statistical remedies, including the full-collinearity test, to ensure that the data is free from CMBs.

Overall, this study advances the understanding of investment intention among young income earners with evidence from a second-tier city in China. Evidently, psychological (risk perception and subjective financial knowledge) and social (influences of family, friends, and the Internet) play an important role in shaping young earners' attitudes toward investing. The study's findings, particularly regarding the dominant influence of subjective knowledge over objective knowledge, support the importance of behavioral theory in explaining people's decision-making process regarding finance. Although the data was only collected from Shandong Province in China, the respondents' profile reflects the young Chinese workforce. Thus, the result is generalizable to represent the young Chinese workforce.

The study enriches the knowledge gap on three fronts. First, it has empirically confirmed that human behaviors can deviate from normative finance theory when self-confidence and self-belief are closely related. These two factors, in turn, would motivate one-toventure into financial investments. Second, the study provides insights into behavioral finance from a new geographic perspective, covering people under 40 in less developed regions. This age group is important and deserves attention as it is the "prime age" to invest in wealth creation. Third, the study's statistical procedure was robust, including PLS-Predict and the impact of the indirect pathway on the overall mediation effect. Future research in this area could include a mixed-method approach as it has the potential to uncover new variables and provide a broader spectrum to understand the complexity of people's investment decision-making process.

## Authors' Declarations

The authors declare that they have no conflicts of interest.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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## Appendix A: Questionnaire (English Version)

#### Actual Financial Knowledge

Subjective Financial knowledge	Attitude toward Investment	
Suppose you owe CNY1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double?	<ul><li>A. Less than 2 years</li><li>C. 5 to 9 years</li><li>E. Not sure</li></ul>	<b>B. 2 to 4 years</b> D. More than 10 years
A 15-year mortgage typically requires higher monthly payments than a 30- year mortgage but the total interest over the life of the loan will be less.	A. True B. False	C. Not sure
Buying a single company's stock usually provides a safer return than a stock mutual fund.	A. True B. False	C. Not sure
If interest rates rise, what will typically happen to bond prices?	A. Rise <b>B. Fall</b> D. No relationship	C. Stay the same E. Not sure
Imagine that the interest rate on your savings account is 1% a year and inflation is 2% a year. After one year, would the money in the account buy more than it does today, exactly the same or less than today?	A. More than before C. Less than before	B. Same D. Not sure
Suppose you have CNY 100 in a savings account earning 2 percent interest a year. After five years, how much would you have? No need to consider inflation.	A. More than 110 C. Less than 110	B. Exactly 110 D. Not sure
Sumpose you have CNV 100 in a servings account coming 2	A More than 110	D Exectly 110

I know pretty much about financial investment.

I know how to judge the different type of investment assets.

I am not knowledgeable about financial investment. (Reverse)

Among my circle of friends, I am one of the "experts" on financial investment.

I think I know enough about financial investment to feel confident when I make an investment.

I can tell if a financial asset is worth to invest or not.

#### **Risk Perception**

I consider investing to be very risky. (Reverse)

I consider investing to be safe.

I can lose money easily if I invest. (Reverse)

I believe investing to have little risk.

#### Family and Friend Influence

I learn a lot of knowledge about managing my money from my family and friends.

I discuss financial matters with my family and friends.

I communicate about the financial investment to family and friends.

I am influenced by the opinion of family and friends on subject relate to financial investment.

#### Attitude toward Investment

Investing is a wise decision. Investing is a good idea. I like to invest.

Investing brings me a pleasant feeling.

I consider investing is better than saving

#### Self-efficacy

I will generate investment returns above my targets.

I feel confident in my ability to make investment decisions.

I have enough ability to choosing suitable investment alternatives and invest it.

Investing is too complicated for the me to understand. (Reverse)

I feel capable of investing my income to achieve my financial goals.

#### **Investment Intention**

I will invest in the next two years.

I have the intention to invest in next two years.

Engaging in investment is my plan in the next two years. I will seek investment opportunity in the next two years.

#### Internet Influence

The information about financial from Internet is important to me.

I discuss about financial using the Internet platform.

I pay attention to opinions of Internet community about investment.

I get news about financial investment from text-based Internet website. (Such as: East money Information, Weibo, Wind).

I get news about financial investment from video-based website. (Such as: YouTube, Bilibili, Tiktok).

I get news about financial investment from video-based website. (Such as: YouTube, Bilibili, Tiktok).