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The effects of financial literacy, materialism, and risk perception on millenials' indebtedness

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ABSTRAK

*Tingkat pemahaman literasi keuangan dapat menjadi tolak ukur individu dalam bijak atau tidaknya mengambil keputusan keuangan, di dukung dengan tingkat materialisme dan pemahaman persepsi risiko, ketiganya menjadi penting untuk melihat tingkat utang yang terjadi, khususnya pada Generasi Milenial.Tujuan penelitian ini adalah untuk mengetahui hubungan Utang pada Generasi Milenial dilihat dari Literasi Keuangan, Materialisme, dan Persepsi Risiko menggunakan metode kuantitatif. Sampel penelitian dilakukan dengan menyebarkan kuisioner kepada 190 responden dengan teknik pengambilan sampel kepada individu dengan rentang kelahiran dari tahun 1980-2000 dan pernah memiliki utang (*purposive sampling*). Teknik analisis data SEM (*Structural Equation Modeling*) dengan SmartPLS 4.0 digunakan dalam penelitian ini. Berdasarkan penelitian, literasi keuangan dan persepsi risiko berpengaruh negatif terhadap utang, Sementara materialime berpengaruh positif terhadap utang. Penelitian tersebut menemukan bahwa rendahnya literasi keuangan dapat mengakibatkan perencaan keuangan yang kurang baik, materialism yang tinggi mengakibatkan kurang mensyukuri hal yang sudah dimiliki, serta rendahnya persepsi risiko akan membuat kesadaran nilai uang yang juga tidak baik. Implikasi penelitian ini adalah literasi keuangan dapat meningkatkan kesadaran akan masalah uang dan keterampilan, sikap, dan perilaku yang diperlukan untuk kesejahteraan finansial mereka di masa depan, serta kesadaran mereka akan perlunya menghindari tindakan impulsif dan mempertimbangkan risiko dengan hati-hati saat mengambil keputusan.*

ABSTRACT

Better financial literacy enables individuals, especially millennials, to make sound financial decisions. However, financial decisions, including indebtedness, are also influenced by other factors, such as materialism and risk perception. Accordingly, this

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study aims to investigate the effects of financial literacy, materialism, and risk perception on indebtedness among the millennial generation, employing a quantitative approach. We generated our data by distributing the questionnaires to the 190 respondents. The sample was selected using a purposive sampling technique to include individuals who were indebted and born between 1980 and 2000. This study ran SEM by using SmartPLS 4.0 to analyze the data. The empirical results reveal that financial literacy and risk perception negatively affect indebtedness, while materialism positively affects indebtedness. Our findings suggest that poorer financial literacy may lead to inadequate financial planning, while excessively materialistic individuals tend to be less appreciative of their possessions. Lastly, a lower risk perception leads to a poor understanding of the value of money. Our study suggests that financial literacy likely enhances the financial awareness, skills, attitudes, and behaviors essential for individuals' future financial well-being. Such awareness helps them avoid impulsive behaviors and consider the risks associated with their financial decisions.

INTRODUCTION

Financial literacy facilitates sound personal financial management. Better financial literacy will effectively enhance the capacity to manage one's personal finances (Widyakto et al., 2022). Sound financial literacy is critical when individuals make resource utilization decisions (Yushita, 2017). Financial maximization boosts living standards in the sense that individuals with better financial literacy are more able to make sound financial plans and maximize their economic well-being (Rosa & Listiadi, 2020).

The Financial Service Authority (FSA) or *Otoritas Jasa Keuangan* published a report on the findings of a national survey on financial literacy in November 2022. This report indicated that Indonesians had an average financial literacy of 49.68 percent. Hence, the operationalization of financial literacy needs to be further clarified by incorporating knowledge, skills, beliefs, attitudes, and behaviors to enhance the quality of decision-making and financial management in achieving public welfare.

Additionally, this study seeks to offer an in-depth analysis of the factors contributing to Indonesians' rising debt levels, particularly among the millennial generation. Hidayatullah et al. (2018) define millennials as those born between 1980 and 2000, a period marked by tremendous technological advancement. They are currently between 23 and 43 years old. The data from Otoritas Jasa Keuangan (OJK) Indonesia (2023) indicate that the millennial generation constitutes the highest percentage of the Indonesian population, accounting for 39.37 percent of the total population. The millennial generation tends to consume more than other generations (Rudiwantoro, 2018). Unfortunately, they frequently exhibit less prudent financial behavior to satisfy their spending intention, motivating them to rely on debt to solve

their financial problems (Carlsson & Tommy, 2019; Widjaja & Pertiwi, 2021), likely because they perceive this solution to be low-risk (Dewi et al., 2022; Mitta & Pamungkas, 2022; Rahman et al., 2020). Risk perception is a subjective component of the decision-making process that individuals use when assessing risk and the degree of uncertainty associated with it. Perceived risk encompasses both objective and subjective factors that influence how people assess various types of products and financial services (Baker et al., 2017). A low-risk perception tends to result in a higher propensity for indebtedness behavior (Mitta & Pamungkas, 2022).

The millennial generation supports their lifestyle through their consumptive behavior (Rudiwantoro, 2018). Individuals' consumption of high-quality or value products is frequently referred to as materialism (Wahono & Pertiwi, 2020). Highly materialistic individuals believe that buying goods through debt is a common practice (Mitta & Pamungkas, 2022).

Iswariyadi et al. (2023) and Rahman et al. (2020) argue that highly materialistic individuals are arguably more indebted. Further, Mitta & Pamungkas (2022) investigate the effects of risk perception, materialism, and financial literacy on indebtedness and reveal that materialism positively affects one's indebtedness propensity while financial literacy, risk perception, and risk perception negatively affect one's propensity to be indebted. In a similar vein, Oliveira (2020) documents that materialism increases students' indebtedness. Accumulated indebtedness will lead to financial problems, such as failure or difficulties in paying debts and living expenses, which will result in heavy financial burdens (Leandro & Botelho, 2022). In this respect, financial problems are likely caused by poor financial literacy (Doosti & Karampour, 2017). Meanwhile, indebtedness is affected by materialism (Rahman et al., 2020; Widjaja & Pertiwi, 2021) and low risk perception (Mitta & Pamungkas, 2022; Rahman et al., 2020; Waqas & Siddiqui, 2021). This issue is important since there has been alarmingly increasing indebtedness (in terms of outstanding loans), especially among the millennial generation (Otoritas Jasa Keuangan (OJK) Indonesia, 2022).

These arguments motivate us to investigate the effects of financial literacy, materialism, and risk perception on indebtedness among the millennial generation. Our study offers research novelty by integrating psychological and financial factors in explaining the indebtedness of the millennial generation, especially in Jakarta. According to statistics data from fintech lending between April 2022 and April 2023, Jakarta exhibits the highest increase in loan amounts among the 34 provinces in Indonesia. Accordingly, this research seeks to analyze the effects of financial literacy, materialism, and risk perception on the millennial generation's debt levels.

This research offers two contributions. Theoretically, we contribute to the financial literacy literature by incorporating both psychological and financial factors in explaining individual indebtedness. Practically, we inform individuals, especially

the millennial generation, about factors to improve their financial well-being.

LITERATURE REVIEW

Theory of Planned Behavior

Theory of Planned Behavior (TPB) proposed by Ajzen (1991) argues that individual behavior can be predicted through their intention, while perceived behavioral control, subjective norms, and attitude toward behavior affect this intention (Widjaja & Pertiwi, 2021). The TPB model of social psychology is a widely used instrument for predicting behavior. This theory suggests that individuals generally make decisions through the planning phase based on various factors, including attitudes, adopted norms, and trusted behavioral controls (Setiawan et al., 2021). TPB predicts behavior at a specific time and place by involving individual intentions (Dusia et al., 2023). TPB predicts that individuals lacking complete control over their intentions are less likely to prevent their behavior from being arbitrary (Mahyarni, 2013).

Financial literacy (FLi)

OECD (2020) defines financial literacy as the combination of financial awareness, knowledge, skills, attitudes, and behaviors required to make sound financial decisions and eventually achieve individual financial well-being (Nicolini & Cude, 2021). Financial literacy can also be defined as individuals' financial mastery, consisting of financial tools and skills (Humaira & Sagoro, 2018). Augustin et al. (2020) define financial literacy as the possession of financial knowledge, the capacity to understand financial concepts, the capacity to manage one's assets and finances, and the ability to make financial decisions under specific conditions. Another definition interprets financial literacy as an understanding of financial concepts (Song et al., 2023), such as interest rates, and financial risks, expertise in financial products like insurance and mortgages, and the capacity to improve financial behavior (Raaij, 2016).

Sound financial literacy enables individuals to make sound decisions and optimize their financial management (Wahono & Pertiwi, 2020). Financial literacy is important in making financial decisions and appreciating the risks of these financial problems (Doosti & Karampour, 2017). According to Grima & Ozen (2020), financial literacy offers several benefits, such as: a) educating people about available financial services and products, b) informing people about methods to manage their critical financial matters for their retirement planning and saving, thus making them more independent and financially stable, c) enabling governments with limited public resources or tax revenues to initiate financial inclusion strategies because it is less costly to inform more financially literate public about utilizing financial services.

Humaira & Sagoro (2018) develop financial literacy indicators, which consist of financial management literacy, financial planning literacy, income and expenditure literacy, money, assets, interest rates, credit, insurance, and investment literacy.

Meanwhile, the Australian Securities and Investment Commission uses financial literacy benchmarks, consisting of knowledge of item values, scale priority, budget and savings, financial management, credit management, insurance, risk protection, investment, retirement planning, expense utilization, and additional guidance on identifying potential conflicts over utility (priority) (Sari & Santoso, 2021).

The OECD identifies three elements used to measure financial literacy (Nicolini & Cude, 2021):

1. Financial knowledge/financial literacy,

   Nicolini & Cude (2021) define financial literacy as financial knowledge, including budgeting, saving, borrowing, and investments. According to Keller & Staelin (1987) financial knowledge can be obtained from formal and non-formal education, such as seminars, schools, training, parents, friends, coworkers, and life experiences (Arifin et al., 2017).

2. Financial attitudes related to financial literacy

   Financial attitudes are supported by positive thoughts, opinions, and judgments about one's economic beliefs (Pangestu & Karnadi, 2020). Financial attitudes refer to general attitudes towards money and finance (Alexandra et al., 2017). Further, according to Alexandra et al. (2017), financial attitudes describe individuals' evaluation and responses to money and financial problems based on their personality due to social expectations, demographic factors, economic conditions, and educational background. Financial attitudes also include the application of financial principles to create and preserve values through sound decision making and resource management (Humaira & Sagoro, 2018).

3. Financial behavior related to financial literacy

   Financial behavior explains how cognitive and affective processes influence the decisions individuals make regarding their finances. In this respect, a set of information, including objective and subjective factors, affects individuals' financial decisions and judgment (Baker et al., 2017). The psychological perspective defines financial behavior as individual behavior in managing finances and individual habits (Humaira & Sagoro, 2018). Financial behavior can be influenced by the degree to which individuals desire to meet their needs, and is directly proportional to the results (Firlianti et al., 2023). Financial behavior can also be driven by the need to consume due to product obsolescence or changes in socioeconomic factors (Carlsson & Tommy, 2019). According to Arofah et al. (2018), financial behavior is affected by several individual factors, including self-esteem, motivation, learning, personality, and self-concept. Additionally, external factors such as culture, social class, and groups, as well as

references and families, are also instrumental in explaining financial behavior. According to Moenjak et al. (2020), the financial behavior approach can be measured through financial products, budgeting, financial planning, saving, and spending behavior. Individuals with sound financial behavior are accustomed to using their money effectively, wisely, and responsibly, such as preparing budgets, managing finances, saving, investing, and paying debts on time. Meanwhile, failure to manage individual finances effectively can lead to dire long-term consequences (Sari & Santoso, 2021). Widyastuti et al. (2020) suggest that financial behavior can be observed through several habits, including saving behavior, shopping behavior, and short-term financial management behavior. Humaira & Sagoro (2018) develop financial behavior indicators that include various forms of financial planning and budgeting, methods for preparing budgets, and monitoring, managing, and evaluating financial management.

Materialism (Mat)

Materialism is the comprehension of a collective of individuals who seek to ascertain the value of an object about its intrinsic nature and quality (Lopez, 2023). Materialistic individuals associate possession with the search for dignity and social status (Doosti & Karampour, 2017). Arofah et al. (2018) define materialism as a character that considers the possession of an object (product) critical in demonstrating one's status. Materialism also refers to individuals' lifestyle in consuming high-quality or value products or obtaining happiness (the Acquisitions or Pursuit of Happiness), which views materialism as something important in achieving life satisfaction and prosperity. It assumes that possession determines success (Possession-defined Success), implying that one's success is determined by the amount and quality of assets owned by this individual (Wahono & Pertiwi, 2020). Arofah et al. (2018) and Oliveira (2020) identify the dimensions of materialism measurement as materialism of success, materialism of centrality, and materialism of happiness.

Risk Perception (RPe)

Risk perception is the subjective component of the decision-making process used by individuals when evaluating risk and uncertainty levels. Perceived risk encompasses both objective and subjective factors that influence how individuals assess various financial services and products (Baker et al., 2017). Risk perception is a cognitive process that describes and assesses the possibilities and potential consequences of imagined scenarios (Neri, 2021). Risk perception is a subjective assessment of financial and other decisions related to risk behavior (Doosti & Karampour, 2017). In addition, according to Kartawinata et al. (2020), it can be concluded that risk perception refers to individuals' subjective assessment of the possibility of an event, as well as their concern about the consequences after

experiencing the benefits of the services used. Perceived risk refers to the degree to which individuals are inclined to spend money, considering the potential discrepancies between a product's or service's actual performance and its promised outcomes, the consequences of delays, lost opportunities, as well as social and psychological risks, such as emotions of guilt associated with purchasing decisions (Sarawatari et al., 2021).

Indebtedness/debt (I)

The Major Indonesian Dictionary defines indebtedness as money borrowed from other persons, and the obligation to repay what has been received. Indebtedness can also be defined as the amount of outstanding loans and non-share securities (Cuerpo et al., 2013). According to Carlsson & Tommy (2019), indebtedness increases financial risks for individuals and is a threat to financial stability. Indebtedness becomes increasingly serious when individuals fail to deal with increasingly accumulated debts (Abdullah, 2019). Accumulated debt will arguably lead to financial problems, such as difficulties in debt payment and supporting living expenses, which will eventually result in heavy financial burdens (Leandro & Botelho, 2022). According to Doosti & Karampour (2017), there are three reasons for heavily indebtedness individuals: a) low income that cannot cover essential needs, b) high income accompanied by high material desires, and c) low propensity to save. This study refers to Oliveira (2020) in adopting the moral impact, preference over time, and degree of self-control mechanisms to operationalize indebtedness.

Millennials' Financial Profiles

American scientists have identified four stages of generational development: "High" (Baby Boomers), "Awakening" (Generation X), "Decomposition" (Generation Y), and "Crisis" (Generation Z) (Karashchuk et al., 2020). There is no defined range of birth years delineating the distinctions in generational developmental stages (Cwynar, 2020). According to Budiati et al. (2018) individuals born within a 20-year span who possess a common social and historical perspective are classified as belonging to the same generation. According to Hidayatullah et al. (2018) and Rudiwantoro (2018), millennials are the generation born between 1980 and 2000, a period marked by significant technological advancements. The Millennial Generation is the cohort that arose during the apex of human emphasis on individual ideals. Derived from the theory of Howe and Strauss, the millennial generation is characterized by its role as agents of change, a strong sense of morality and responsibility, optimism, sociability, elevated self-confidence, a preference for diversity, adaptable thinking, naivety, compliance, an emphasis on achievement and immediate gratification, a commitment to fashion and brand consciousness, and a high degree of technological proficiency (Melnic, 2022). Cwynar (2020) identifies that the millennial generation exhibits poorer financial conditions than the non-millennial generations due to insufficient financial literacy.

A consequence of inadequate financial literacy, in addition to ineffective

financial planning, is the incapacity to comprehend and navigate our financial future during periods of rapid change, necessitating individuals to assume an active role in their future well-being (Couyoumjian, 2021). Educating individuals to exercise prudence in decision-making will help them circumvent numerous financial problems (Carlsson & Tommy, 2019). Poor financial literacy is associated with higher debt burdens, greater costs, probable loan defaults, and loan arrears (French & Mckillop, 2016). Artavanis & Karra (2020) suggest that poor financial literacy could leave individuals more susceptible to the future value of money, potentially jeopardizing their creditworthiness. Wahono & Pertiwi (2020) and Waqas & Siddiqui (2021) conclude that debt levels are negatively associated with financial literacy, with better (poorer) financial literacy reducing (increasing) debt levels. Nevertheless, Irdawati et al. (2022) and Setyorini et al. (2021) demonstrate that better financial literacy is associated with higher debt levels. Thus, the following hypothesis is made:

H1: Financial literacy negatively affects indebtedness.

Materialism is the understanding of a group of individuals who seek to ascertain the value of an object about its inherent nature and quality (Lopez, 2023). Materialism is closely related to the rise of a culture that instills in individuals the aspiration to acquire goods or services that confer status and power, thereafter exhibiting these to the public as a means of satisfying personal desires for pleasure (Sandi et al., 2020).

The degree of personal debt is significantly influenced by materialism, as transactions no longer necessitate a specific time for shopping to satisfy consumer desires (Oliveira, 2020). Materialistic attitudes are significantly associated with the level of indebtedness (Rahman et al., 2020; Widjaja & Pertiwi, 2021). More materialistic individuals likely make more impulsive purchasing decisions, leading to greater indebtedness and less enjoyment acquired from their possessions (Iswariyadi et al., 2023; Mitta & Pamungkas, 2022; Wahono & Pertiwi, 2020; Waqas & Siddiqui, 2021). In a similar vein, Oliveira (2020) documents that materialism affects the amount of accumulated debt because it motivates individuals to organize and prioritize values differently when paying for goods and services. Thus, the following hypothesis is made:

H2: Materialism positively affects indebtedness.

Risk perception is the purely subjective aspect of the decision-making process that people use when assessing risk and the degree of uncertainty associated with it. Perceived risk is influenced by both objective and subjective factors, affecting individuals' assessment of various financial services and products (Baker et al., 2017). Individuals' decisions to incur debt can be affected by their risk perception of failing

to meet future financial obligations, as well as the advantages and disadvantages associated with the decision to incur debt and withhold future income (Oliveira, 2020).

Risk perception negatively affects indebtedness (Dewi et al., 2022; Mitta & Pamungkas, 2022; Rahman et al., 2020). Juita et al. (2020) and Oliveira (2020) indicate that individuals with greater risk perception are less consumptive and indebted. Similarly, Waqas & Siddiqui (2021) reveal an association between risk perception and indebtedness because greater risks raise concerns in decision-making and considerations related to indebtedness. Thus, the following hypothesis is made:

H3: Risk perception negatively affects indebtedness.

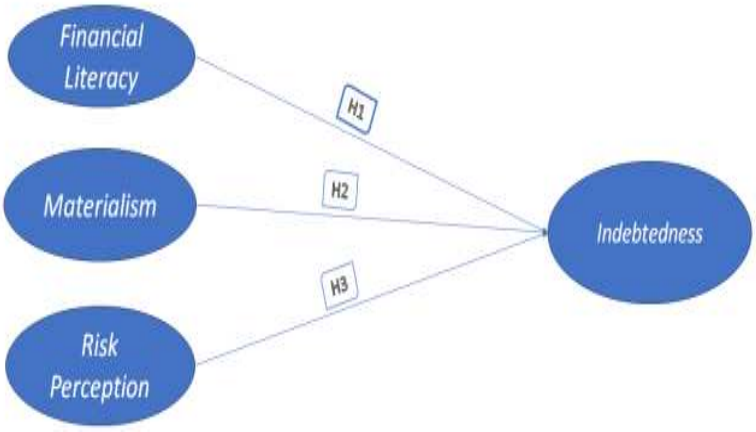

Figure 1
Research Framework

RESEARCH METHODS

This study falls under the category of causative research, which seeks to investigate the effects of independent variables on the dependent variable. Our dependent variable is debt, while the independent variables are financial literacy, materialism, and risk perception. We distribute the questionnaires via Google Forms to the millennial generation (those born between 1980 and 2000) using a non-probability sampling technique (purposive sampling). More specifically, the criteria for selecting the sample are individuals aged 23-43 years old in 2023, who are indebted and reside in Jakarta. The December 2022 Fintech Lending Statistics indicate that Jakarta is the region with the largest nominal loans.

The SEM-PLS test will involve multiple data processing tests as indicated by the standardized loading factor in the individual item reliability test. The strength of the correlation between each measurement item (indicator) and the concept is represented by the standardized loading factor. The optimal loading factor value is 0.7; thus, the indicator is deemed acceptable for measuring the construct it represents when the loading factor reaches 0.7. Results ranging from 0.70 to 0.95 indicate a

"satisfactory to good" level of reliability, while values between 0.60 and 0.70 are deemed "acceptable in exploratory research." This figure represents the ratio of constructs that can sufficiently elucidate the variations in the indicators.

The subsequent phase involves assessing internal consistency reliability using Cronbach's alpha and Composite Reliability (CR) values, after evaluating individual item reliability based on standardized loading factor values. Composite Reliability (CR) is more successful than Cronbach's alpha in assessing internal consistency in SEM, as it does not presume uniformity across all indicators. In comparison to Composite Reliability (CR), Cronbach's alpha generally yields a lower estimate of construct reliability. The interpretation of Composite Reliability (CR) parallels that of Cronbach's Alpha. Cronbach's alpha must exceed 0.6 to 0.7 (Hair et al., 2019).

The Average Variance Extracted (AVE) serves as an additional measure of convergent validity. The extent of variance or diversity of manifest variables associated with a latent construct is characterized by the Average variation Extracted (AVE). More varied or diverse manifest variables represent latent constructs more accurately.

Fornell and Larcker propose Average Variance Extracted (AVE) as a standard for assessing convergent validity. An AVE value of at least 0.5 indicates a substantial level of convergent validity. Consequently, latent variables can generally account for over fifty percent of the variance in the indicators. The ratio of the sum of the squared loading factors and the error produces the AVE value.

The AVE measure yields more conservative results than the Composite Reliability (CR) measure in evaluating the reliability of the latent variable's component score. The AVE value will equal the average block communalities value if all indicators are standardized.

Cross-loading is employed to evaluate the discriminant validity of the reflective model, followed by a comparison of the AVE value to the square of the correlation between the constructs (or to the correlation between the constructs and the square root of the AVE). The measurement of cross-loading is conducted by comparing the correlation between indicators and their respective constructs, as well as the correlations between the constructs of other blocks. The construct is purported to predict the size of one block compared to another if the correlation between the indicator and the construct exceeds the correlation with the other block constructions. A further indicator of discriminant validity is that the Average Variance Extracted (AVE) value must exceed the square of the correlation between constructs, or that the square root of the AVE must exceed the correlation between constructions and other constructs.

The R^2 criterion categorizes R^2 values of 0.67, 0.33, and 0.19 as substantial, moderate, and weak, respectively, in evaluating the structural model (Hair et al., 2019). The value obtained from the output of the path coefficients after bootstrapping

underpins the hypothesis testing. The relationship between the variables in each hypothesis must be reinforced using a significance test to ascertain the most suitable hypothesis for the research findings.

The essential criterion for validating a research hypothesis in this study is twofold. First, the coefficient or direction of the variable relationship, as indicated by the original sample value, must align with the hypothesis. Second, the t-statistic must exceed 1.64 (for two-tailed tests) or 1.96 (for one-tailed tests), and the probability value (p-value) must be below 0.05 or 5 percent (Hair et al., 2019).

RESULT AND DISCUSSIONS

Our respondents are the indebted millennial generation – those who were born between 1980 and 2000. We categorize the respondents based on gender, education, occupation, percentage of savings, and reasons for indebtedness. Constructs can be considered valid and reliable if the loading factor values for each variable exceed 0.60. The loading factor values in this analysis predominantly exceeded 0.60. Any value below 0.6 will be eliminated. The structural model will subsequently undergo validity and reliability testing to draw a conclusion.

Table 1
Construct Reliability and Validity

	Cronbach's alpha	***Composite Reliability* (rho_a)**	***Composite Reliability* (rho_c)**	**Average variance extracted (AVE)**
FLi	0.867	0.883	0.895	0.550
I	0.871	0.877	0.908	0.664
Mat	0.899	0.904	0.918	0.555
Rpe	0.572	0.580	0.780	0.545

Validity is evaluated to evaluate the extent to which indicators of a construct converge, hence clarifying item variance. Validity is evaluated by examining the average variance extracted (AVE) among indicators linked to a particular construct. AVE denotes the average of the squared loadings of all indicators related to a particular construct. An acceptable Average Variance Extracted (AVE) is 0.50 or above. A level at or above this threshold indicates that the concept, on average, constitutes 50 percent or more of the variance in its indicators (Hair et al., 2019). This study seeks to exceed the average variances extracted (AVEs) for financial literacy (FLi=0.550), indebtedness (I=0.664), materialism (Mat=0.555), and risk perception (RPe=0.545). To fulfill the criteria for convergent validity and ascertain the research's validity. By adjusting the error rate, the AVE value seeks to measure the degree of variance of a construct component based on its indicators. This study demonstrates robust discriminant validity. This measurement evaluates the precision and suitability of a reflective indicator as a construct measurement, as indicated by the "AVE root value > Correlation between constructs."

For a reliability test, Cronbach's alpha and composite reliability values should exceed 0.6. Our findings from Cronbach's alpha indicate that only three of the four variables are considered acceptable: Financial Literacy (α = 0.867), Indebtedness (α = 0.871), and Materialism (α = 0.899). Risk perception, with a reliability coefficient of 0.572, lacks satisfactory reliability, as it falls below 0.6. This study identified the following components that met the reliability test criteria in the context of CR: Financial Literacy (α = 0.895), Indebtedness (α = 0.908), Materialism (α = 0.918), and Risk Perception (α = 0.780).

The R^2 represents the coefficient of determination, with values of 0.67, 0.33, and 0.19 classified as substantial, moderate, and weak, respectively, in evaluating the structural model (Hair et al., 2019). The R^2 score for the Indebtedness variable is 0.426. The results demonstrate that several factors related to Financial Literacy, Materialism, and Risk Perception account for 42.6 percent of the Indebtedness variable. The Indebtedness variable is moderate, suggesting that this study model possesses a robust predictive capacity, as it falls within the R^2 value range of 0.33 to 0.67.

We utilize the Q^2 calculation to determine the overall coefficient of the structural model for this study. The Q^2 levels are classified as 0.02 for weak, 0.15 for moderate, and 0.35 for substantial. The results indicate that Financial Literacy, Materialism, and Risk Perception significantly affect the Indebtedness variable, with a coefficient of 0.393, underscoring the importance of the construct model. The exogenous factors accurately predict the endogenous variables.

Table 2
Respondents' Demographic Characteristics

Demographics	N	Percentage
Gender		
a. Male	107	56.32%
b. Female	83	43.68%
Educational Background		
a. Senior High School	24	12.63%
b. Diploma	12	6.32%
c. Bachelor	139	73.16%
d. Master	13	6.84%
e. Post-Graduate	1	0.53%
f. Other	1	0.53%
Occupation		
a. Civil Servants/SOE Employees	18	9.47%
b. Private Firm Employees	136	71.58%
c. Business Owners	12	6.32%
d. Other	24	12.63%
Saving Percentage		
a) 0% -0.99%	28	14.74%
b) 1% -19.99%	84	44.21%
c) 20% -39.99%	66	34.74%
d) 40%-100%	12	6.32%
Debt Objective		
a) Granting of Wishes	26	13.68%
b) Long-Term Goals	23	12.11%
c) Short-Term Goals	61	32.11%

d)	Urgent Need	60	31.58%
e)	Build a Business	20	10.53%

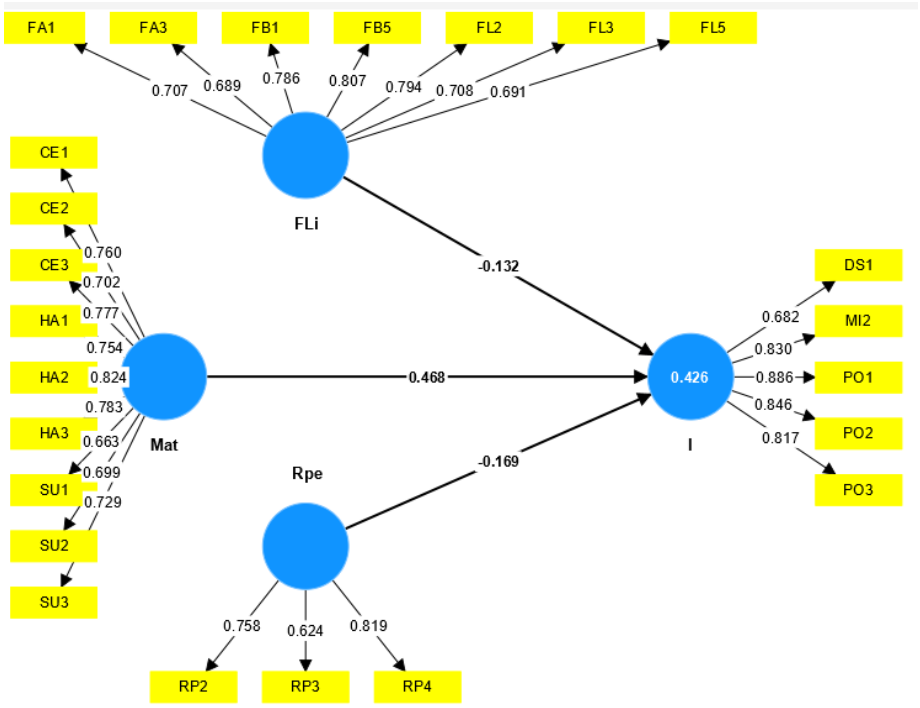

Figure 2
Data Processing Result

Table 3
Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
FLi → I	-0.132	-0.138	0.067	1.977	0.048
Mat → I	0.468	0.467	0.073	6.45	0
Rpe → I	-0.169	-0.175	0.073	2.312	0.021

A significance test is necessary to assess the relationships between the variables in each hypothesis. The general guidelines to empirically support each research hypothesis are as follows. First, the coefficient or direction of the variable relationship, as indicated by the original sample value, aligns with the hypothesis. Second, the t-statistic exceeds 1.64 (two-tailed) or 1.96 (one-tailed), and the probability value (p-value) is below 0.05 or 5 percent. Third, the original sample value is consistent with the hypothesis (Hair et al., 2019). This research reveals a negative correlation between financial literacy and risk perception regarding debt, with coefficients of -0.132 and -0.169 for the original sample. Conversely, materialism has a positive effect on indebtedness, with a substantial coefficient of 0.468 for the original sample.

Table 4
Hypothesis Testing Results

	Hypothesis Statement	T-Values	P-Values	Explanation
H1	Financial literacy negatively affects indebtedness	1.977	0.048	Hypothesis Supported
H2	Materialism positively affects indebtedness	6.45	0.00	Hypothesis Supported
H3	Risk perception negatively affects indebtedness	2.312	0.021	Hypothesis Supported

The data support the hypothesis, as evidenced by the hypothesis test in Table 2 above, where several data points have a t-value greater than 1.96 and a p-value less than 0.05. The accepted hypotheses H1, H2, and H3 support the proposed research hypotheses.

The first hypothesis predicting that financial literacy (FLi) negatively affects (I) among the millennial generation is empirically supported. The results show that individuals with better financial literacy tend to be less indebted. Our descriptive statistics reveal that our respondents are predominantly male and demonstrate the ability to manage their finances effectively, preventing shortages, and exhibit a reluctance to lend their income to friends or family. Conversely, the effect of financial literacy on debt may stem from the mentality that "it is better to buy something on credit than to save beforehand," wherein the incurred credit is still assessed against the total debt to evaluate repayment capacity.

Moreover, based on the notion of planned behavior, one might infer a person's purpose to incur debt. This idea encompasses three distinct domains. One aspect refers to the individual's disposition, specifically illustrated by the financial literacy variable, wherein respondents demonstrate a conscientious approach to expenditures, aiming to fulfill obligations or installments punctually and avoid interest. These results are consistent with Wahono & Pertiwi (2020) and Waqas & Siddiqui (2021) who document that individuals with better (poorer) financial literacy (FLi) are less (more) indebted. Individuals with poorer (better) financial literacy are more (less) vulnerable to the future value of money (Artavanis & Karra, 2020). Consequently, more financially literate individuals are more cautious in borrowing money because they must be able to generate a future money value greater than the present value of the money they borrow. Hence, they are more considerate and cautious when spending their money (Moenjak et al., 2020).

Furthermore, the second test reveals that materialism (Mat) positively affects the millennial generation’s level of indebtedness. More materialistic individuals tend to be more indebted because they experience increased happiness when they can acquire more possessions. Moreover, the discomfort experienced from being unable to purchase desired items demonstrates that materialism can induce impulsive actions,

where the way individuals arrange and prioritize values when acquiring goods or services exacerbates indebtedness. A defining characteristic of the millennial generation is their consumptive behavior, which manifests as an insatiable desire to satisfy all wants, often disregarding notions of sufficiency and gratitude for existing possessions, thereby leading to debt as a means of problem-solving. Moreover, the mentality that justifies incurring debt exacerbates individuals' future financial burden, as they must repay accumulated loans in addition to living expenses. Respondents' emphasis on the aspiration to please others serves as a valid, albeit weak, benchmark, which is connected to the notion of planned conduct in relation to subjective norms. The second assertion in this research hypothesis posits that an individual's materialistic value correlates positively with the degree of indebtedness (I) (Oliveira, 2020; Rahman et al., 2020; Widjaja & Pertiwi, 2021).

Further findings demonstrate a negative association between risk perception and the level of indebtedness among the millennial generation. The millennial generation participating in this survey consistently compares prices before shopping and seeks to save when purchasing somewhat expensive products. Individuals' risk perception generates apprehension regarding the risks associated with obtaining loans (Neri, 2021) and minimizes potential unforeseen risks. Our findings are supported by the theory of planned behavior, particularly regarding perceived behavioral control, which suggests that the millennial generation, predominantly male, is motivated by a sense of concern to establish emergency funds for unforeseen events such as illness and job loss. Our results are consistent with those of Juita et al. (2020) and Oliveira (2020) who observe that individuals with higher risk perception exhibit lower consumeristic attitudes and lower indebtedness levels.

CONCLUSIONS

The millennial generation comprises individuals who are all part of the workforce this year. A significant portion of this generation is engaged or has incurred debts, likely due to inadequate saving intensity or practice, rendering them unable to fulfill their present or future needs. Concerning the application of behavioral planning theory, it is anticipated that it can predict the intention to act, with this intention being shaped by attitudes toward behavior, subjective norms, and perceived behavioral control. This study indicates a significantly positive association between materialism and debt. Conversely, we demonstrate that financial literacy and risk perception negatively affect indebtedness. This research also offers empirical evidence supporting the basic assumptions of the theory of planned behavior, where individual behavior can be predicted through attitudes, adopted norms, and behavioral control.

Several theoretical implications can be drawn from this research. First, financial literacy enhances individuals' awareness of their financial management responsibilities, enabling them to make more informed decisions about their finances.

Second, individuals may have satisfaction and pride in their achievements when possessing a materialistic perspective. Nonetheless, if it gets extreme, it will incite unwarranted impulsivity. Formulating a judicious budget and embracing simplicity and minimalism are two methods to mitigate consumption. Third, effective risk perception can be cultivated through the development of critical thinking skills. It can also help individuals exercise greater caution in decision-making and be more aware of potential hazards, thereby mitigating repercussions. Lastly, indebtedness should be assumed with a comprehensive understanding of financial information; a lack of awareness may result in debt becoming a significant burden. The value of currency is ever-fluctuating.

Our results offer several practical implications for the millennial generation, the government, and financial institutions. First, stakeholders must boost the financial literacy programs because financial literacy reduces indebtedness. In this respect, practical financial education needs to be expanded among millennials, especially in areas such as debt management, budgeting, financial control, and financial risk management. Better financial literacy also enables individuals to understand financial products and the time value of money, making them more cautious in managing their finances and making debt decisions. Second, the significant of risk awareness campaigns and high-risk perception in reducing debt behavior highlights the necessity for debt risk awareness initiatives, particularly via platforms favored by millennials, such as social media, webinars, and digital financial applications. Third, the psychological perspective on materialism indicates that it fosters debt; therefore, financial education must be reformed to not only impart knowledge but also to shift spending patterns towards more productive and financially sound practices. Fourth, the government can refer our findings to develop policies that restrict the promotion of consumer debt and endorse legislation that enhances consumer protection from debt traps, particularly for the younger generation.

This study is subject to several caveats that limit its generalizability. First, although numerous factors likely affect indebtedness, we focus only on three variables: materialism, financial literacy, and risk perception. Second, this study does not further disaggregate the millennial generation into sub-generations. Third, our sample size may be less representative of the overall millennial generation.

Accordingly, we advise future studies to include other relevant and indebtedness-predictive variables to document better factors affecting indebtedness. These factors include contextual and situational variables, such as economic and political conditions. Future studies can also expand the demographic background of respondents and analyze further details of the respondents' demographic characteristics and loan or spending behavior.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alexandra, L., Erzsébet, N., & Boglárka, Z. (2017). Financial personality types and attitudes that affect financial indebtedness. *International Journal of Social Science and Economic Research*, *02*(09), 4687–4704.

Arifin, A. Z., Kevin, & Siswanto, H. P. (2017). the Influence of financial knowledge, financial confidence, and income on financial behavior among the workforce in Jakarta. *Jurnal Ilmiah Manajemen*, *VII*(1), 37–47. https://doi.org/10.22441/jurnal_mix

Arofah, A. A., Purwaningsih, Y., & Indriayu, M. (2018). Financial literacy, materialism and financial behavior. *International Journal of Multicultural and Multireligious Understanding*, *5*(4), 370–378. https://doi.org/10.18415/ijmmu.v5i4.171

Artavanis, N., & Karra, S. (2020). Financial literacy and student debt. *European Journal of Finance*, *26*(4–5), 382–401. https://doi.org/10.1080/1351847X.2019.1711435

Augustin, J., Worokinasih, S., & Darmawan, A. (2020). Peran mediasi financial behaviour pada financial literacy terhadap firm performance. *Profit*, *14*(2), 92–103. https://doi.org/10.21776/ub.profit.2020.014.02.11

Baker, K., Filbeck, G., & Ricciardi, V. (2017). *Financial behavior: Players, services, products, and markets* (Financial). Oxford University Press.

Budiati, I., Susianto, Y., Adi, W. P., Ayuni, S., Reagan, H. A., Larasaty, P., Setiyawati, N., Pratiwi, A. I., & Saputri, V. G. (2018). *Profil Generasi Milenial Indonesia*. www.freepik.com

Carlsson, J., & Tommy, H. (2019). *Indebtedness in early adulthood*. Springer Nature. https://doi.org/10.1007/978-3-030-13996-4

Couyoumjian, C. (2021). *Redefining financial literacy: Unlocking the hidden forces of your financial future*. Greenleaf Book Group Press.

Cuerpo, C., Drumond, I., Lendvai, J., Pontuch, P., & Raciborski, R. (2013). *Indebtedness, deleveraging dynamics and macroeconomic adjustment* (Issue April). Publications Office of the European Union. https://doi.org/10.2765/3941

Cwynar, A. (2020). Financial literacy, behaviour and well-being of millennials in Poland compared to previous generations: The insights from three large-scale surveys. *Review of Economic Perspectives*, *20*(3), 289–335.

https://doi.org/10.2478/revecp-2020-0015

Dewi, N. P. A. T., Yadadnyana, I. K., Yasa, G. W., & Wijaya, I. G. A. (2022). *Faktor-faktor yang mempengaruhi penggunaan fintech*. *11*(05), 557–568. https://doi.org/10.24843/eeb.2022.v11.i05.p05

Doosti, B. A., & Karampour, A. (2017). The impact of behavioral factors on propensity toward indebtedness case study: Indebted customers of Maskan Bank, Tehran Province (Geographic regions: East). *Journal of Advances in Computer Engineering and Technology*, *3*(3), 145 – 152.

Dusia, S. L., Setyabudhi, K. N., & Malelak, M. I. (2023). *The effect of debt attitude and peer influence on debt behavior*. *4*(4), 463–479. https://doi.org/https://doi.org/10.35912/ijfam.v4i4.1457

Firlianti, Jasman, J., & Asriany. (2023). The influence of financial technology (Fintech), financial attitudes and financial knowledge on the financial behavior of the Millenial generation. *Management Studies and Entrepreneurship Journal*, *4*(3), 1882–1891.

French, D., & Mckillop, D. (2016). International review of financial analysis financial literacy and over-indebtedness in low-income households. *International Review of Financial Analysis*, *48*, 1–11. https://doi.org/https://doi.org/10.1016/j.irfa.2016.08.004

Grima, S., & Ozen, E. (2020). *Uncertainty and challenges in contemporary economic behaviour*. Emerald Publishing Limited. https://doi.org/10.1108/9781800430952

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., Black, W. C., & Anderson, R. E. (2019). *Multivariate data analysis*. Cengage. https://doi.org/10.1002/9781119409137.ch4

Hidayatullah, S., Waris, A., & Devianti, R. C. (2018). Perilaku generasi milenial dalam menggunakan aplikasi Go-Food. *Jurnal Manajemen dan Kewirausahaan*, *6*(2), 240–249. https://doi.org/10.26905/jmdk.v6i2.2560

Humaira, I., & Sagoro, E. M. (2018). Pengaruh pengetahuan keuangan, sikap keuangan, dan kepribadian terhadap perilaku manajemen keuangan pada pelaku UMKM sentra kerajinan batik Kabupaten Bantul. *Nominal, Barometer Riset Akuntansi Dan Manajemen*, *7*(1), 96–110. https://doi.org/10.21831/nominal.v7i1.19363

Irdawati, I., Laba, A. R., Amar, M. Y., & Rahim, F. R. (2022). Financial literacy, financial technology and saving behavior. *Proceeding of The International Conference on Economics and Business*, *1*(2), 463–473. https://doi.org/10.55606/iceb.v1i2.198

Iswariyadi, A., Kurniasari, F., Tannady, H., & Kazhim, M. A. (2023). *How to improve*

the propensity to indebtedness of Shopee paylater Gen Z users? 9(1), 308–312. https://doi.org/10.37275/arkus.v9i1.295

Juita, V., Firdaus, F., & Hermanto, T. N. P. (2020). Studi prilaku pengguna layanan financial technology (fintech) di Indonesia: Analisa persepsi risiko dan manfaat. *Jurnal Inovasi Pendidikan Ekonomi (JIPE)*, *10*(2), 118. https://doi.org/10.24036/011100040

Karashchuk, O. S., Mayorova, E. A., Nikishin, A. F., & Kornilova, O. V. (2020). The method for determining time-generation range. *Sage Open*, *10*(4), 1–8. https://doi.org/10.1177/2158244020968082

Kartawinata, B. R., Pradana, M., Akbar, A., Trenggana, A. F. M., & Cahyaningrum, S. D. (2020). The effect of easy perception and risk of users of financial technology services in smes of bandung, indonesia. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *59*(2), 997–1007.

Keller, K. L., & Staelin, R. (1987). Effects of quality and quantity of information on decision effectiveness. *Journal of Consumer Research*, *14*(2), 200–213. https://doi.org/10.1086/209106

Leandro, J. C., & Botelho, D. (2022). Consumer over-indebtedness: A review and future research agenda. *Journal of Business Research*, *145*, 535–551. https://doi.org/10.1016/j.jbusres.2022.03.023

Lopez, J. C. C. (2023). *Islamization and archaeology: Religion, culture and new materialism*. Bloomsbury Publishing.

Mahyarni, M. (2013). Theory of reasoned action dan theory of planned behavior. *Jurnal EL-RIYASAH*, *4*(1), 13. https://doi.org/10.24014/jel.v4i1.17

Melnic, A. (2022). Generation theories as a way of understanding the structure of work potential. *Contemporary Economy Journal*, *7*(2), 74–79.

Mitta, D., & Pamungkas, A. S. (2022). Pengaruh financial literacy, materialism, risk perception, dan money value terhadap propensity to indebtedness. *Jurnal Manajerial Dan Kewirausahaan*, *04*(02), 339–347. https://doi.org/https://doi.org/10.24912/jmk.v4i2.18229

Moenjak, T., Kongprajya, A., & Monchaitrakul, C. (2020). Fintech, financial literacy, and consumer saving and borrowing: The case of Thailand. In *ADBI Working Paper Series* (ADBI Working Papers, Issue 1100).

Neri, H. (2021). *The risk perception of artificial intelligence*. Lexington Books. https://doi.org/10.5040/9781978733954

Nicolini, G., & Cude, B. J. (2021). The routledge handbook of financial literacy. In *The Routledge Handbook of Financial Literacy*.

https://doi.org/10.4324/9781003025221

Oliveira, S. F. de. (2020). Influência dos fatores comportamentais na propensão ao endividamento dos estudantes universitários. *Revista de Administração Da UFSM*, *13*(4), 829–849. https://doi.org/10.5902/1983465935196

Otoritas Jasa Keuangan (OJK) Indonesia. (2022). Siaran pers survei nasional literasi dan inklusi keuangan tahun 2022. In *Otoritas Jasa Keuangan (OJK)* (Issue November, pp. 10–12).

Otoritas Jasa Keuangan (OJK) Indonesia. (2023). *Statistik Fintech*. https://ojk.go.id/id/kanal/iknb/data-dan-statistik/fintech/Pages/Statistik-Fintech-Lending-Periode-Mei-2022.aspx

Pangestu, S., & Karnadi, E. B. (2020). The effects of financial literacy and materialism on the savings decision of generation Z Indonesians. *Cogent Business and Management*, *7*(1), 1743618. https://doi.org/10.1080/23311975.2020.1743618

Raaij, W. F. Van. (2016). *Understanding consumer financial behavior: Money management in an age of financial illiteracy*. Palgrave Macmillan.

Rahman, M., Azma, N., Masud, M. A. K., & Ismail, Y. (2020). Determinants of indebtedness: Influence of behavioral and demographic factors. *International Journal of Financial Studies*, *8*(1), 8. https://doi.org/10.3390/ijfs8010008

Rosa, I., & Listiadi, A. (2020). Pengaruh literasi keuangan, pendidikan keuangan di keluarga, teman sebaya, dan kontrol diri terhadap manajemen keuangan pribadi. *Jurnal Manajemen*, *12*(2), 244–252.

Rudiwantoro, A. (2018). Langkah penting generasi millennial menuju kebebasan finansial melalui investasi. *Jurnal Moneter*, *V*(1), 44–51.

Sandi, K., Worokinasih, S., & Darmawan, A. (2020). Pengaruh financial knowledge dan financial attitude terhadap financial behavior pada youth entrepreneur Kota Malang. *Profit: Jurnal Administrasi Bisnis*, Special Issue (Ekosistem Start Up). 140–150.

Sarawatari, Y. A., Hasan, A., & Ivalaili, I. (2021). Pengaruh persepsi risiko, ekspektasi return, behavioral motivation dan kemajuan teknologi terhadap keputusan investasi di peer to peer lending syariah. *Jurnal Ekonomi Dan Bisnis Islam*, *8*(2), 1–23.

Sari, E. P., & Santoso, A. (2021). The role of financial literacy as one of the influences of financial behavior. *Jurnal Manajemen*, *25*(3), 415–430. https://doi.org/10.24912/jm.v25i3.758

Selvaraja, M., & Abdullah, D. A. (2019). Psychological factors effects on Propensity towards Indebtedness by applying the behavioural economic theory: Evidence in Malaysia. *International Journal of Recent Technology and Engineering*

(IJRTE), *8*(4), 11824–11830. https://doi.org/10.35940/ijrte.d9436.118419

Setiawan, A., Djajadikerta, H., Haryanto, H., & Wirawan, S. (2021). Theory of reasoned action dan literasi teknologi terhadap adaptasi perubahan teknologi. *Jurnal Sistem Informasi Bisnis*, *11*(1), 51–61. https://doi.org/10.21456/vol11iss1pp51-61

Setyorini, R., Wijayangka, C., Haikal, F., & Nugraha, N. (2021). The relationship between financial literation towards users of loan transacted applications in the Millennial generation. *Jurnal Manajemen Indonesia*, *21*(3), 238–245. https://doi.org/10.25124/jmi.v21i3.3571

Song, C. L., Pan, D., Ayub, A., & Cai, B. (2023). The interplay between financial literacy, financial risk tolerance, and financial behaviour: The moderator effect of emotional intelligence. *Psychology Research and Behavior Management*, *16*, 535–548. https://doi.org/10.2147/PRBM.S398450

Wahono, H. K., & Pertiwi, D. (2020). Pengaruh financial literacy, materialism, compulsive buying terhadap propensity to indebtedness. *International Journal of Financial and Investment Studies (IJFIS)*, *1*(1), 1–14. https://doi.org/10.9744/ijfis.1.1.1-14

Waqas, M., & Siddiqui, D. A. (2021). Does materialism, emotions, risk and financial literacy affects the propensity for indebtedness in Pakistan: The complementary role of hedonism and demographics. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3942317

Widjaja, R., & Pertiwi, D. (2021). the Influence of emotional factors, materialism, risk perception, and financial literacy on the tendency of debt of millennial generation in Surabaya. *International Journal of Financial and Investment Studies (IJFIS)*, *1*(2), 85–93. https://doi.org/10.9744/ijfis.1.2.85-93

Widyakto, A., Liyana, Z. W., & Rinawati, T. (2022). The influence of financial literacy, financial attitudes, and lifestyle on financial behavior. *Diponegoro International Journal of Business*, *5*(1), 33–46. https://doi.org/10.14710/dijb.5.1.2022.33-46

Widyastuti, U., Sumiati, A., Herlitah, & Melati, I. S. (2020). Financial education, financial literacy, and financial Behaviour: What does really matter? *Management Science Letters*, *10*(12), 2715–2720. https://doi.org/10.5267/j.msl.2020.4.039

Yushita, A. N. (2017). Pentingnya literasi keuangan bagi pengelolaan keuangan pribadi. *Nominal*, *VI*(1), 11–26. https://doi.org/https://doi.org/10.21831/nominal.v6i1.14330