

Financial Distress Model Among Muslim Millennials : The Moderation Role of Gender

Deiana Suherlan¹, Ira Novianto^{2*}, Mochamad Edman Syarief³, Dwi Suhartanto⁴, Gundur Leo⁵
^{1,2,3,4}Politeknik Negeri Bandung

Jl. Gegerkalong Hilir, Ds. Ciwaruga, Bandung

ira.novianty@polban.ac.id

Abstract– Worries related to financial problems often cause sufferers to experience stress. Stress due to a series of financial problems has increased public awareness of the importance of avoiding personal financial distress. This creates opportunities for unique business development, which can contribute to understanding strategies for strengthening wise management of personal finances. This research aims to provide an understanding of the formation of factors that influence personal financial distress and examine the moderating role of gender. Data was collected through an online questionnaire from 352 Muslim millennials who live in the most populous province in Indonesia, namely West Java. Through the use of PLS for data analysis, this research reveals that religiosity, financial literacy which includes financial knowledge and behavior have a significant effect on personal financial distress. Furthermore, this research shows that gender does not moderate the relationship between religiosity and financial literacy on personal financial distress. These findings provide guidance for financial organizations, governments and educational institutions to jointly improve educational programs that support integrated religious and financial education activities, so that they can contribute to helping society improve their financial management wisely in accordance with sharia principles, and at the same time, contributing to reducing the impact of financial distress.

Keywords - *financial distress, religiosity, Islamic financial literacy, millennials*

I. INTRODUCTION

The issue of personal financial distress is important because of several things, including relating to mental health, physical health, relationship with partner, productivity and financial stability. Financial problems can have a significant impact on mental health [1]. When it comes to relationships with partners, money is often cited as the most common issue couples argue about. Financial stress can cause anger, and strain relationships, even the strongest relationships [1], [2]. For this reason, these things will also be related to physical health where financial stress has been linked to various physical health conditions such as heart disease, diabetes, migraines and sleep problems [3]. This condition can cause serious and costly medical problems, which can further exacerbate financial worries and instability. Personal financial distress is a disturbing situation, because the impact is not only on individuals, but also causes enormous losses to the entire financial system [4]. Therefore, understanding and dealing with personal financial distress is critical to individual well-being, relationships, and overall quality of life. Personal financial distress can cause various negative consequences, such as debt, bankruptcy and decreased quality of life. It is important for individuals to manage their finances effectively to avoid financial distress and maintain financial stability [5].

Each individual who experiences financial distress can be caused by different factors. Lajuni et al., (2018) revealed that religiosity is a source of individual variation that contributes to financial distress. Religiosity positions religion not only as an identity but more than that as a person's level of obedience and belief in determining a series of behaviors and lifestyles [6]. Meanwhile [7] shows that individuals who are financially literate are less likely to experience financial distress. Challenges faced by millennials as the "sandwich generation" or double financial burden (having to provide financial support for parents who have retired as well as for themselves), such as the demand to have children's savings, emergency fund savings, credit and risk management, retirement plans, property management and so on means that knowledge in managing personal finances is very important. Financial difficulties can also affect individuals regardless of gender, but there are some differences in their impact on men and women. Research shows that women are more likely to experience financial stress than men [8].

Thus, this research aims to (1) explore how religiosity and Islamic financial literacy influence personal financial distress in the millennial generation in Indonesia and (2) reveal how the differences between each gender influence the personal financial distress model. Personal financial distress is an interesting and important topic when it is related to



religiosity and Islamic financial literacy which is presented specifically for millennials. Why millennials? Millennials are a generation that is passionate about learning while working, but they also experience stress related to the need to continually update their skills and knowledge. According to the Indonesia Millennials Report, the interesting fact is that the sandwich generation (a generation of productive age who is squeezed by the financial affairs of their parents, family and themselves) is still the main challenge for the millennial generation, so this study is important to encourage the millennial generation to carry out wise financial management and avoid personal financial distress.

II. LITERATURE REVIEW

Personal Financial Distress

Personal financial distress is defined as a response and reaction to mental and/or physical discomfort that includes worry and fear over financial problems. Financial distress is a subjective phenomenon, where it is possible for individuals to have the same financial situation, but have different levels of financial stress [9]. Personal financial distress is a disturbing situation, because the impact is not only on individuals, but also causes enormous losses to the entire financial system [4]. Therefore, understanding and addressing personal financial difficulties is critical to individual well-being, relationships, and overall quality of life. Each individual who experiences financial distress can be caused by different factors.

Religiosity

Religiosity is the extent to which a person relates to his religion [10]. Religion has a great influence on human attitudes, values and behavior both at the individual. Religiosity positions religion not only as an identity but more than that as a person's level of obedience and belief in determining a series of behaviors and lifestyles [6]. By highlighting the effects of religious experiences as a buffer against stress, the findings in the study [11] complement the understanding of the complex relationship between stress, religion, and health, which is in line with the stress process model, which suggests that religious experiences function as a helpful personal resource. individuals facing financial difficulties.

H1: Religiosity negatively affects financial distress.

Financial literacy in the Muslim context

According to Lajuni et al. (2018) sharia financial literacy is a person's ability to use financial knowledge, abilities and behavior to manage their financial resources in accordance with sharia principles. Therefore, this research determines indicators of Islamic financial literacy which consist of financial knowledge, attitudes and behavior.

Financial Knowledge

Financial knowledge is defined as an adequate understanding of personal financial facts and their importance for good individual financial planning. Research finds that financial knowledge has a significant influence on personal financial difficulties [12]. This shows that having financial knowledge can help individuals overcome financial challenges and reduce their financial stress.

H2: Financial knowledge negatively affects financial distress.

Financial attitude

Financial attitude is a term used to describe a person's tendency to care about money. Financial attitude is an important factor that can influence personal financial difficulties. However, financial attitudes can still influence financial behavior and personal financial difficulties. For example, a positive financial attitude can result in better financial behavior and reduced financial hardship. Financial attitudes were also found to have an impact on financial behavioral intentions [13], a study found that perceived financial attitudes had a significant positive relationship with financial behavioral intentions. This shows that having a positive financial attitude can lead to better financial behavior and reduce financial difficulties.

H3: Financial attitude negatively affects financial distress.

Financial Behavior

Financial behavior is an important factor that can influence personal financial difficulties. A study found that financial behavior had a stronger impact on the incidence of personal financial difficulties than religiosity or financial knowledge [12]. Financial behavior is an important aspect followed by financial



literacy in ensuring the financial welfare of low-income groups [14]. Overall, financial behavior is an important factor that can influence personal financial difficulties. By improving financial behaviors, such as budgeting, saving, and investing, individuals can make better financial decisions, avoid financial mistakes, and overcome financial challenges effectively.

H4: Financial behavior negatively affects financial distress..

Moderating role of Gender

Social role theory proposes that physical differences, socialization, gender roles, and gender stereotypes cause behavioral differences between men and women [15], [16]. Gender may play a moderating role in the relationship between personal financial hardship and its various impacts. Gender gaps in objective financial knowledge and self-confidence have been observed, indicating that gender can moderate the relationship between financial knowledge, self-confidence, and various financial outcomes [17]. A study of college students examining the relationship between financial stress and general anxiety, with particular attention to the moderating role of gender, results suggest that gender can moderate the relationship between financial stress, social support, and anxiety during college [18]. A study found that women on average showed approximately greater overall debt stress scores than men [8]. A survey found that men were twice as likely as women to say they felt financially prepared for a recession [19]. Although previous studies show mixed findings, the majority of these studies highlight the role of gender moderates, where women tend to experience financial conditions as more stressful than men.

H5: The relationship between variables in the Personal Financial Distress model is stronger for women than for men

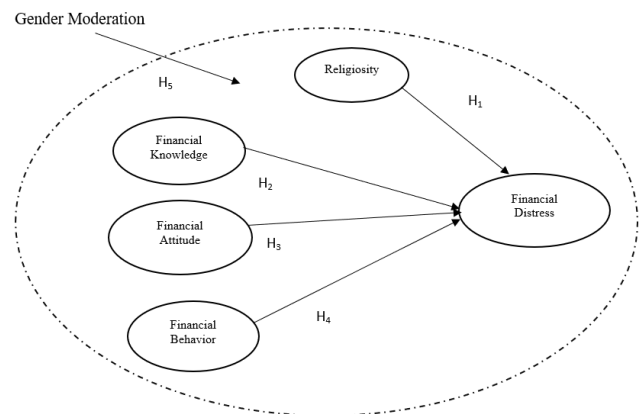


Figure 1 summarizes the hypothesized relationships of the construct variables.

III. RESEARCH METHODS

Previous research has evaluated the construct variables used in this research, the measurement of the construct variables was adopted from existing literature. Islamic financial literacy is measured using fifteen items, each consisting of financial knowledge which is measured using five items, financial behavior with seven items, financial attitude measured with three items, modified from [20]. Religiosity was measured using four items modified from [21]. Personal financial distress was measured with five items using the IFDFW (InCharge Financial Distress/Financial Well Being) scale [22]. All construct indicators are assessed using a 5-point Likert scale consisting of 1 to 5: strongly disagree to strongly agree. The questionnaire was tested on 20 young adults who were employed and had income to ensure clarity of instructions and questions. Respondents came from the millennial generation, namely those aged (27-42 years) and were individuals who worked and had an income. Data was collected from West Java Province in August 2023. Data collection uses online surveys.

Researchers used non-probability sampling techniques with convenience sampling to assess the most easily accessible data [23]. Based on the number of indicators of 24 items and the complexity of the model, this sample size is suitable for use in testing relatively simple models [24], [25]. This research uses Variance-based Partial Least Square (PLS-SEM) to estimate the proposed model formation and assess the relationship between variables. Based on these objectives, this research uses SmartPLS 4. This research evaluates measurement models to assess

construct validity and reliability, as recommended by [26].

IV. RESULT AND DISCUSSION

Table 1 exhibits the demographic profiles of the respondents.

Table 1. Demographic profile

Description		Frequency	Percentage
Gender	Male	168	48%
	Female	184	52%
Age	27-34 years	248	39%
	35-42 years	104	14%
Education	High School	25	7%
	Diploma	36	10%
	Bachelor	181	51%
	Master degree	97	28%
	Doktor	13	4%
Income/Month (IDR)	< 5 million	140	40%
	5-10 million	146	41%
	11-15 million	42	12%
	15-20 million	8	2%
	> 20 million	16	5%
Occupation	Government	123	35%
	Private	178	51%
	Company		
	State-Owned Enterprise	51	14%

The evaluation was carried out by checking the validity and reliability, measured using the loading factor, Cronbach's Alpha (CRA), composite reliability (CR), and average variance extracted (AVE). Table 2 reveals that the variable indicators have a value of > 0.6. The CR value of all variables is > 0.7 and the AVE value is > 0.5.

Table 2 . Loading, reliability, and AVE tests

Variabel/Indicators	Load ing Factor	Cronba ch's Alpha	CR	AV E
Financial Distress		0,819	0,869	0,571
Personal finance concept	0,669			
Financial satisfaction	0,739			
Financial pressure	0,812			
Financial capabilities for emergencies	0,794			
Ability to finance living from income	0,755			
Financial Knowledge		0,757	0,836	0,510
Understand the basics of financial management	0,836			

Variabel/Indicators	Load ing Factor	Cronba ch's Alpha	CR	AV E
Understand the syaria products of finance	0,667			
Understand how to prepare sharia financial budgets	0,810			
Know which expenses need to be prioritized	0,621			
Know about sharia investment risks	0,603			
Financial Behavior		0,862	0,894	0,549
Budgets are prepared periodically	0,788			
The needs are prioritized in the budgets	0,654			
Saving activities	0,757			
Prepare pension funds	0,794			
Prepare assets for future investment	0,769			
Monitoring financial management	0,642			
Evaluation of financial management	0,767			
Financial Attitude		0,601	0,786	0,555
Having a budget plan is important	0,643			
Set aside money for sharia investments	0,702			
Ability to manage investments and business	0,871			
Religiosity		0,812	0,877	0,642
Religious practices in a kaffah	0,800			
Religious knowledge	0,855			
Involvement in religious activities	0,817			
Confidence to improve faith	0,727			

Furthermore, the Heterotrait-Monotrait test results in all construct's matrix values are below 0.9, indicating that discriminant validity is satisfactory [27]. The GoF test result yields a value of 0.283, which according to [28] is categorized as medium. Furthermore, the value of R2 indicating that 34.1% of the variance of financial distress is explained by all exogen variables.

Table 3 shows the assessment of the path coefficient represented by the Beta value for each path relationship. The results, as expected, the influence of religiosity, sharia financial knowledge, and sharia financial behavior on personal financial distress is significant.



Table 3. Relationships assessment

Path (hypothesis)	β	t-Value	P-Value	Decision
Religiosity -> PFD (H1)	-0,122	2,134	0,034	Supported
Financial Knowledge -> PFD (H2)	-0,118	2,107	0,038	Supported
Financial Attitude -> PFD (H3)	-0,127	1,748	0,083	Not Supported
Financial Behavior -> PFD (H4)	-0,289	4,079	0,000	Supported

The results of this analysis (Table 4) show that the path differences between genders are not significant. Thus, the hypothesis H5 which states that the relationship between variables is stronger for women than for men, is not supported. The results are presented in Table 4.

Tabel 4. Multi-group Analysis

Hypothesis 5	β -female	β -male	Difference	P Values
Financial Knowledge -> PFD	0,241	0,047	0,195	0,053
Financial Behavior -> PFD	0,396	0,396	0,000	1,000
Religiosity -> PFD	0,128	0,268	-0,140	0,123
Financial Attitude -> PFD	0,076	0,137	-0,061	0,618

V. DISCUSSION

First, this research explains how millennials' personal financial distress is influenced by their financial literacy. The components of financial knowledge and behavior are important in influencing personal financial distress. This is in line with the study [12], [29] that found the influence of financial literacy on personal financial distress. This shows that good Islamic financial literacy can help individuals overcome financial challenges and reduce their financial distress. Second, this research shows that religiosity influences personal financial distress. The results of this study are consistent with the results of research [30] which states that there is no doubt that there is a substantial relationship between dealing with financial stress and religiosity. Specifically what needs to be paid attention to is how each individual's religious values can consciously remain positive or reframe the challenges they face to reduce financial distress. Third, the results of testing the moderating role of gender show that the relationship between religiosity and Islamic financial literacy on personal financial distress tends to be similar. It turned out that the effect of the relationship between the variables tested was not

significant based on gender, so there were no real differences between men and women [1], [31]. This notion implies the need for caution when understanding the relationship between financial worries and mental health, as there may be economic or cultural differences between countries. The most likely explanation for this finding is that Indonesian Muslim Millennials were generally educated together, giving them similar experiences in their social and educational activities, including how they deal with financial problems.

VI. RECOMMENDATION

This study highlights the importance of increasing financial literacy, so that this can help individuals avoid personal financial distress, which in turn can support economic growth. Milenials need help making wise financial decisions for the future. This research can be continued by creating programs that aim to promote financial literacy including financial knowledge and behavior in reducing the impacts that occur due to financial distress. At the same time, businesses and organizations should also play their role by carrying out not only religious activities for spiritual purposes of personal needs but also carrying out activities in the field of financial knowledge for example including finance related topics in seminars.

VII. ACKNOWLEDGMENT

Special thanks are extended to Directorate General Higher Education, Research and Technology, Ministry of Education, Culture, Research and Technology of the Republic of Indonesia to support funding for this research in 2023.

VIII. REFERENCES

- [1] S. Ryu and L. Fan, "The Relationship Between Financial Worries and Psychological Distress Among U.S. Adults," *J Fam Econ Issues*, vol. 44, no. 1, pp. 16–33, 2023, doi: 10.2307/1384375.
- [2] H. C. , Williamson, B. R. , Karney, and T. N. & Bradbury, "Financial Strain and Stressful Events Predict Newlyweds' Negative Communication Independent of Relationship Satisfaction," *J Fam Psychol*, vol. 27, no. 1, pp. 65–75, 2013, doi: 10.1037/a0031104.



- [3] P. Bialowolski, D. Weziak-Bialowolska, M. T. Lee, Y. Chen, T. J. VanderWeele, and E. McNeely, "The role of financial conditions for physical and mental health. Evidence from a longitudinal survey and insurance claims data," *Soc Sci Med*, vol. 281, p. 114041, Jul. 2021, doi: <https://doi.org/10.1016/J.SOCSCIMED.2021.114041>.
- [4] P. Hirsch, "What personal financial stress can do to the economy," *National Public Radio*, America, 2023.
- [5] P. , Bialowolski, D. Weziak-Bialowolska, and E. McNeely, "The Role of Financial Fragility and Financial Control for Well-Being," *Soc Indic Res* , vol. 155, pp. 1137–1157, 2021, doi: [10.1007/s11205-021-02627-5](https://doi.org/10.1007/s11205-021-02627-5).
- [6] O. Abdelsalam, A. Chantziras, M. Ibrahim, and K. Omoteso, "The impact of religiosity on earnings quality: International evidence from the banking sector," *The British Accounting Review*, vol. 53, no. 6, Nov. 2021, doi: [10.1016/j.bar.2020.100957](https://doi.org/10.1016/j.bar.2020.100957).
- [7] A. A.-W. , Karakara, J. Sebu, and I. Dasmani, "Financial literacy, financial distress and socioeconomic characteristics of individuals in Ghana," *African Journal of Economic and Management Studies* , vol. 13, no. 1, pp. 29–48, 2022, doi: [10.1108/AJEMS-03-2021-0101](https://doi.org/10.1108/AJEMS-03-2021-0101).
- [8] Lucia F. Dunn and Ida A. Mirzaie, "Gender Differences in Consumer Debt Stress: Impacts on Job Performance, Family Life and Health," *J Fam Econ Issues*, pp. 1–18, 2022, doi: <https://doi.org/10.1007/s10834-022-09862-z>.
- [9] B. , S. B. , P. A. , K. J. , G. T. E. O'Neill, "Financial Distress: Definition, Effects and Measurement.," *Consumer Interest*, vol. 52, pp. 489–496, 2006.
- [10] N. El-Bassiouny, M. Abou-Youssef, W. Kortam, and E. Abou-Aish, "Measuring Islamic-Driven Buyer Behavioral Implications: A Proposed Market-Minded Religiosity Scale," 2011.
- [11] J. H. Jung, "Financial Hardship, Religious Experience, and Health," *Religious Research*, vol. 64, no. 3, 2022, doi: <https://doi.org/10.1007/s13644-022-00503-3>.
- [12] N. Lajuni, I. Bujang, Abd. A. Karia, and Y. Yacob, "Religiosity, Financial Knowledge, and Financial Behavior Influence on Personal Financial Distress Among Millennial Generation.," *Jurnal Manajemen dan Kewirausahaan*, vol. 20, no. 2, Oct. 2018, doi: [10.9744/jmk.20.2.92-98](https://doi.org/10.9744/jmk.20.2.92-98).
- [13] P. A. , Sam, S. , Frimpong, and S. Kendie, "Personal finance behaviour: a reasoned action approach," *International Journal of Social Economics*, vol. 49, no. 8, pp. 1119–1131, 2022, doi: [10.1108/IJSE-02-2021-0097](https://doi.org/10.1108/IJSE-02-2021-0097).
- [14] M. , Rahman, C. R. , Isa, and M. M. et al. Masud, "The role of financial behaviour, financial literacy, and financial stress in explaining the financial well-being of B40 group in Malaysia," *Future Business*, vol. 7, no. 52, 2021, doi: <https://doi.org/10.1186/s43093-021-00099-0>.
- [15] A. H. , Eagly, "Reporting sex differences. ," *Am. Psychol*, pp. 756–757, 1987.
- [16] J. , Archer, "Sex differences in social behavior: are the social role and evolutionary explanations compatible?," *Am. Psychol.*, vol. 51, no. 9, pp. 909–917, 1996, doi: <https://psycnet.apa.org/doi/10.1037/0003-066X.51.9.909>.
- [17] D. Aristei and M. Gallo, "Assessing gender gaps in financial knowledge and self-confidence: Evidence from international data," *Financ Res Lett*, vol. 46, 2022, doi: <https://doi.org/10.1016/j.frl.2021.102200>.
- [18] A. G. T. T. , Tran, C. K. , Lam, and E. Legg, "Financial Stress, Social Supports, Gender, and Anxiety During College: A Stress-Buffering Perspective," *Couns Psychol*, vol. 46, no. 7, pp. 846–869, 2018, doi: <https://doi.org/10.1177/0011000018806687>.
- [19] Kim Elsesser, "Women's Financial Health Hits Five-Year Low, According To New Survey," *Forbes*, New York, 2022.



- [20] Y. Dinc, M. Çetin, M. Bulut, and R. Jahangir, "Islamic financial literacy scale: an amendment in the sphere of contemporary financial literacy," *ISRA International Journal of Islamic Finance*, vol. 13, no. 2, pp. 251–263, Sep. 2021, doi: 10.1108/IJIF-07-2020-0156.
- [21] R. R. , Clayton and J. W. Gladden, "The Five Dimensions of Religiosity: Toward Demythologizing a Sacred Artifact," *J Sci Study Relig*, vol. 13, pp. 135–143, 1974, doi: 10.2307/1384375.
- [22] Aimee D *et al.*, "InCharge Financial Distress/Financial Well-Being Scale: Development, Administration, and Score Interpretation," *Journal of Financial Counselling and Planning*, vol. 1714, pp. 34–50, 2014, doi: 10.1037/t60365-000.
- [23] D. Suhartanto, *Analisa Untuk Riset Bisnes: SPSS, AMOS, PLS (2nd ed.)*. . Politeknik Negeri Bandung, 2020.
- [24] J. F. , Hair, G. T. M. , Hult, C. M. , Ringle, and M. and Sarstedt, *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, 2 ed. Thousand Oaks, CA: Sage, 2017. doi: 10.1080/1743727X.2015.1005806.
- [25] M. Saunders, P. Lewis, and A. Thornhill, *Research Methods for Business Students. 8 edn*, 8th ed. Harlow: Pearson, 2019.
- [26] M. Sarstedt, J. F. Hair, C. M. Ringle, K. O. Thiele, and S. P. Gudergan, "Estimation issues with PLS and CBSEM: Where the bias lies!," *J Bus Res*, vol. 69, no. 10, pp. 3998–4010, 2016, doi: <https://doi.org/10.1016/j.jbusres.2016.06.007>.
- [27] J. , Henseler, C. M. , Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *J. Acad. Market*, vol. 43, no. 1, pp. 115–135, 2015, doi: 10.1007/s11747-014-0403-8.
- [28] M. Wetzels, G. Odekerken, and C. Van Oppen, "Using PLS Path Modeling for Assessing Hierarchical Construct Models: Guidelines and Empirical Illustration," *MIS Quarterly*, vol. 33, pp. 177–195, 2009, doi: 10.2307/20650284.
- [29] S. K. Beny and S. Puryandani, "The Effect of Financial Knowledge, Financial Behavior, and Religiosity on Personal Financial Distress in the Millennial Generation (Case Study in the Community of Semarang City)," 2020, pp. 338–340. doi: 10.2991/aebmr.k.210311.067.
- [30] J. K. Onyima and N. C. Ojiagu, "Religiosity and Financial Decisions of Young Adult Nigerians: Is the Financial Advice of religious leaders Sacrosanct?," *Journal of Economics and Sustainable Development*, vol. 8, no. 8, pp. 84–92, 2017.
- [31] Hamilton HA, Wickens CM, Lalomiteanu AR, and Mann RE., "Debt stress, psychological distress and overall health among adults in Ontario," *J Psychiatr Res*, vol. 111, pp. 89–95, 2019. doi:<https://doi.org/10.1016/j.jpsychires.2019.01.008>.

