

# Analysis of Key Factors Influencing Financial Wellbeing for Persons with Disabilities in Malaysia Using PLS-SEM Approach

Muhammad Ashraf Anuar<sup>1,2</sup>, Norlia Mat Norwani<sup>1\*</sup>, Rusliza Yahaya<sup>1</sup>

<sup>1</sup>Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, Malaysia

<sup>2</sup>Teh Hong Piow, Faculty of Business and Finance, Universiti Tunku Abdul Rahman, 31900 Kampar, Perak, Malaysia

\*Corresponding Author

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## ABSTRACT

In the current world, financial wellbeing has been recognized as an incredibly important indicator of overall quality of life, specifically for disadvantaged groups, which includes persons with disabilities (PWDs). Despite growing awareness, few studies have examined factors influencing financial wellbeing, such as financial literacy, financial inclusion, and social support for PWDs in Malaysia. Grounded in Self-Determination Theory, financial literacy improves competencies, financial inclusion fosters autonomy, and social support fulfils relatedness on interpersonal support. To examine this relationship, the data were collected through questionnaires using 5-point Likert Scales and were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings show financial literacy, financial inclusion, and social support significantly influence financial wellbeing. These findings highlight the significant importance of financial literacy, financial inclusion, and social support in enhancing PWD's financial wellbeing. This study contributes to the existing literature for PWDs and empirical evidence for financial wellbeing in the context of Malaysia. The present findings offer practical implications for policymakers and financial institutions regarding the inclusive financial education, accessibility, and assistance initiative to support financial wellbeing for PWDs.

**Keyword:** Financial Literacy, Financial Inclusion, Social Support, Financial Wellbeing, Malaysia

## INTRODUCTION

Financial wellbeing is one of the critical dimensions for social inclusion and overall quality of life. Persons with disabilities (PWDs), who are considered vulnerable groups, remain persistently challenging in achieving acceptable financial wellbeing. It is reported that out of the Malaysian population, approximately 2.16% consist of individuals with several types of disabilities, including speech, visual, hearing, physical, learning disability, mental, and others (Consists of more than one disability) (Department of Statistics Malaysia, 2025).

Even though Malaysia has implemented various commitments and initiatives to protect and promote the rights for PWDs by establishing new policies and enacting laws such as the National Policy for Persons with Disabilities and the Persons with Disabilities Act 2008, these efforts have still not adequately addressed the sociocultural difficulties encountered by PWDs (Azizi et al, 2021)

In Malaysia, most PWDs face numerous barriers that limit their participation in formal economic activities. Workplace discrimination, limited employment opportunities, inadequate training and vocational, inaccessible infrastructure, and non-permanent jobs contribute to underemployment rates within this unfortunate community (Omar et al, 2024 & Halid, Osman, and Abd Halim, 2020). Even when employed, many PWDs are reported to receive low salaries and not permanent jobs, face job security concerns, as well as restricted access

to social protection and employment benefits. Thus, economic exclusion makes it tough for PWDs to save for emergencies, generate a stable income, and plan for their future.

Another ongoing difficulty for PWDs is accessing appropriate financial products and services. The majority of financial institutions lack the necessary infrastructure, inclusive practice, and communication tools to serve the needs of PWDs (Puli et al, 2024). Consequently, many PWDs frequently have difficulty getting financial assistance, accessing credit and opening a bank account. Limited access and exclusion from accessing formal financial and banking services restricted their options for investing, saving, and financial protection, leaving them to rely on informal, risky financial services.

Lack of financial knowledge among PWDs is also one of the issues that exacerbates the achievement of financial wellbeing (Thohari & Rizky, 2021). Financial literacy is widely acknowledged as an important key to determining the financial wellbeing of individuals, since it has been proven to enable every individual to plan efficiently, make informed decisions, and protect themselves from exploitation (Lusardi & Messy, 2023; Amirtha, 2024). Nevertheless, due to physical difficulties, communication restrictions, or exclusion from normal learning activities, they often face barriers to receiving formal financial education. Without adequate financial skills and knowledge, managing complex financial planning becomes even more difficult.

Additionally, PWDs not only have to face economic marginalization, but they normally live in higher living costs because of their disability's expenses, including rehabilitative services, medical treatments, caregiver services, and medical bills (Poonam & Verna, 2024). These extra costs can lead to significant strain and limit household expenses, increasing the risk of poverty and financial stress. Excessive financial stress not only negatively impacts the overall wellbeing but also reduces the financial wellbeing (Sergeyev, Lian, and Gorodnichenko, 2024). One important tool assisting PWDs in resolving financial hardship is social support. Family, friends, peers, and community members are social supports that can provide emotional and practical assistance to help individuals engage in economic activities, access resources, and strengthen their coping skills (Buckland & Wilson, 2021). Prior research found that social networks mitigate the negative effects of financial stress while also fostering well-informed financial behavior (Chen, Zeng & Tam, 2024; Ploszaj, 2024).

Despite the extensive research that has examined the relationship between financial literacy, financial inclusion and social support with financial wellbeing among the general population (Rahman et al, 2021; Xu & Rashid, 2023; Jaffar et al, 2024), empirical analysis that specifically focuses on the factors contributing to financial wellbeing for PWDs in Malaysia is very limited. This knowledge gap prevents educators, policymakers, and financial institution providers from developing effective programs to address the unique financial needs of this unfortunate group. Considering this, the aims of this study are to examine the relationship between financial literacy, financial inclusion, and social support with financial wellbeing among PWDs in Malaysia.

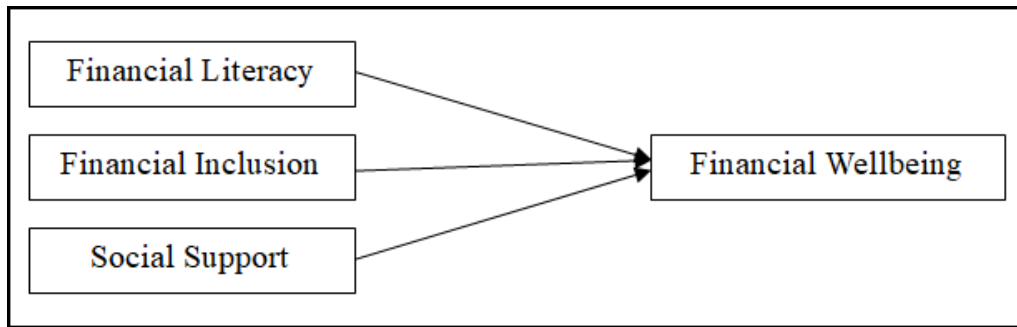
## LITERATURE REVIEW

### Theoretical Framework

This study employs Self-Determination Theory (SDT), which holds that individuals will achieve their financial wellbeing when their basic psychological needs for relatedness, competence, and autonomy are met. This theory developed by Edward L. Deci and Richard M. Ryan, posits that the three needs (relatedness, competence, and autonomy) must be fulfilled in achieving optimal functioning (Deci & Ryan, 1980). Regarding financial wellbeing, financial literacy improves individual competencies to manage their money, financial inclusion fosters individual autonomy by providing accessibility to financial products and services and enables them to make better financial decisions. Furthermore, social support relatedness by providing interpersonal support. Thus, fulfilling all the psychological needs may contribute to an increase in financial wellbeing (Ryan & Deci, 2000). Figure 1 depicts the study's conceptual framework.

## Conceptual Framework

Figure 1: Conceptual Framework



## Financial Wellbeing

According to CFPB (2015), financial wellbeing refers to the capacity of individuals fulfil their financial commitments, have confidence and freedom about their future and be able to make any decision to improve their life. A recent study by Coats and Bajtelsmit (2024), several factors involve in financial wellbeing such as risk preferences, financial literacy, discount rates, personality traits, and financial self-confidence. It is complicated and varied enough that it is impossible to evaluate with a single metric alone. Past studies have adopted a thorough approach to measuring financial wellbeing. For example, Silva and Dias (2023) examined the financial wellbeing working adults and considered the numerous factors such as financial behavior, financial status, financial attitude, and financial knowledge. They found that only financial status was significantly related to financial wellbeing. Additionally, She (2022) stated that financial wellbeing is influenced by personal factors (attitudes, personality traits, mental health, and financial practices) and contextual factors (technological advancement, market factors, and macroeconomics environment).

It is well known that there are issues and difficulties with financial wellbeing for PWDs. Many PWDs are excluded from labor market participation, feeling despair in joining the workforce, which leads to a higher unemployment rate among PWDs (Dewi, Al Izzati & Suryahadi, 2022). Moreover, those who are being employed tend to receive low-wage, not permanent jobs, and few job securities (CFPB, 2019). The report from Department of Statistic Malaysia (2023), reported that PWDs are only offered informal sectors and elementary occupations even though they are qualified to hold the position. Leading to restricted opportunities for professional positions and skilled.

## Financial Literacy

Financial literacy plays an important role in improving the financial wellbeing of PWDs, social inclusion and independence. It includes the skills, behaviour and knowledge to make better financial choices, which is critical for PWDs who frequently face structural and economic challenges. Even though growing studies on the inclusive financial systems, show that PWDs recorded lower levels of financial literacy compared to other general community (Kim & Lee, 2024). This gap is mostly contributed to by systematic obstacles such as restricted to formal education, low employment and inaccessibility of the financial products and services (Kishor & Ahmad, 2025). Hence, it is difficult for PWDs to perform essential financial responsibilities such as saving, budgeting, and managing credit efficiently.

Adult PWDs are less likely to engage in financial education programs, not because they are uninterested. It is because the programs are not tailored to their specific needs, like mobility requirements, sensory or specific cognitive (Conroy et al, 2014). According to McGarity et al. (2020), as compared to general communities, PWDs are reported to live five times below the poverty line, and they stated that financial capability is crucial in increasing their financial wellbeing. Research finds that the financial wellbeing of PWDs is significantly impacted by the accessibility of financial services and financial literacy (McGarity et al., 2020). Yet, PWDs still tend to have low financial literacy as majority of them are struggling to establish informed financial plans (Thohari & Rizky, 2021). They are further discouraged from utilizing the financial services due to the

requirements of the financial services provider and the inaccessible infrastructure (Thohari & Rizky, 2021). To overcome these issues, strengthening financial literacy and adopting digital financial services for PWDs are essential efforts to improve financial literacy towards these marginalized groups (Santoso, 2023).

H<sub>1</sub>: There is a positive and significant relationship between financial literacy and financial wellbeing among PWDs.

### **Financial Inclusion**

Financial inclusion is defined as the practice of providing access to reasonable and practical prices on financial products and services (Durai & Stella, 2019; Ozili, 2020). Financial inclusion for PWDs is not only for economic participation, but it is the way for self-determination, economic involvement, quality of life, and social justice. Individuals who have better financial outcomes are reflected by the ability to fulfil their financial needs, having confidence in their financial commitment, and being able to make informed financial decisions that enable them to have a good life, which is formed by inclusive financial systems (CFPB, 2015). Nevertheless, attitudinal barriers, technological and structural hurdles endure to prevent PWDs from achieving financial inclusion and achieving financial wellbeing. Prior studies indicate that PWDs face formidable challenges to financial inclusion (Wan et al., 2022; Santoso, 2023). Different types of disabilities of individuals may have varying levels of financial exclusion, especially mobility and mental disabilities usually face the most limitations (Wan et al., 2022). Furthermore, PWDs were also reported to be three times unbanked compared to individuals without disabilities (National Disability Institute, 2023). The difference in income is the main effect between the unbanked and banked groups, and lack of internet access, low income, and ethnicity are the main factors that lead to being unbanked. A recent study on the financial inclusion of PWDs, Sabore (2025), highlighted the positive significance of financial inclusion to increase financial involvement and reduce the poverty rate of this unfortunate group, but it is restricted by inadequate financial literacy, strict policies, and lack of facilities.

H<sub>2</sub>: There is a positive and significant relationship between financial inclusion and financial wellbeing among PWDs.

### **Social Support**

Stress and financial hardship negatively impact physical and mental health, increasing the risk of illness (Sing et al, 2021; Fazi et al, 2025). Nevertheless, social support for PWDs plays a significant role in shaping emotional support and access to opportunities and financial resources. It is found that social support, emotional intelligence, and financial wellbeing contributed to a major role in lowering about 20 to 53 percent of psychological stress and its symptoms (Espinosa & Rudenstine, 2020). Although social support generally enhances the financial wellbeing and happiness of PWDs, it does not always eliminate the economic difficulties (Kim & Lee, 2024). Certain studies suggest that the changes in policy may increase risk for PWDs and caretakers (Small et al, 2020). Social supports that include the combination of financial literacy, mentorship, and community programs for PWDs have shown to improve behaviour and financial outcome and encourage better financial wellbeing (Steinert et al, 2020).

H<sub>3</sub>: There is a positive and significant relationship between social support and financial wellbeing among PWDs.

## **METHODOLOGY**

This study used a cross-sectional design, with all data collected from the targeted respondents. The target population for this study is from the physical category of PWDs in Perak, Malaysia. The physical category was chosen because of the different levels of cognitive impairment and level of disability, the physical category of PWDs is most suitable for answering the survey questionnaire. Physical categories of PWDs also recorded the second-highest registration in Malaysia until February 2026 (JKM, 2026). The sampling techniques utilized in this study was purposive sampling. According to Sugiyono (2018), purposive sampling is a non-probability sampling that hold sample-specific characteristics that offer specific information, and they are the units that are

appropriate for the study criteria. Thus, this study focuses on physical PWDs as these categories of disability are able to meet the researcher’s criteria. The required total sample size for the analysis was determined by the Gpower program. According to the Gpower program, the statistical power of 0.05 margin and the study for 95% calculated was 119. This study collected 134 questionnaires, but only 123 completed questionnaires can be analysed. This study employed quantitative method and the data for were collected through online and face-to-face questionnaire surveys. The face-to-face questionnaire survey is very crucial, particularly for PWD respondents, to ensure accuracy, meaningful and inclusive participation. This approach permits immediate clarification from the researcher to provide understanding and explanation in ensuring responses reflect respondents’ views, as some PWDs face difficulties in understanding the questionnaire questions due to their literacy and cognitive challenges. The questionnaire consists of five main sections: Section A, related to respondent demographic information; Section B, for financial literacy; Section C, for financial inclusion; Section D, for social support; and, lastly, Section E, for financial wellbeing. The measurement scales for this study were adapted and adopted from the combination of past studies. A 5-point Likert scale, ranging from “1 – disagree” to “5 – strongly agree,” was used to record respondents’ responses. Seven items were used to measure the financial literacy, financial inclusion, social support and financial wellbeing. This study proceeds to analyse the collected data using the software of IBM SPSS Statistics Version 28 and SmartPLS 4.0.

## RESULT

### Descriptive Analysis

Table 1 shows the demographic profile of the respondents. The total number of respondents is 123, exceeding the minimum number computed by GPower. Males recorded the highest participation (56%); the age group of 38+ recorded the highest, and the age group 18-22 recorded the lowest. The educational background of the participants in this study was divided into five categories, with Secondary School/SPM recording the highest proportion at 67%. The highest monthly income group was under RM2201 – RM2700, which recorded 26%, followed by RM2701 – RM3200 (24%), below RM1700 (19%), RM1701 – RM2200 (17%), and the lowest was the income group of more than RM3201 (14%). Years have been confirmed as physical PWDs recorded higher for those 13 years or older (50%), followed by 7–13 years (38.5%) and 1–6 years (11.5%).

Table 1: Demographic Profile

Characteristic		Frequency	Percentage
Gender	Male	69	56
	Female	54	44
Age	18-22	19	15.5
	23-27	22	18
	28-32	27	22
	33-37	24	19.5
	More than 38	31	25
Education Background	Primary School	4	3
	Secondary School/SPM	82	67
	Diploma	19	15.5
	Degree	16	13
	Master/Doctorate	2	1.5
Monthly Income	Below RM1700	23	19
	RM1701- RM2200	21	17

	RM2201 – 2700	32	26
	RM2701 – RM3200	30	24
	More than RM3201	17	14
How long have you been confirmed as a physical PWD?	1- 6 years	14	11.5
	7 – 13 years	47	38.5
	More than 13 years	62	50

**PLS-SEM Measurement Model**

This study employed Partial Least Squares-Structural Equation Modeling (PLS-SEM) approach in examining the relationship between the three hypotheses in the research model. The model was evaluated using a measurement and a structural model. Firstly, the analysis began with a measurement model to assess the quality and value of the construct in the model in terms of reliability and validity. The evaluation involved obtaining the value of outer loadings, internal consistency, indicator reliability, convergent validity (assessed with Average Variance Extracted), and discriminant validity (assessed with Heterotrait-Monotrait). Secondly, the assessment of the structural model through the coefficient determinant ( $R^2$ ) and the path coefficient.

Figure 2 shows the measurement model. The indicator outer loading of the measurement model should be at least 0.708. According to Hair et al. (2014), researchers are suggested to delete the outer loading between 0.40 and 0.708 only if deleting the outer loading may increase the average variance extracted (AVE) and composite reliability. Hence, the researcher deletes three outer loadings under social support (SS), which are SS1, SS2 and SS4 where all these three outer loadings indicate below 0.708, and therefore, to increase the AVE and composite reliability of the measurement model.

Figure 2: Measurement Model

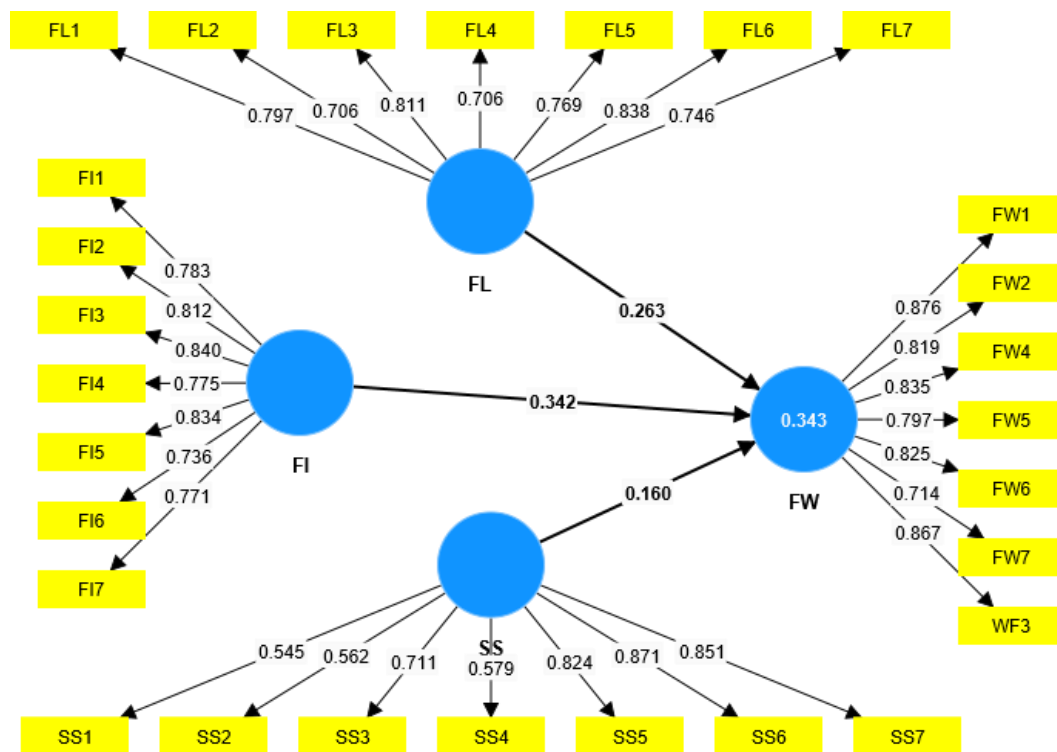


Figure 3 shows the measurement model after removing the low outer loading, and Table 2 shows the result for the measurement model. From the results, the value of composite reliability is  $>0.7$  and AVE  $>0.5$ , which both met the threshold and achieved convergent validity (Fornell & Larcker, 1981).

Figure 3: Measurement Model After Deletion

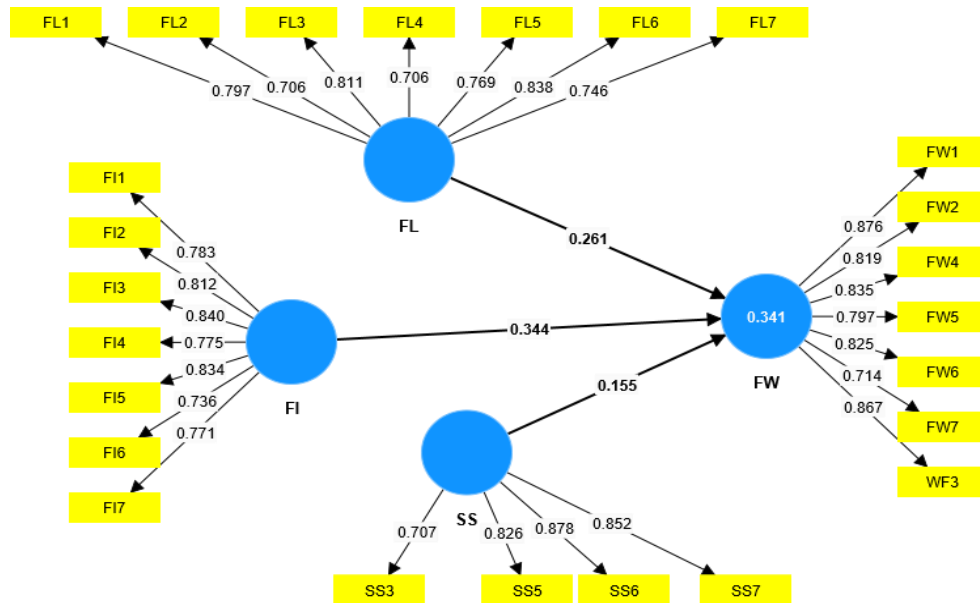


Table 2: Reliability and Validity of The Construct

	Cronbach's alpha	Composite Reliability	Average Variance Extracted (AVE)
Financial Inclusion (FI)	0.902	0.910	0.630
Financial Literacy (FL)	0.885	0.906	0.591
Financial Wellbeing (FW)	0.919	0.922	0.673
Social Support (SS)	0.852	0.868	0.670

In assessing the discriminant validity of the measurement model, Haterotrait-Monotrait (HTMT) was applied. Table 3 shows the value for HTMT obtained for the result and it reported that all the values are below than 0.85 and this suggests that while the indicators reflect their concept, they are distinct from the other constructions. Overall, the model's constructs' validity and reliability were acceptable.

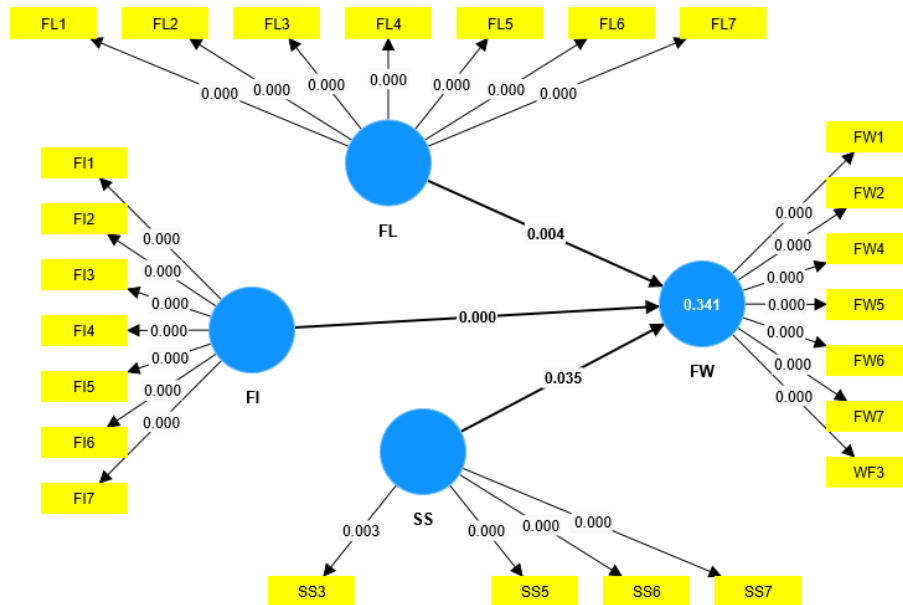
Table 3: HTMT

	FI	FL	FW	SS
FI				
FL	0.706			
FW	0.571	0.495		
SS	0.192	0.130	0.214	

### PLS-SEM Structural Model

In assessing the structural model, the structural model is assessed through the coefficients determinant ( $R^2$ ) and the path coefficient.  $R^2$  indicates the extent to which the independent variables explain the variance in the dependent variable. The  $R^2$  value obtained for this study is 34%. According to Ozili (2023), a value of  $R^2$  ranging from 10% to 50% is acceptable in social science studies only if the variables in the model are significant. The  $R^2$  value indicates that 34% of the variance in the financial wellbeing construct was able to explain by the combination of financial literacy, financial inclusion, and social support. To assess the significance of the path coefficients, a bootstrapping procedure with 1,000 resamples was employed, as recommended by Chin (1998). The structural model is illustrated in Figure 4, while Table 4 presents the path coefficients, t-values, and hypothesis testing results for each relationship.

Figure 4: Structural Model



The bootstrapping results show that financial literacy ( $\beta = 0.261, p < 0.05$ ), financial inclusion ( $\beta = 0.344, p < 0.05$ ), and social support ( $\beta = 0.155, p < 0.05$ ) have significant effects on financial wellbeing, thereby supporting H<sub>1</sub>, H<sub>2</sub> and H<sub>3</sub> (Refer to Table 4). Among the predictors, financial inclusion is the strongest, followed by financial literacy and social support.

Table 4: Path Coefficient Result

No		Path coefficient	T-statistic	P-Values	Result
H <sub>1</sub>	Financial Literacy – Financial Wellbeing	0.261	3.056	0.002	Supported
H <sub>2</sub>	Financial Inclusion – Financial Wellbeing	0.344	3.802	0.000	Supported
H <sub>3</sub>	Social Support – Financial Wellbeing	0.155	2.105	0.036	Supported

## DISCUSSION

Following the research analysis and the findings, the first hypothesis (H<sub>1</sub>) found a positive and significant relationship between financial literacy and financial wellbeing among PWDs in Malaysia. The significant result could be that PWDs are equipped with substantial skills and knowledge, such as budgeting, saving, and managing debt. PWDs who financially literate have the capability to manage their income and expenditure efficiently, even though they are facing higher medical costs because of their disability. The positive and significant relationship for this hypothesis can be explained by SDT’s concept of competence. SDT suggests that individuals who have better knowledge in managing their finances are capable of making prudent decisions. For the context of PWDs, financial literacy increases their capability in managing debt, investing, and saving, which subsequently increases the sense of financial security and freedom, which may lead to financial wellbeing. This is consistent with the study by Thohari and Rizky (2021), which found that PWDs who gain financial knowledge are better at managing their personal finances and have a comprehension of financial management. The knowledge and skills are able to empower them in managing money and improving financial wellbeing. Additionally, Mousavi and Rasaeimanesh (2023) highlighted that individuals who are proficient in financial matters can confront unforeseen challenges and reduce financial stress. Another study by Kim and Lee (2024) indicated a low level of financial wellbeing among PWDs compared to non-disabled individuals. They also stressed the importance of financial literacy towards PWDs in order to improve financial wellbeing.

The positive and significant relationship for the second hypothesis (H<sub>2</sub>) on the financial inclusion toward financial wellbeing are aligned with previous studies. A study by Jiya et al. (2022) on the PWDs in Malawi on

the financial inclusion found that most of the PWDs have challenges and low accessibility to financial products and services because of communication barriers and a lack of suitable products and services for them. The study highlighted the importance of including PWDs with the capacity and accessibility to the financial products and services, and hence, they may generate new sources of income through entrepreneurship. This is supported by Norafandi and Mohamad Diah (2017), who highlighted that affordability and accessibility of the financial products and services for PWDs, may allow them to become more independent when they are able to start a small business and showcase their talents and skills. Therefore, in order to improve and maintain the financial wellbeing of PWDs, Deloitte Insight (2021) suggests the advancement of institutional and physical accessibility of financial institutions together with the improvement of digital banking that is able to facilitate the needs of PWDs. The positive and significant relationship between financial inclusion and financial wellbeing can also be explained by SDT, through the elements of autonomy. SDT posits that individuals who have greater experience in managing money and the opportunity to make independent financial decisions will achieve better wellbeing. Financial inclusivity for PWDs may enhance their confidence in managing money, access to credit facilities and digital payments, which contribute to greater financial control.

The result for the third hypothesis ( $H_3$ ) shows the positive and significant relationship of the social support toward financial wellbeing among PWDs in Malaysia. SDT explained this relationship through relatedness. SDT suggests that individuals are able to achieve higher wellbeing when they feel supported, connected and valued by others. This shows that individuals who receive emotional, material, and educational assistance are more competent in managing their finances. This is aligned with the earlier studies that emphasize the importance of social network in improving individual's ability to handle challenges and their economic resilience (Xiao & O'Neill, 2018; Brügger et al., 2017). Support from the family members, community, friends, and governments towards PWDs can help them to feel more confident in managing financial matters, which can increase financial wellbeing. The result is consistent with the study of Kim and Lee (2024), where they reported that family socialization and support are positively associated with financial wellbeing for PWDs. Furthermore, Wong et al. (2024) found that PWDs who have social support in their life and workplace, were more likely to be hired, revealing that social support contributes to positive outcomes. Additionally, within the Malaysian context, community, family, institutional, and government may compensate for the limited and restricted financial opportunities and access and therefore be able to improve financial wellbeing for PWDs. Thus, social support is a crucial element that acts as an additional support system that substantially increases the overall standard of live and wellbeing of PWDs.

## CONCLUSION

This study aims to analyse the factors that influence financial wellbeing among PWDs in Malaysia. The factors on the financial wellbeing were divided into three, which are financial literacy, financial inclusion, and social support, which are based on the Self-Determination Theory (SDT). Three hypotheses were developed to fulfil the research objectives, which are the hypotheses for financial literacy, financial inclusion, and social support toward financial wellbeing.

The findings for this study show the significant relationship between financial literacy, financial inclusion and social support among PWDs. The mutual function of financial literacy, financial inclusion, and social support serves as a significant value in helping PWDs in Malaysia to tackle the structural and psychological barriers to achieve better financial wellbeing. Financial literacy may increase the individual's information, self-confidence and skills to make wise financial choices, which is particularly crucial for underprivileged groups, specifically for PWDs as they always need to deal with limited job offers and low income. With improved financial inclusion for PWDs, they are able to engage in everyday economic transactions and manage their funds effectively when they have access to affordable credit, insurance, and savings. Additionally, social support from the community, family, government and external institution may bring emotional and practical assistance for PWDs, which may strengthen their coping skills toward financial resilience. Therefore, the combination of these three factors provides a supportive environment that may support PWDs to reduce financial stress, manage financial resources, and subsequently improve their financial wellbeing.

This study only analyses the physical PWD in Perak, Malaysia. Therefore, future studies may include additional disability categories and increase the sample size to improve generalizability. However, findings from this study provide valuable insights into PWDs, a relatively underexplored group in financial wellbeing research. Moreover, future studies may explore other psychological and institutional variables, including mediating or moderating effects, and could include comparative studies across different countries, and longitudinal analysis to extend the understanding of financial wellbeing for PWDs.

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