

Impact of Loan Attributes on Psychological Wellbeing of Micro Borrowers and the Moderating Role of Peer Pressure

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Abstract

Microfinance, in Sri Lanka, aids the poor by enhancing financial inclusion, reducing both vulnerability, and poverty. It positively contributes to society by empowering women, raising living standards, and instilling financial confidence. Beyond monetary aspects, it enhances the psychological well-being of micro-borrowers as it could contribute towards reducing stress levels, strengthening dignity, self-esteem, and happiness of the same. Using data collected from a sample of 135 micro-borrowers, this study aims at investigating the psychological well-being of micro borrowers. This quantitative inquiry uncovers that psychological well-being is adversely influenced by the amount of the loan size and repayment period of the loan. Furthermore, the findings indicate that peer pressure completely moderates the relationship between repayment period of the loan and psychological well-being. This underscores the importance of microfinance institutions evaluating psychological dimensions in their programs, and of policymakers incorporating psychological well-being into regulatory frameworks.

Keywords: Microfinance, Psychological wellbeing, Peer pressure, Multiple borrowing, loan size, loan repayment period

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1. INTRODUCTION

According to the World Bank, the poverty rate in Sri Lanka has almost doubled between 2021 and 2024 up to 25 percent from 13.5 percent, compared to 2019, given the poverty line set by the World Bank, income of US \$ 3.20 per person per day, for lower middle income countries (World Bank, 2022). However, the economic downturn and global economic crisis that emerged in the post covid-19 pandemic period have worsened the situation by pushing many marginally better-off people into poverty and extreme poverty. According to the most recent data, Sri Lanka's poverty rate has continued to surge, which is nearly 29.9 percent of the total population in 2024 (Feelixge, 2024). Microfinance programs have been playing a key role in addressing poverty since the early twentieth century (Central Bank of Sri Lanka, 2018). Generally, microfinance refers to the provision of financial services to low-income individuals or groups, who do not have access to the financial services provided by the mainstream banking system, mainly because the people belonged to this category; do not have assets to be used as collateral when obtaining credit (Kagan, 2022). This strategy involves with range of financial services such as credit, savings, and other essential financial services. In the context of Sri Lanka, as per the evidence provided by existing literature, it has been revealed that the outcomes of microfinance programs are inconclusive (Karunaratne & Madurapperuma, 2021). Empirical studies highlight a paradox: the paradox where micro finance can exacerbate socio-economic vulnerabilities, leading to over-indebtedness and severe psychological distress, even though the primary objective of providing microfinance is to empower the poor (Mia, 2017; Schicks, 2013). Even though the microfinance aims at providing poor people access to financial tools with a view to empowering them, at present it has taken a distressing turn in Sri Lanka (Duggan, 2016). Reports indicate an acute microfinance debt crisis in the country, with over 200 suicide incidents that related to microloan repayment difficulties and over 2.4 million women struggling with high-interest debt (Mudugamuwa, 2021). These consequences highlight critical risks of debt-driven vulnerability when financial products are mismatched with borrower capacity (Fernandes et al., 2014; Taylor, 2012). The inability to pay micro loans has exacerbated the social and economic vulnerabilities of the borrowers, they have been subjected to various forms of physical and mental abuse, for example some go to the extent of selling kidneys to repay loans, committing suicide when no other options are available, being subjected to harassments by thugs and debt collectors that use various forms of socially unacceptable recovery methods such as sexual abuse of women (Fonseka, 2021). These documented cases underscore a critical, yet underexplored, dimension of microfinance: its

profound impact on borrowers' psychological well-being (Prince, 2014; Bhuiyan & Ivlevs, 2019). Hence, it is somewhat difficult to arrive at a firm conclusion as to whether microfinance is beneficial or detrimental. These contradictory outcomes make it a vital requirement to examine the true impact of microfinance on the psychological well-being of the micro borrowers or micro creditors, as this seems an area that has not been fully explored in prior researches.

Moreover, microfinance programs typically focuses on group lending activities (Lehner, 2009). When microfinance institutions facilitate group lending, they transfer the monitoring role to borrowers. Hence, borrowers form groups monitor each other in order to ensure the success of their peers (Lehner, 2009). Nevertheless, findings of past research have revealed that, frequent repayment schedules that have to be adhered to under group lending increase borrower stress due to intensified peer interactions and accountability. (Banerjee & Duflo, 2011; Field et al., 2013). This introduces a critical moderating variable, peer pressure within the framework of social capital and joint liability, as this could fundamentally alter how loan terms are experienced psychologically (Ghatak, 1999; Giné & Karlan, 2014). Therefore, it is also important to examine how the peer pressure is associated with psychological well-being of the borrowers during the loan repayment period.

Further, multiple borrowing is becoming a prominent practice among microfinance clients (Wisniewski, 2010). Multiple borrowing can be defined as the process of obtaining overlapping loans from multiple lenders (Green & Liu, 2021). Scholars have suggested that loan-related stress arises more from multiple borrowing than the amount of the loan itself (Rutherford, 2000; Schicks, 2013). Therefore, it is also important to examine how likely the multiple borrowing interacts with loan size to bring about psychological well-being in borrowers. This interaction points to a complex, multi-layered indebtedness where the structure of debt, not just its volume, may be psychologically consequential (Karlan & Zinman, 2010).

In summary, while a body of literature examines the economic outcomes of microfinance, a cohesive investigation into its psychosocial impacts in the Sri Lankan context is lacking, particularly one that considers how specific loan attributes (like loan size and loan repayment period) interact with social-contextual factors (like peer pressure and multiple borrowing) to influence psychological well-being. Broadening the focus, the current study further investigates the moderating impact of “peer pressure” and “multiple borrowing” on the psychological well-being of the borrowers. Given the aforementioned background this study

primarily aims at achieving the following objectives; 1) to identify the factors that affect the psychological well-being of micro borrowers; 2) to examine the moderating impact of “peer pressure” and “multiple borrowing” on the relationship between factors identified and the psychological well-being of the micro borrowers. To the best of the researchers’ knowledge, no prior study in Sri Lanka has empirically tested this moderated model, integrating loan characteristics with social borrowing dynamics. Therefore, in addition to filling the knowledge gap, the current study aims at providing valuable insights into microfinance institutions, policy makers and practitioners that could in turn enhance the financial inclusion, thus, the psychological well-being of the borrowers that seek assistance from microfinance institutions in Sri Lanka.

2. LITERATURE REVIEW

2.1 Impact of microfinance on micro-borrowers’ psychological wellbeing

Psychological well-being can be defined as the absence of negative emotions such as depression, anxiety, anger, fear; while experiencing positive emotions, healthy relationships, self-actualization, and this is broader than traditional happiness (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). In the literature, the findings in relation to the emotional outcomes of micro-borrowers are not conclusive. On one hand, as concluded by Mirza et al. (2015), microfinance creates a positive impact on satisfaction. While factors like loan size and the family size tend to have a positive impact on borrower satisfaction, when it comes to factors like age and marital status the impact is negative. This notion is reinforced by Angelucci *et al* (2015), as the findings of their study show that borrowers’ satisfaction is positively correlated with the increased number of credit cycles. However, some studies define satisfaction solely as the absence of depression. As argued by Bandyopadhyay (2008), beyond individual satisfaction, microfinance enhances living standards and Gross National Happiness (GNH), while promoting dignity and financial stability (Pillai & Nadarajan, 2010). Further, evidence from Pakistan suggests that microfinance uplifts women’s happiness, particularly by alleviating economic constraints (Fayyaz et al., 2020). Microfinance is also linked to economic development, increased happiness and peace within families, and empowerment of women to express their opinions, thereby improving their psychological well-being and social empowerment (Sarumathi & Mohan, 2011). Additionally, longer involvement in microfinance can boost self-confidence, borrower dignity, self-esteem, social recognition, and overall life satisfaction (Khan et al., 2023; Kundu, 2010).

On the other hand, some scholars suggest a negative impact of microfinance on borrowers' psychological well-being. Julia Prince (2014) found that increasing outstanding loan amounts can reduce satisfaction and increase the stress of borrowers. Fernald et al. (2008) showed that microcredit can raise stress and depression levels. Similarly, Hussain and Strasse (2010) highlighted the emotional stress and anxiety caused by credit repayment pressure. Another study has indicated an indirect negative impact on overall life satisfaction due to the increased worry of borrowers (Bhuiyan & Ivlevs, 2019).

2.2 Loan Attributes as Critical Stressors

2.2.1 Loan size

Loan size can be defined as the amount of money that a borrower is authorized to borrow from the relevant lending institution (Kegan, 2024). The average microfinance loan in Sri Lanka is Rs. 50,000, or about \$169, which is much lower than it is in comparable markets, such as India and Bangladesh (Lanka Microfinance Practitioners' Association, 2020; Soni, 2023). Although some studies suggest that larger loans can enhance satisfaction and empowerment (Claudio et al., 1996; Meryem et al., 2021; Yasmeen, 2015), the debt-stress perspective, grounded in mental accounting theory (Thaler, 1985), suggests that the psychological burden emerges during repayment, where the larger loans often increase repayment pressure and reduce consumption flexibility (Fernandes et al., 2014). According to Mental accounting theory (Thaler, 1985), individuals categorize and evaluate financial outcomes in separate, non-fungible mental accounts, such as a "loan account" versus a "consumption account." A large loan disbursement may be mentally coded as a positive gain, boosting initial optimism. However, during the repayment phase, the recurring deductions are mentally tracked against the "loan account," making the long-term financial drain and reduced consumption flexibility highly salient and psychologically aversive. Therefore, it can cause stress and guilt due to over-indebtedness (Schicks, 2013), and may create intra-household tension (Roodman, 2012). Thus, it is hypothesized as:

H₁: Loan size disbursed by the MFIs is likely to influence borrowers' psychological well-being.

2.2.2 Loan period

The loan period is referred to the time span from the date of commencement of the loan agreement to the final date of repayment when all outstanding amounts under the agreement should be paid in full to the lender (Law Insider, 2021). In the context of microfinance, the loan

period often begins immediately upon disbursement, typically without a grace period or base period, meaning borrowers must begin repayment shortly after receiving the funds (Armendáriz & Morduch, 2010). Thus, in this context, the loan period can be defined as the loan repayment period, the time frame within which the borrower is expected to repay the loan in full. According to the existing literature, although borrowers tend to select longer-term loans based on greater flexibility (Dhami, 2019; Field et al., 2012), behavioral theories of time discounting indicate that having an obligation for an extended duration, or having many outstanding debts across multiple loan modalities, can create a persistent "shadow of debt," that causes the chronic anxiety (Laibson, 1997). In contrast, short term loan has been associated with increased financial resilience, decreased feelings of depression, and greater independence (Karlan & Zinman, 2010; Fernald et al., 2008; Schaner, 2017). It is therefore hypothesized as:

H₂: The loan period is likely to influence borrowers' psychological well-being.

2.2.3 Loan outstanding

The loan outstanding is defined as the sum of loans that have not been repaid to the lending institution (Shreya & Faria, 2021). It consists of the principal balance plus all accrued and unpaid interest. As pointed out by Prince (2014), outstanding loans are considered the only measure of financial access that impacts mental health. According to the findings, microfinance clients with outstanding loans are less satisfied than individuals without outstanding loans and this in turn increases the stress level of the former. Similarly, according to Amit et al. (2020) outstanding credit causes anxiety and depression and this in turn brings about lower psychological well-being. Furthermore, a recent study suggests that borrowers' mental state is significantly harmed by outstanding loans, but does not impact signs of depression (Jain et al., 2023). Thus, it can be suggested that the outstanding loan amount influences the well-being of micro-borrowers.

H₃: Loan outstanding amount is likely to influence on borrowers' psychological well-being.

2.2.4 Interest rate

The interest rate can be defined as the amount charged by the lender from the borrower as a percentage of the principal amount of the loan (Banton, 2023). Interest rates on credit from MFIs are high compared to the prime rate set by the banking sector, and those high interest rates have several negative effects on micro-borrowers (Anane et al, 2013). In the context of Sri Lanka, the tax charges and financial VAT applicable to MFIs are the same as those for

banks and other financial institutions. Moreover, the decline in deposit rates in the market has no any visible impact on MFIs, as they are not allowed to accept deposits from the public. Therefore, it is somewhat impossible to provide low cost financial loans to the borrowers of MFIs, and hence, it has increased borrower stress and made borrowers default on their loans (Lanka Microfinance Practitioners' Association, 2020). As concluded by Doris (2018), although microfinance contributes to poverty reduction and economic empowerment, one of the top most challenges faced by micro-borrowers is high interest rate charges. Past scholars have argued that interest rates are negatively correlated with the satisfaction among micro-borrowers (Yunxian et al., 2022). Similarly, Akterujjaman (2016), Rokhman (2020), and Usam (2015) have also revealed that higher interest rates cause the borrowers' stress levels to increase, thus reducing their satisfaction. Thus, this study postulates that the interest of micro loans has an impact on the psychological well-being of the borrowers.

H4: The interest rate of the loan is likely to influence the borrowers' psychological wellbeing

2.3 The Moderating Role of Multiple borrowings and Peer pressure

2.3.1 Multiple borrowings

Multiple borrowing can be defined as the process of obtaining overlapping loans from multiple lenders (Green & Liu, 2021). Multiple borrowing is one of the factors which has somewhat dented the eminence of microfinance (Mia, 2017), and it is becoming a common practice among microfinance clients (Wisniwski, 2010). However, its effects on borrowers' psychological well-being remain inconclusive. Some scholars report positive outcomes; for example, according to Krishnaswamy (2007) multiple borrowers perform as well as or better than single-loan clients in terms of repayment. In contrast, others report negative consequences, such as reduced repayment rates due to multiple borrowings from different MFIs (Chaudhury et al., 2002; Rhyne, 2001; Johnson, 2004; Wisniwski, 2010). In relation to loan size and multiple borrowing, Rutherford (2000), has found that, a small loan in a multi-loan context may cause more stress than a large one in a single-loan context. Similarly, Schicks (2013) states that large loans can cause distress only when layered with multiple obligations. Accordingly, this study argues that multiple borrowing is likely to interact with loan size to bring about psychological well-being.

H5: Multiple borrowing moderates the relationship between loan size and psychological well-being.

2.3.2 Peer pressure

Microfinance often employs group lending or joint liability schemes, where borrowers form groups to monitor each other and ensure loan repayment (Lehner, 2009). In such settings, if one member defaults, the entire group may become ineligible for future loans, making peer pressure a significant factor in repayment success (Khan & Rahman, 2007). Social capital theory (Coleman, 1988) frames this as using social bonds to enforce contracts, but it can also create coercive pressure. To elaborate further, Coleman (1988) conceptualized social capital as the resources embedded within social relationships such as trust, norms, and obligations, which facilitate collective action, thus individual or group achievements. In the context of group lending, these bonds, which normally foster cooperation and reduce lender risk, are leveraged to ensure loan repayment. However, social capital shifts from being a supportive resource to a source of coercive pressure when repayment is at risk, as members face the threat of social sanction, reputational loss, and exclusion from the network. Similarly, scholars have noted that peer group behaviors can directly influence individual decisions (Banerjee et al., 1994; Besley & Coate, 1995; Ghatak, 1999; Stiglitz, 1990). However, regarding psychological well-being, researchers have argued that peer pressure can lead to increased stress, anxiety, and psychological distress among borrowers (Cousins, 2013; Engel & Pedersen, 2019; Field et al., 2012). In relation to loan period, some scholars argue that shorter repayment periods, under group lending, heighten borrower stress due to frequent peer interactions and accountability (Banerjee & Duflo, 2011; Field et al., 2013), whereas longer loan terms may ease such pressure by reducing the frequency of group meetings and repayment obligations (Giné & Karlan, 2014). Therefore, it is vital to identify the impact of peer pressure on the psychological well-being of micro-borrowers. The findings from empirical literature suggest that peer pressure should not be taken as a single concept, but should be considered in light of its different aspects, which might yield different effects on borrowers' psychological well-being (Rathore, 2015). Therefore, the current study predicts that peer pressure is likely to interact with the loan period to bring about psychological well-being

H6: Peer pressure moderates the relationship between loan period and psychological well-being.

3. METHODOLOGY

This study uses a quantitative approach, involving substantially larger sample sizes, and utilizing highly structured data collection methods. As the initial step, a sample of five microfinance institutions in the Balangoda area (Rathnapura District, Sabaragamuwa province in Sri Lanka) has been selected using the purposive sampling method. Subsequently, a survey has been conducted, administering a questionnaire among the randomly selected 135 micro-borrowers representing chosen institutions.

The questionnaire has been originally designed in English and converted into the Sinhala language. The questionnaire consists of three distinct sections. The first section is comprised of eleven questions. Six of these questions have been designed to gather data on demographic factors, including gender, age, income, educational level, number of members, and dependents in the family. The remaining five questions have been tailored to collect data regarding independent variables such as size of the loan, loan maturity period, interest rates, and the outstanding loan amount including the moderating variables of peer pressure multiple borrowing. The second section has been specifically tailored to gather data related to the dependent variable, which is psychological well-being. A modified version of Warwick-Edinburgh Mental Well-being Scale (WEMWBS) has been employed (Ruth Tennant et al., 2007) and this scale originally comprised 14 positively-worded items, and among them, 10 items have been systematically selected for this study. Responses have been measured using a five-point Likert scale. For instance, *“I feel more optimistic about my financial future since accessing microfinance”*, anchored by *none of the time* (1) to *all the time* (5). The third section has been designed with a particular focus on gathering data for the other moderate variable, which is peer pressure. For that, a modified version of the peer pressure scale has been utilized (Palani & Mani, 2016), and responses have been measured through a five-point Likert scale. The original scale encompasses 30 items, of which 11 have been utilized for this study.

3.1. Analyzing the data

The analysis has been conducted utilizing SPSS software to investigate the relationships between the independent and dependent variables. The initial phase of the data analysis involved assessing the sample profile using frequencies under descriptive statistics in order to provide a more comprehensive overview of the sample characteristics. Following this, a Factor analysis has been conducted on the scales of psychological well-being and peer pressure to examine how well the items are grouped under underlying factors, and to identify the

removable factors when constructing the variables. After identifying the necessary factors, the next phase of the data analysis involved assessing the reliability of data, with a particular focus on the internal consistency of the Likert scale data, which is evaluated using Cronbach's Alpha. Thereafter, descriptive statistics have been utilized to provide some insights on independent variables and dependent variables, specifically to test whether the variables are approximately normally distributed. Following this, correlation testing has been conducted to identify the strength and direction of potential linear relationships between the variables, while regression analysis has been utilized to explore direct effects. Additionally, Hierarchical Moderator Regression Models have been constructed to investigate the moderating impact of peer pressure and multiple borrowings. With that, a Robust test of moderation has been employed to visualize and test the moderating impact of the aforementioned variables.

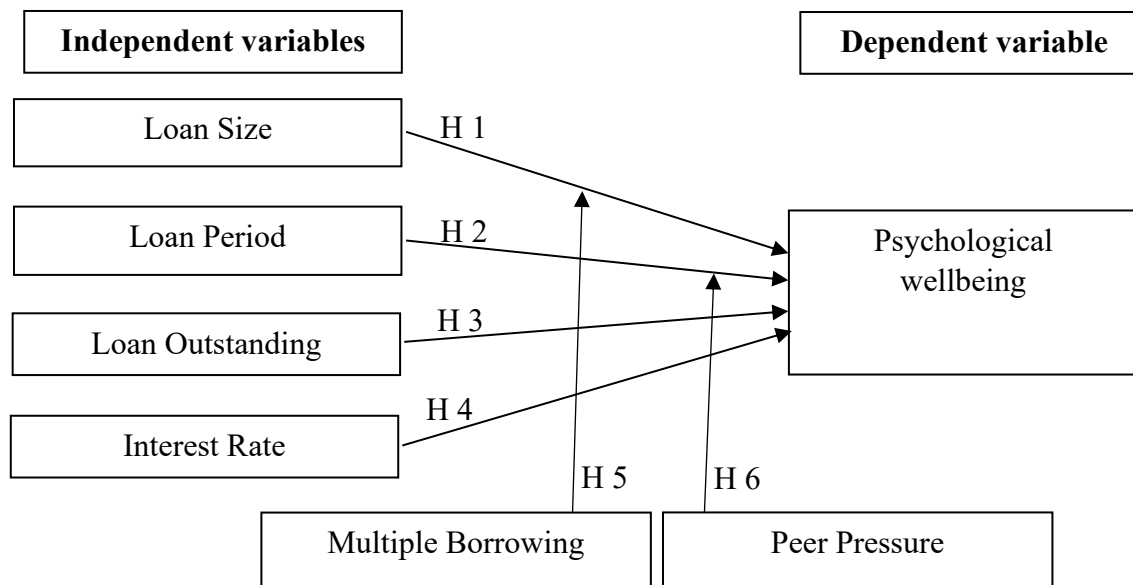


Figure 1: Conceptual framework

4. RESULTS AND DISCUSSIONS

The majority of the respondents fall within the middle-aged category. Regarding gender, data underscores the prevalence of female respondents, constituting a substantial 71.1 percent of the total respondent pool. In terms of educational qualifications, 64.4 percent of total respondents are qualified with G C E Advanced Level, while the remaining 35.6 percent are qualified with G C E Ordinary Level. Considering the income distribution, the income range of Rs.26, 000 – Rs. 50, 000 is found to have the highest number of respondents, which accounts for 51.9 percent of the total sample, while the income category exceeding Rs.75, 000 is found to have the lowest

number of respondents that accounted only for 9.6 percent. When examining the family background, 57.8 percent of individuals belong to families with 4 members, and 41.5 percent of the respondents have two dependents within their families.

Table 1:

Standard factor loading

	Component	
	Psychological Wellbeing	Peer Pressure
Q12 I feel more optimistic about my financial future since accessing microfinance	.795	-.030
Q13 I feel more empowered and useful since accessing microfinance	.853	-.130
Q14 I feel less stressed about my financial situation since accessing microfinance	.817	-.036
Q15 I feel more confident in dealing with financial problems since accessing microfinance	.858	-.070
Q16 I feel more confident in my ability to manage my finances since accessing microfinance	.857	-.036
Q17 I feel more connected to my community since accessing microfinance	.779	-.087
Q18 I feel more confident in my ability to achieve my financial goals since accessing microfinance	.851	-.035
Q19 I feel more in control of my financial decisions since accessing microfinance	.849	.033
Q20 I feel more supported by my family and friends since accessing microfinance	.824	-.011
Q21 I feel more interested in learning new financial skills since accessing microfinance	.833	.101
Q22 I feel pressured by other group members to make timely loan repayments	-.087	.598
Q23 I am influenced by the borrowing and repayment behavior of other group members in making my own financial decisions	.033	.714
Q24 I am involving in microfinance as my peers forced me to do	-.065	.731
Q25 I am afraid that I will be left alone in repaying loans, if I do not accept whatever my peers do	.019	.695
Q26 I have to get along with my friends decisions when handling MF, what so ever it may be.	-.014	.588
AVE	.692	.446

Factor Analysis has been performed to test the internal consistency of two constructs (i.e. psychological well-being and Peer pressure), accordingly Standard Factor Loading is presented

in Table 1. Four items from the original scale of psychological well-being have been removed due to weak loading. The Standard Factor Values of the remaining 10 items suggest a robust and comprehensive evaluation of psychological well-being, as all the included items contributes meaningfully to this conduct. Relating to the peer pressure scale, six items have been excluded from the original scale owing to poor loading and loading under different factors. The remaining five items have been used to represent the peer pressure construct. Thus, the Factor Analysis reveals that psychological well-being and peer pressure represent two distinct constructs. Additionally, factor loading values ranging from 0.58 to 0.85 and the Average Variance Extracted (AVE) adequately explains variance in its indicators.

Table 2:

Descriptive Statistics, Cronbach's Alpha and Correlations (Scale data)

Construct	Cronbach's Alpha	Mean	Sd	Psychological Wellbeing	Peer Pressure
Psychological Wellbeing	.950	2.7674	1.02570	0.831	
Peer Pressure	.677	3.2304	0.76590	-0.067	0.667

Note: Diagonal entries show the square roots of average variance extracted, others represent correlation coefficient.

As shown in table 2, according to the results of Reliability Analysis, the Cronbach's Alpha value of psychological wellbeing and peer pressure are 0.95 and 0.67, respectively. Both constructs having values greater than 0.6 confirms that the items of each of the scales have internal consistency at a satisfactory level (Hair et al, 2019). Moreover, mean values of constructs deviate from 2.7674 (psychological wellbeing) to 3.2304 (peer pressure), while standard deviation is ranging from 1.02570 (psychological wellbeing) to 0.76590 (peer pressure). Further, Table 2 represents the correlation scores and the square root of the AVE of both constructs. The square root of AVE is consistently greater than the corresponding correlations, thus suggesting the evidence for good discriminant validity for all constructs (Fornell & Larcker, 1981).

Table 3:

Descriptive Statistics (Ratio Data)

	Minimum	Maximum	Mean	Std. Deviation
Variable				
Loan Size	50000	350000	148888.89	80045.851
Loan Period	6	48	21.80	9.449
Loan Outstanding	2500	320000	98422.22	72616.527
Interest Rates	7	23	14.76	4.274

In light of the results obtained from Descriptive Statistics, as outlined in Table 3, the mean values of loan size, loan period, loan outstanding and interest rate are 148888.89, 21.8, 98422.22 and 14.76 respectively. Mean value represents the average or central point of the respective variable around which the other set of data points tend to cluster. Moreover, the standard deviation values for above mentioned dependent variables are 80045.851, 9.449, 72616.527 and 4.274 respectively. Standard deviation quantifies the amount of variation or dispersion in a set of data points. It indicates how much individual data points differ from the mean of the data set.

Table 4:

Skewness & Kurtosis

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Loan Size	.368	.209	-.824	.414
Loan Period	.438	.209	-.116	.414
Loan Outstanding	.949	.209	.375	.414
Interest Rates	.097	.218	-1.131	.433
Psychological Wellbeing	.468	.209	-1.403	.414
Multiple Borrowing	1.417	.209	.988	.414
Peer Pressure	-.185	.209	-.244	.414

By shifting the focus into Skewness, as illustrated in table 4, the values for loan size, loan period, loan outstanding, interest rates, psychological wellbeing, multiple borrowings and peer pressure are 0.368, 0.438, 0.949, 0.097, 0.468, 1.417 and -0.185 respectively. Accordingly, all of the skewness values except multiple borrowings are between -1 and +1. It indicates that all the variables except multiple borrowings are approximately normally distributed and hence, parametric techniques can be applied.

Table 5:

Correlation Analysis

		Loan Size	Loan Period	Loan Outstanding	Interest Rates
Psychological Wellbeing	Pearson	-.828**	-.783**	-.660**	-.502**
	Correlation				
	Sig. (2-tailed)	.000	.000	.000	.000
	N	135	135	135	123
**. Correlation is significant at the 0.01 level (2-tailed).					

As demonstrated in Table 5, the correlation analysis reveals highly significant relationships between several financial factors and psychological well-being. Loan size exhibits a significant negative correlation ($p = 0.001$, $r = -0.828$), implying that as loan size increases, psychological well-being decreases. Similarly, the loan period demonstrates a significant negative correlation ($p = 0.001$, $r = -0.783$), indicating that longer loan periods are associated with lower psychological well-being. Loan outstanding shows a highly significant negative correlation ($r = -0.660$, $p = 0.001$), highlighting that higher outstanding loan amounts are linked to lower psychological well-being. Furthermore, interest rates exhibit a significant negative correlation ($r = -0.502$, $p = 0.001$), suggesting that higher interest rates are associated with lower psychological well-being. In summary, these findings collectively emphasize the inverse relationship between financial burdens (loan size, period, outstanding, and interest rates) and psychological well-being, indicating that as these financial factors increase, psychological well-being tends to decrease.

Table 6:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.848 ^a	.719	.709	.55321	1.793

According to the results of the Regression Analysis, the model summary, which is depicted in Table 6, reveals a Coefficient of Determination (R^2) of 0.719. This signifies that, out of psychological well-being 71.9 percent is explained by the regression model. Accordingly, 71.9 percent of the variance in psychological well-being can be explained by the independent variables: loan size, loan period, loan outstanding, and interest rate. The Durbin Watson (DW) test statistic is 1.793. The value that lies between 1.5– 2.5 indicates that the residuals are independent. In other words, the residuals are not correlated. Hence, it can be concluded that the model is appropriate.

Table 7:

Coefficients

Model	Unstandardized Coefficients		Standard ized Coefficients	Collinearity Statistics			
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	4.790	.190		25.211	.000		
Loan Size	-8.456E-6	.000	-.660	-5.819	.000	.185	5.393
Loan Period	-.029	.010	-.271	-2.915	.004	.277	3.613
Loan Outstanding	1.739E-6	.000	.123	1.378	.171	.299	3.347
Interest Rates	-.020	.014	-.083	-1.392	.166	.668	1.497

The VIF values for loan size, loan period, loan outstanding, and interest rate are 5.393, 3.613, 3.347, and 1.497, respectively, all below 10, and their tolerance values are 0.185, 0.277, 0.299,

and 0.668, respectively, all exceeding 0.1 (See Table 7). These results indicate the absence of multicollinearity among the independent variables, enhancing the reliability of the regression model (Belsley, Kuh, & Welsch, 1980). According to coefficients, shown in Table 8, the loan size has a substantial negative impact on psychological wellbeing ($P<.001$, $B=-0.660$). Similarly, the loan period also has substantial negative impact on psychological well-being ($P<.001$, $B=-0.271$). Therefore, H1 and H2 are supported. This indicates that when the size of the loan obtained is getting larger and the remaining loan repayment period is longer, the psychological well-being of the micro borrowers tends to decline. In contrast, neither loan outstanding ($P<1.01$) nor interest rate ($P<1.01$) has a significant impact on psychological well-being, resulting in the rejection of both H3 and H4.

Table 8:

Hierarchical Moderator Regression Analysis 1

	<i>Constant</i>	<i>R²</i>	<i>ΔR²</i>	<i>F</i>	<i>β</i>	<i>Sig.</i>	<i>N</i>
Model 1	5.003	0.621	0.621	108.00			135
Loan Period					-0.087	0.000	
Peer Pressure					-0.123	0.096	
Model 2	3.970	0.632	0.011	74.988			135
Loan Period					-0.041	0.080	
Peer Pressure					0.260	0.205	
Loan Period × Peer Pressure					-0.017	0.047	

According to the hierarchical moderator regression analysis for peer pressure (H6), presented in Table 8, model 1 explains 62% ($R^2=0.621$, $F=108$), while predictors of the model 2 explain 63% ($R^2=0.632$, $F=74.988$). In model 1, the loan period is highly significant ($P<0.001$) and in model 2 it is marginally significant ($P<0.1$). The peer pressure is marginally significant ($P<0.1$) in model 1, and insignificant ($P>0.1$) in model 2. Additionally, the interaction term is also significant ($P<0.05$). It indicates that peer pressure completely moderates the relationship between loan period and psychological well-being, accepting H6. Further, the standardized

beta value of the interaction term is -0.017, which indicates that the presence of peer pressure strengthens the relationship between loan period and psychological well-being.

Conversely, the results of the hierarchical moderator regression analysis for multiple borrowing are statistically insignificant (H5). In both model 1 and model 2, loan size shows a highly significant effect ($p < 0.001$). However, multiple borrowing is not significant in either model ($p > 0.1$), and the interaction term between loan size and multiple borrowing is also insignificant ($p > 0.1$). These findings suggest that multiple borrowing does not moderate the relationship between loan size and psychological well-being, rejecting H5.

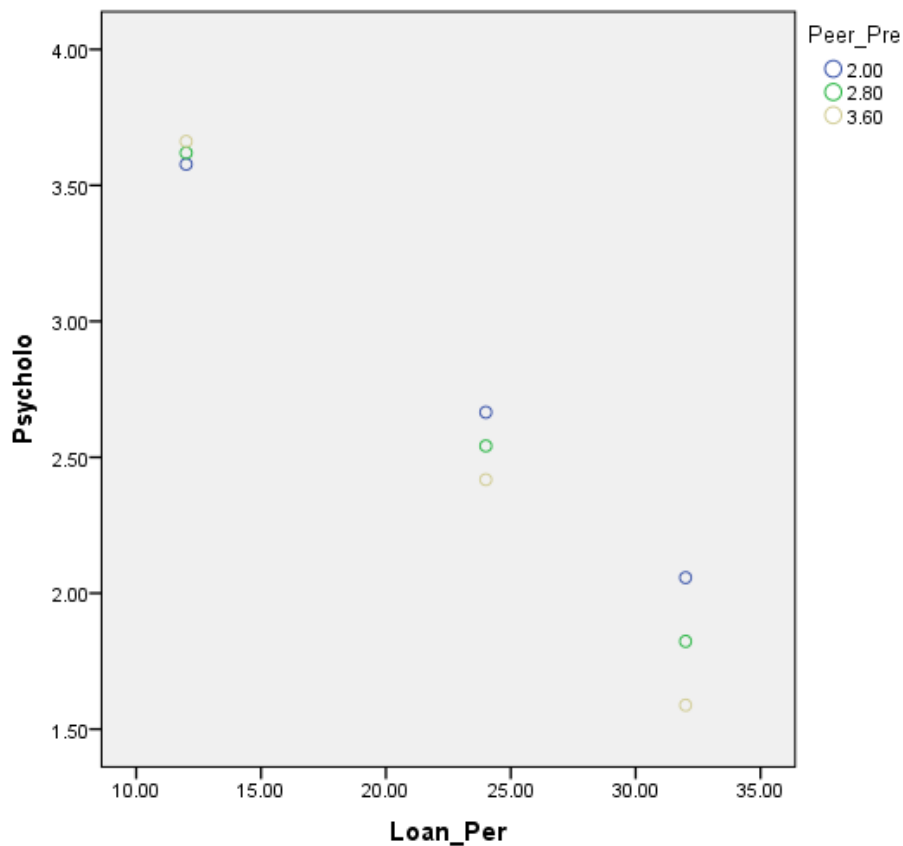


Figure 2: Robust test of moderation

The robustness of the hypothesized moderated model (see Figure 2) is tested using a bootstrapping approach (Hayes, 2013). Loan period and psychological well-being are treated as the predictor and outcome variables, respectively, while peer pressure moderates the relationship between those two variables.

The “PROCESS macro”, model 1, v3.4 (Hayes, 2018) in SPSS ver. 22 with bias-corrected 95% confidence intervals and bootstrap resembling 5000 is used to test the relationship between

loan period and psychological well-being, which is moderated by peer pressure. The overall model is significant, $F(3, 131) = 74.99$, $n = 135$, $p < .001$, and it explains 63% of the variance in psychological well-being ($R^2 = .63$). The interaction between loan period and peer pressure is significant, $b = -0.017$, $SE = 0.009$, $p < .05$, indicating moderation. The negative effect of the loan period on psychological well-being is stronger when peer pressure is higher. In the context of a long repayment period, psychological well-being tends to further deteriorate due to high peer pressure. In contrast, when repayment period is short, psychological well-being is further intensified due to the influence of low peer pressure.

Similarly, the relationship between loan size and psychological well-being is examined using multiple borrowing as a moderator. Though the overall model is significant, $F(3, 131) = 95.43$, $p < .001$, $n = 135$, and it explains 68% of the variance in psychological well-being ($R^2 = .68$), the interaction between loan size and multiple borrowing is not significant ($b = -0.000$, $SE = 0.000$, $p > .10$), indicating that multiple borrowing does not moderate the relationship between loan size and psychological wellbeing.

5. CONCLUSION, LIMITATIONS, AND IMPLICATIONS

5.1 Discussion and conclusion

Two main research objectives of the current study are; to identify the factors that affect the psychological well-being of micro borrowers; and to examine the moderating impact of “peer pressure” and “multiple borrowing” on the relationship between factors identified and the psychological well-being of the micro borrowers. The prevailing literature has emphasized that all the independent variables of this study, loan size, loan period, loan outstanding, and interest rate, have a significant impact on the psychological well-being of the micro borrowers. However, findings of the current study reveals that only the loan size and loan period show significant negative impacts on micro borrowers’ psychological well-being. These findings are aligned with the existing literature. Regarding the negative relationship between loan size and psychological well-being, the study suggests that larger loan sizes tend to reduce the borrowers' psychological well-being, this in confirmation with the existing literature (Fernandes et al., 2014; Schicks, 2013; Roodman, 2012; Taylor, 2012). Although some studies suggest that borrowers prefer the option of accessing larger loans (Claudio et al., 1996; Meryem

et al., 2021; Yasmeen, 2015), the actual psychological burden tends to emerge during the repayment phase rather than at the point of borrowing.

Moreover, with regard to loan period and psychological well-being, the study suggests a negative relationship; longer repayment periods tend to reduce psychological well-being, as borrowers experience prolonged worry about having a long-term financial obligation. Although longer loan periods are often preferred at the time of borrowing (Dhami, 2019; Field et al., 2012), stress and anxiety tend to emerge only when the repayment begins. Thus, these findings align with existing literature, which suggests that longer loan periods can heighten anxiety, financial stress, and reduce psychological well-being, as argued by Karlan and Zinman (2010), Fernald et al. (2008), Schaner (2017), and Banerjee et al. (2015).

Furthermore, with regard to the moderating role of peer pressure and multiple borrowings, it is found that only peer pressure moderates the relationship between loan period and psychological well-being. The peer pressure interacts with the loan repayment period to strengthen the negative relationship between the predictor and the outcome variables. Though prior studies suggest that peer pressure probably influences the psychological well-being of the micro borrowers directly (Cousins, 2013; Engel & Pedersen, 2019; Field et al., 2012), the direct relationship in this study is insignificant. Thus, the study advances the existing knowledge that peer pressure plays a pivotal role in influencing the psychological well-being of the micro borrowers, combined with loan attributes such as loan repayment period.

Additionally, the findings of the research reveal that the interest rates and loan outstanding do not have a statistically significant impact on psychological wellbeing of micro borrowers. Though, according to the existing literature the interest rate is expected to influence psychological wellbeing as a stressful factor, in the context of microfinance it would not be the same due to capital urgency and lack of other credit sources. Because, poor borrowers continue to borrow regardless of the interest rate because they have extremely limited or no access to other credit sources (Adusei, 2021). At the same time, the alternative credit sources, for example informal lenders (i.e. “*poli mudalali*”) are charging extremely higher interest rates (i.e. monthly interest rate at 30%-60%), which makes interest rates charged by the MFIs relatively attractive and affordable (Karunagoda, 2007; CBSL, 2019). Therefore, this could be a strong reason why interest rates do not significantly influence psychological wellbeing, resulting in a statistically insignificant relationship. When it comes to loan outstanding, usually micro borrowers tend to manage loan outstanding via income from their small businesses or rolling loans over the time. So, the mere size of outstanding debt might not necessarily translate into

psychological distress, especially if repayment routine is manageable (Kasoga et al.,2021). Also, borrowers may view outstanding amounts positively (i.e. business investment), if the loan is utilized productively (Madhani, 2022). In such cases, it will not create a psychological burden to the micro-borrower, resulting in a statistically insignificant relationship. Future research could examine these dynamics more deeply by incorporating qualitative insights or moderating factors such as financial literacy and income stability, which may help explain why certain microfinance loan conditions do not translate into psychological distress.

5.2 Managerial Implications of the Study

The findings of this study provide several implications for the microfinance sector in Sri Lanka. Microfinance institutions (MFIs) should consider the psychological wellbeing of micro-borrower alongside financial outcomes when designing and implementing their programs. Firstly, the negative impact of loan size on psychological well-being underscores the need for MFIs to conduct thorough credit assessments, focusing on repayment capacity of the borrowers rather than loan expansion. Especially, it is advisable for the MFIs to maintain loan sizes at a moderate level (e.g. Rs 150,000.), as assessing the true creditworthiness of clients can be challenging when they do not always disclose accurate financial information. Secondly, our findings revealed longer loan periods increase psychological strain. As mentioned earlier, when loan sizes are set at a moderate level (e.g. 22 months – approx. 2yrs.), it automatically influences the repayment structure of the loan as well, particularly on loan period and installment amount. By focusing on the loan period, MFIs can alleviate the stress or the pressure associated with longer loan periods by ensuring that loan periods remain more manageable. Moreover, offering flexible repayment plans and periodic counseling support would also be complementary solutions. Thirdly, the findings indicate that pressure intensifies stress during repayment. However, by maintaining loan sizes and repayment periods at manageable levels, peer pressure can be transformed into positive social capital, preventing it becoming a social capital liability, as supported by social capital theory (Coleman, 1988). When loan amounts and loan durations remain at reasonable levels, peer interactions can foster support, accountability, and encouragement. Building on this foundation, institutions can also introduce mentoring programs, peer support initiatives and workshops to create a more supportive borrowing environment.

Additionally, policymakers should incorporate psychological well-being into regulatory frameworks by promoting responsible lending practices, setting borrower protection standards, and encouraging financial institutions to assess the emotional and social impacts of loan terms.

A balanced focus on both financial and psychological aspects can enhance the impact of microfinance in Sri Lanka.

It is important to note that these implications primarily concern the well-being of clients of the MFIs. Nevertheless, it is absolutely necessary to consider the financial sustainability of MFIs too.

5.3 Limitations and future directions

While this study provides valuable insights, it is essential to acknowledge its limitations. Firstly, this study is limited to a selected geographical area (Balangoda electorate in Sri Lanka), findings derived from the data collected from a sample size of 135 micro-borrowers may constrain the generalizability of findings to a larger population. A more extensive and diverse sample would enhance the representativeness of the study. Secondly, the study has employed a cross-sectional design, making it challenging to establish causal relationships between microfinance and psychological wellbeing. Future research could benefit from longitudinal approaches to better understand changes in psychological wellbeing over time. Thirdly, incorporating qualitative insights or moderating factors such as financial literacy and income stability in future studies will help explain why certain microfinance loan conditions such as interest rate and loan outstanding do not translate into psychological distress.

Reference

- Adusei, M. (2021). Interest rate and the social performance of microfinance institutions. *The Quarterly Review of Economics and Finance*, 21–30.
- Angelucci, M., Karlan, D., & Zinman, J. (2015). Microcredit impacts: Evidence from a randomized microcredit program placement experiment by Compartamos Banco. *American Economic Journal: Applied Economics*, 7(1), 151-182.
- Amit, N., Ismail, R., Zumrah, A. R., Mohd Nizar, M. A., Tengku Muda, T. E. A., Tat Meng, E. C., Ibrahim, N., & Che Din, N. (2020). Relationship between debt and depression, anxiety, stress, or suicide ideation in Asia. *Frontiers in Psychology*.
- Armendáriz, B., & Morduch, J. (2010). *The economics of microfinance* (2nd ed.). MIT Press.
- Bandyopadhyay, S. (2008). Microfinance in the improvement of living standard and GNH. *The Centre for Bhutan Studies*.

- Banerjee, A., & Duflo, E. (2011). *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs.
- Banton, C. (2023). Interest rates: Different types and what they mean to borrowers. *Investopedia*. <https://www.investopedia.com/>
- Bhuiyan, M. F., & Ivlevs, A. (2019). Micro-entrepreneurship and subjective well-being: Evidence from rural Bangladesh. *Journal of Business Venturing*, 34(4), 625–645.
- Central Bank of Sri Lanka. (2019). *Financial Stability Review*.
- Commercial Lending. (2023). *Corporate Finance Institute*. <https://corporatefinanceinstitute.com/>
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95–S120.
- Daniel, G., & Liu, E. (2021). A dynamic theory of multiple borrowing. *Journal of Financial Economics*, 139, 389-404.
- Dhami, S., Arshad, J., & Al-Nowaihi, A. (2019). Psychological and social motivations in microfinance contracts: Theory and evidence. *CESifo Working Paper Series*.
- Duggan, C. (2016). Doing bad by doing good? Theft and abuse by lenders in the microfinance markets of Uganda. *Studies in Comparative International Development*.
- Fayyaz, S., Khurram, F., & Fahd, S. (2020). An impact of Islamic microfinance on women borrower's happiness: A psychological and economic theoretical perspective in Southern Punjab, Pakistan. *Sustainable Business and Society in Emerging Economies*, 2(1), 29-35.
- Fernald, L. C. H., Hamad, R., Karlan, D., Ozer, E. J., & Zinman, J. (2008). Small individual loans and mental health: A randomized controlled trial among South African adults. *BMC Public Health*, 8(1), 409.
- Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861–1883.
- Field, E., Jayachandran, S., & Pande, R. (2013). Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India. *American Economic Review*, 103(5), 125–129.
- Field, E., Pande, R., Papp, J., & Park, Y. J. (2012). Repayment flexibility can reduce financial stress: A randomized control trial with microfinance clients in India. *PLOS One*.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50
- Ghatak, M. (1999). Group lending, local information and peer selection. *Journal of Development Economics*, 60(1), 27–50.

- Giné, X., & Karlan, D. (2014). Group versus individual liability: Long-term evidence from Philippine microcredit lending groups. *Journal of Development Economics*, 107, 65–83.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. The Guilford Press.
- Hayes, A. F. (2018). Partial, conditional, and moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85(1), 4–40.
- Hussain, M., & Strasse, P. (2010). Embodiment and emotionality of women credit clients: Scrutinizing agency constraints of microcredit clients in Sunamganj, Bangladesh. *Asian Social Science*.
- Jain V., Bhowmik, P., & Shivaprasad G. (2023). The psychological effect of mental and social assets on the efficiency of. *Journal for Re Attach Therapy and Developmental Diversities*, 248-258.
- Johnson, S. (2004). The dynamics of competition in Karatina's financial market. *Imp-Act Working Paper*.
- Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies*, 23(1), 433–464.
- Karunaratne, L., & Madurapperuma, M. (2021). Challenges for financial inclusion through micro financing: The goal incongruence between top management and the loan officers. *International Journal of Accounting and Business Finance*, 7(2).
- Kagan, J. (2024, October). Maximum loan amount: Definition and factors lenders consider. *Investopedia*. https://www.investopedia.com/terms/m/maximum_loan_amount.asp
- Khan, S. T., Bhat, M. A., & Sangmi, M.-U.-D. (2023). Impact of microfinance on economic, social, political, and psychological empowerment: Evidence from women's self-help groups in Kashmir Valley, India. *FIIB Business Review*, 12(1), 58-73.
- Kodithuwakku, K. A. S. (2004). *Impact of Informal Credit Markets in Sri Lanka*. Sri Lanka Economic Journal.
- Krishnaswamy, K. (2007). Competition and multiple borrowing in the Indian microfinance sector. *Working Paper, Institute for Financial Management and Research, Centre for Microfinance*.
- Kundu, A. (2010). Can microcredit and job under NREGS jointly bring more happiness to the villagers?
- Laibson, D. (1997). Golden eggs and hyperbolic discounting. *The Quarterly Journal of Economics*, 112(2), 443–478.
- Law Insider. (2021). Loan period definition. *Law Insider*. <https://www.lawinsider.com/dictionary/loan-period>
- Lehner, M. (2009). Group lending versus individual lending in microfinance.

- Lia, C. H., Fernald, R., Hamad, R., Karlan, D., Ozer, E. J., & Zinman, J. (2008). Small individual loans and mental health: A randomized controlled trial among South African adults. *BioMed Central Public Health*, 1-14.
- Madhani, F. (2022). Meeting needs and seeking peace: Experiences of micro-finance loan. *American Journal of Qualitative Research*, 220–241.
- Mia, M. A. (2017). What causes multiple borrowing in microfinance? *Research Article*, 83-99.
- Mirza, M. A., Choudhary, M. A., Khuhawar, M. Y., Arain, R., Naz, A., & Yasmeen, K. (2015). Physicochemical assay of water of Kashmir Lakes: A preliminary comparative study. *American Journal of Environmental Protection*, 4(3), 152-162.
- Microcredit Regulatory Authority. (2023). Microfinance in Bangladesh. Retrieved from https://mra.portal.gov.bd/sites/default/files/files/mra.portal.gov.bd/page/65ce1539_6986_43b1_b4c7_dde44450eac5/2024-02-14-05-59-54ac09fa8647ffc657158c9c24d7dc4d.pdf
- Mudugamuwa, M. (2021). Sri Lanka: Microfinance debt trap: Still awaiting reprieve. *CADTM*. <https://www.cadtm.org>
- Muhammed F. B., & Ivlevs, A. (2019). Micro-entrepreneurship and subjective well-being: Evidence from rural Bangladesh. *Journal of Business Venturing*, 34(4).
- Ntim, D. O. (2018). Microfinance and poverty reduction: Evidence from market women in the New. *ADRRJ Journal of Arts and Social Sciences*, 12-29.
- Pillai, T., & Nadarajan, S. (2010). Impact of microfinance: An empirical study on the attitude of SHG leaders in Kanyakumari district, Tamil Nadu. *International Journal of Enterprise and Innovation Management Studies*, 1(3), 89-95.
- Prince, J. (2014). The impact of access to microfinance on mental health.
- Rathore, B. S. (2015). Social capital: Does it matter in a microfinance contract? *International Journal of Social Economics*.
- Rhyne, E. (2001). Mainstreaming microfinance: How lending to the poor began, grew, and came of age in Bolivia.
- Robinson, C. D., & Schumacker, R. E. (2009). Interaction effects: Centering, variance inflation factor, and interpretation issues. *General Linear Model Journal*, 35(1), 6–11.
- Roodman, D. (2012). *Due diligence: An impertinent inquiry into microfinance*. Center for Global Development.
- Rutherford, S. (2000). *The poor and their money*. Oxford University Press.
- Sarumathi, S., & Mohan, K. (2011). Role of microfinance in women's empowerment: An empirical study in Pondicherry region rural SHGs. *Journal of Management and Science*, 1(1), 1-8.

- Schaner, S. (2017). The persistent power of behavioral change: Long-run impacts of temporary savings subsidies for the poor. *American Economic Journal: Applied Economics*, 10(3), 67–100.
- Schicks, J. (2013). The over-indebtedness of microborrowers in Ghana: An empirical study from a customer protection perspective. *Journal of International Development*, 25(1), 126–146.
- Seligman, M. E. (2011). Building resilience. *Harvard Business Review*, 89(4), 100-106.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction (Vol. 55). *American Psychological Association*.
- Shreya, Faria, N. (2021). Are two sources of credit better than one? Credit access and debt among microfinance clients in Bangladesh. *EconStor*.
- Soni, S. (2023). Microfinance loan portfolio jumps to nearly Rs 3.5 lakh cr at March-end; portfolio quality improves: Report. *Financial Express*. <https://www.financialexpress.com/business/sme-msme-fin-microfinance-loan-portfolio-jumps-to-nearly-rs-3-5-lakh-cr-at-march-end-portfolio-quality-improves-report-3124122/>
- Taylor, M. (2012). The antinomies of ‘financial inclusion’: Debt, distress and the workings of Indian microfinance. *Journal of Agrarian Change*, 12(4), 601–610.
- Tegambwage, P. S. (2021). An assessment of over-indebtedness among microfinance institutions’ borrowers: The Tanzanian perspective. *Cogent Business & Management*.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*.
- Thaler, R. H. (1985). Mental accounting and consumer choice. *Marketing Science*, 4(3), 199–214.
- Wisniwski, S. (2010). Over indebtedness: Evidence, causes and consequences. *European Fund for Southeast Europe*, Prague, Czech Republic.