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Access To Micro-Credit & Women Empowerment: A Quantitative Study Based On Parallel Mediation Analysis

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Abstract

Women's Empowerment is one of the most impactful topics of recent times. Especially the importance of this topic is much higher concerning the developing sides of the world. However, there is a lack of studies concerning women's empowerment in Islamic Eastern countries. Especially in the area of quantitative research, there is a severe lack of studies on women's empowerment concerning Asian and developing markets. Hence, this study is conducted purposively to understand the impact of micro-credit on women's empowerment in Pakistan. Analysis of this study is grounded in parallel mediation analysis and a theoretical triangulation approach. Hence, the rigor and outcomes of this study are beneficial for researchers, academicians, intrapreneurs and policy makers. Hence, the study is one of the pervasive studies that can be used for better understanding, conducting rigorous research and improved policy making.

Keywords: Women Empowerment, Micro-Credit, Pakistan, Increase of Exposure & Increased Confidence.

INTRODUCTION

In developing sides of Asia, women are found to be less privileged and also found to be less involved in social, economic and business activities as compared to their counterparts. Studies also mentioned that the lesser contribution of women in social, political and economic activities resulted in a paralyzed democracy (Mandal, 2013).

Hence, it is required that women must not be perceived as a marginalized part of society, and they must participate actively in the societal and economic activities. Hence, women's empowerment is perceived as one of the major areas for research all over the globe (Mandal, 2013). According to research, the variation in the level of women's empowerment is based on differences in culture and socio-economic conditions. Similarly, it is valid for Asia, where women's empowerment is found to be on the lower side as compared to the Western world. Hence, there is no exception for South-East Asia where women occupy the secondary role in economic and social life (Gupta, 2003, & Zafar, 2016). However, women's empowerment is a global challenge, and around 70% of the world's poor are women. Hence, strategies are underway to help and assist females in their fight against poverty. In most countries, the eradication of poverty is associated with women's

empowerment (Kato & Kratzer, 2013). Therefore, there is a substantial increase in research associated with women's empowerment over the past three decades (Badri, 2013). According to research, the situation may be controlled by the increase in the number of micro-financial institutions, which will substantially improve the level of women empowerment and push women towards the mainstream through providing easy access to micro-finance (Nissa et al., 2012)
According to research, the use of Microcredit is one of the most important tools for flourishing small-scale businesses and also to empower and assist the underserved. The same is also valid for females who can be leveraged through microfinance (Badri, 2013). The role of Micro Credit is also substantial, empowering and emboldening women by giving them control over assets and increased self-esteem and knowledge (Malik & Luqman, 2005). However, according to research, empowerment is a movement from a powerless region towards the region of power (Saadati et al, 2022). The role of micro-finance is to optimize the skills, abilities and confidence of females and transform them into a productive workforce (Badri, 2013). Availability of micro-credit resulted in decreased social and cultural obstacles for women and made women confident and financially stable. However, women from developing parts of the world do not receive proper training and education to increase their abilities and skills for utilizing micro-credit. Hence, these women raised concern about the policies and planning of the United Nations and Non-Governmental organizations related to women's empowerment in developing countries of the world (Adeel et al., 2023)

Theoretical Framework

Darwish et al (2020) proposed three-dimensional models for women's empowerment. According to this model, there are three types of women's empowerment that are labelled as Individual Empowerment, Relational Empowerment and Social Empowerment. However, there is a significant lack in the generalizability of this model across different parts of the globe due to variations in social, familial and cultural aspects. Similar points are valid when there is a need to conduct research on women's empowerment with respect to Pakistan (Adeel et al., 2023). Hence, only one dimension, i.e., Women's Economic Empowerment, has been selected from the three-dimensional model proposed by Darwish et al (2020). Hence, it is better to use the Quality of Life theory and Maslow's Hierarchy of Needs theory as indicated by Fayyaz et al (2015) in order to highlight women's economic empowerment through access to micro-finance. The selection of these theories looks optimal as the theory of need highlighted by Maslow (1943) highlighted step-by-step motivation of human beings, especially for the marginalized groups. Other than this reason, the use of Quality of Life Theory and Maslow (1943) along with the three-dimensional models for women empowerment by Darwish et al (2020) would be an efficient way to select the most appropriate variables and increase the theoretical rigor of this study.

Research Model

Women's empowerment is required to improve women's image and foster their strengths. On the other side, women's empowerment is also required for poverty alleviation, defending human rights and bringing social change (Saadati et al., 2022). Previous studies reflected that the use of micro-credit is related to multiple themes (spaces) in which women are empowered in society. These spaces include economic space, socio-cultural space, managerial space and mental space (Badri, 2013). However, investigating all the spaces is difficult to explore, which means there is a need to focus on a specific space of women's empowerment in order to conduct quantitative research (Griffin & Phoenix, 1994). On the other side, most of the studies related to women empowerment,

e.g., Adeel et al (2023) and Sahar et al (2025), use economic women empowerment as the major outcome variable.

Adding further to the work, it is important to highlight the study of Adeel et al (2023) that highlighted the mediating role of skills and education for making women in society. Adeel et al (2023) used skill development as the mediating variable between access to micro-credit and women's empowerment. However, Tiwari and Malati (2023) training is also required for making women, which means skills must be replaced by exposure as the mediating variable. Moreover, Arputhamani and Prasannakumari (2011) and Hoque et al. (2023) reflected women's feelings of security as one of the other potential mediating variables. However, different types of women's empowerment cannot be supported by the same mediating variables (Tiwari & Malati, 2023). Hence, in line with these points, the research model of this study is based upon three parallel mediating variables used to check the indirect effect of access to micro-credit on women's economic empowerment.

Major Research Questions

RQ1: What is women's empowerment?
RQ2: How to determine women's empowerment?
RQ3: Why is Women's Empowerment important?
RQ4: What is Economic Empowerment for women?
RQ4: Where can we find more economically empowered women?

Significance Of The Study

This study is one of the few studies that uses a quantitative model to assess women's economic empowerment. Moreover, this study is the first one that relates access to micro-finance to the increase of women's exposure, women's confidence and women's security to check the indirect effect of micro-finance on women's economic empowerment. Hence, this is one of the pervasive studies that has multifold significance that can be associated with better knowledge, further research work and better policy making. These postulates are true as the use of this study will not only increase knowledge and understanding of researchers but will also assist in conducting better research. Other than these benefits relating to the outcomes of this study, policymakers can come up with better policies and KPIs for an increase in the level of women's empowerment and an increase in the contribution to the attainment of SDGs

LITERATURE REVIEW

Micro-credit schemes of different banks, NGOs and other organisations reduced poverty, increased mobility and strengthened networks among women who were previously confined to their homes. These research studies emphasised the effectiveness of credit as a tool for poverty reduction and women's empowerment. Micro-credit played a valuable role in reducing the vulnerability of the poor, through asset creation, income and consumption smoothing, and provision of emergency assistance (Malik & Luqman, 2005). Literature also emphasised that micro-credit will not only increase women's contribution to their families and society but will also lend them confidence, ability to take part in household decision-making, and a greater societal network (Akhter et al., 2020).

Access to Micro Finance and an Increase in Exposure of Women:

Micro-Financial Institutions that are supported by the government are working to optimise female abilities and skills through training and development programs in order to foster entrepreneurial abilities in females. Hence, most of the time, these training programs are free to polish business ideas and to provide the required set of knowledge to females (Adeel et al., 2023). Studies mentioned that women themselves highlighted an increase in their level of confidence and optimisation of the ability to make decisions due to access to micro-credit (Prajapati & Patel, 2015). Hence, it is optimal to believe in the points mentioned by Mengstie (2022) that access to micro-finance provides sufficient credit to women to build confidence, skills and abilities that are required to optimise the level of women's exposure.

H_1A: There is an association between Access to microfinance and Exposure of Women

Access to Micro Finance and an Increase in Women's Confidence:

Access to microfinance fosters the level of self-confidence and also optimises the decision-making abilities of females (Anand & Karn, 2023 & Gautam, 2024).
This actually happens when women start to understand market dynamics and negotiate with different stakeholders. Training and support from micro-financial institutions also act as a major reason to make women feel confident (Dutt, 2015). These elements will ultimately optimise the level of financial literacy and women's economic empowerment (Dungana et al., 2023, & Dutt, 2015). Prajapati and Patel (2015) mentioned that women who are accessing micro-financial services reported an increase in self-confidence that ultimately resulted in improved community services and social interactions (Anand & Karn, 2023)

H_2A: There is an association between Access to microfinance and Women's Confidence

Access to Micro Finance and an Increase in Feeling of Security:

Access to micro-finance has the ability to bridge the financial gap for females (Mina & Ansari, 2022). Similar points are found to be valid through the study of Gassama (2021), which provides the examples of a micro-financial program in Gambia through which gender disparities have been resolved and women had the opportunity to be involved in financial activities. On the other side, access to micro-credit also leveraged unbanked people through providing financially secure solutions and reducing information asymmetry (Agarwal et al., 2018).

H_3A: There is an association between access to microfinance and feelings of Security by Women

Women's Exposure & Women's Empowerment:

Women's Exposure increased through media and education, resulting in a significant surge in the level of women's empowerment (Nayak & Mahanta, 2009, & Ting et al., 2014). Moreover, an increase in women's access to education and urban residency is also leveraging the level of women's empowerment. The most valid reason for this postulate is the increase in understanding and decision-making ability due to urban residency and an increase in the level of education. A similar finding is found valid in Asian Developing markets, where the study reflected a significant increase in women's empowerment due to an increase in education (Akter et al., 2024). However,

advancement is not working well for every woman, and still, there are many women facing severe challenges in accessing education and resources (Fuentes, 2023)

H_4A: There is an association between Women's Exposure and Women's Economic Empowerment

Women's Confidence & Women's Empowerment:

Research indicated that self-confidence is perceived as the initial point or first stone in the cycle of women's empowerment (Al-Qahtani et al., 2021). Importance of Self-Confidence has also been reflected by the study conducted by Jahanbakhsh et al (2015), which reflected intensively upon self-confidence for empowering women. Studies indicated that an increase in confidence is found to be positively related to women's empowerment. However, it is not an easy process, nor is it easy to understand. However, the association does have a positive impact on one's life and also on societal structures (Karmakar & Adhikari, 2023). However, an increase in the level of confidence of women from marginalised groups is found to have a significant impact on the empowerment of women from marginalised groups (Kumari, 2022)

H_5A: There is an association between Women's Confidence and Women's Economic Empowerment

Feeling of Security & Women Empowerment:

Sahu (2016) indicated that empowerment is not only associated with external resources and the world but also with internal transformation, which is required to make women challenge the world's status quo and deal with societal imbalance. In this regard, research emphasises female identity and social control that are massively important for making women feel secure and increasing the level of women's empowerment (Amin & Khah, 2016). A recent study by Mahajan (2022) also emphasised women's self-esteem and ability to make decisions to empower women enough that they may assert their rights.

H_6A: There is an association between Women's feelings of Security and Women's Economic Empowerment

Access to Micro-Finance, Women's Confidence and Women's Empowerment:

According to Al-Shami et al (2021), access to microcredit also increases the level of self-respect in females. Moreover, it also optimises their level of confidence so they can act as divine decision-makers in the households.
Studies also claim that the role of micro-finance in women empowerment is much substantial than providing them skills, knowledge and confidence. Through micro-finance, females have become confident enough to contribute to household income and also manage their children effectively.

H_7A: Women's Confidence Mediates between Access to Micro-Finance and Women's Economic Empowerment

Access to Micro-Finance, Women's Exposure and Women's Empowerment:

Access to microcredit resulted in an increase of women's financial independence (Anand & Karn, 2023) and also the women's participation in household decision-making (Sinha et al., 2018).

Similarly, access to micro-credit enables women to set their own enterprises & aids an increase in income and development of personal assets (Anand & Karn, 2023 & Okunlola et al., 2019). However, Sinha et al (2018) reported that reciprocal effects may also be found, as an increase in access to microfinance may also lead to a decline in women's empowerment caused by an excess of debt and stress.

H_8A: Women's Exposure Mediates between Access to Micro-Finance and Women's Economic Empowerment

Access to Micro-Finance, Feeling of Security & Women Empowerment:

Access to microcredit resulted in an increase in social consciousness and level of aspirations among the underserved. Similarly, it is also valid for women as access to micro-finance will also improve the level of self-confidence in women and also make them more active in social life, communities and household decisions (Chakraborty & Abraham, 2025). Sinclair et al (2016) indicated that access to microfinance is significantly important for women from urban locations and results in an increase in their security and empowerment. However, in rural areas, there is still a need to overcome challenges related to financial inclusion and women's economic empowerment. Hence, there is a need for continuous efforts to expand micro-finance services and to address regulatory and infrastructural issues in order to assist the growth of micro-finance and to make it reach every part of society (Arputhamani & Prasannakumari, 2011, & Hoque et al., 2023)

H_9A: Women's Feeling of Security Mediates between Access to Micro-Finance and Women's Economic Empowerment

RESEARCH METHODOLOGY

Research Methodology is the part of research that not only elaborates on the elements that are used to compile the study but also provides the reason to prefer elements used in the study over other sets of elements (Kothari, 2004). However, in order to conduct research in an effective manner, it is optimal to divide the research methodology into two or three parts (Sekaran, 1983); these parts are research design, sampling design and research instrument (Sekaran & Bougie, 2016).

Research Design

The philosophy used to compile this study is epistemology, which is pointed out as the philosophy of knowledge by Saunders et al (2007). However, there are various other authors like Aarons (2011) and Dohn (2011) who classified epistemology as the philosophy of knowledge. Philosophical Stance that is used to relate research philosophy with the research approach is post-positivism (Saunders et al., 2015). According to research, post-positivism is mostly used to analyse quantitative research models, but the real purpose of using post-positivism over positivism is to leverage the advantage of flexibility (Maksimovic & Evtimov, 2023). Hence, the purpose of research is correlational, and data have been collected in a non-contrived setting with moderate researcher's interference; the unit of analysis is individual (Sekaran & Bougie, 2016). The research strategy was a survey, the methodological choice was mono-method, and the time horizon is cross-sectional (Saunders et al., 2015). A similar research design was used by most of the studies that are based on quantitative assessment of results. e.g., Adeel et al. (2023) and Sahar et al (2015), etc. Hence, the research design developed for the conducting of this study is appropriate enough and it

is also capable of addressing all the queries related to the selection of research design elements as mentioned by Kothari (2004).

Sampling Design

Previously, there were multiple pieces of evidence of research work that were carried out using primary data and closed-ended questionnaires for assessing the impact of micro-finance on the underserved.
Examples include Rahman (2010) and Al-Shami et al (2018), who conducted studies on access to microfinance on the underserved segments of society. Hence, the Sampling Design used in this study is similar to the sampling design of previous studies associated with women empowerment from Asia, e.g., Rahman (2010) and Al-Shami et al (2018) and especially from Pakistan, e.g. Adeel et al. (2023); Fayyaz et al (2015); Masood and Javaria (2020); Sahar et al (2025) and Shafique and Siddique (2020), etc.
However, Masood and Javaria collected their sample only from the Punjab Province without specifying any details about the data collected from different districts, etc. Similarly, the data of Shafique and Siddique is only from rural areas of Pakistan. However, the study of Qureshi and Herani (2011) highlighted that Karachi has the highest number of MFIs, and Karachi is also perceived as the city where women have almost equal rights compared to their counterparts (Neithammer et al., 2007). Hence, it is better to use Karachi city as the base and apply sampling tactics used by previous studies to draw the most adequate sample from Karachi. Therefore, a sample of 387 respondents has been drawn through applying non-proportionate quota sampling as the percentage of respondents varies not only for respondents from urban and rural areas but also from different areas and locations, etc. Hence, the sampling design for this study is in parallel to the studies of Masood and Javaria (2020), Sahar et al (2025) and Shafique and Siddique (2020). Initially, 500 questionnaires were circulated, but the number of questionnaires received back from respondents was 445. After a thorough assessment, 58 questionnaires were also discarded on the grounds of inappropriate responses, etc. Hence, the response rate for this study is 77%.

Research Instrument

The Research Instrument used in this study is a closed-ended questionnaire that was developed through considering the questionnaires and related elements from the studies of Dungana et al (2023), Masood and Javaria (2020), Sahar et al (2025), Tiwari and Malati (2023) and Yasmeen et al (2024).

STATISTICAL TESTING AND ANALYSIS

Most of the studies related to women's empowerment are either qualitative in nature or do not use mediation or indirect effect, e.g., Dugana et al (2023) and Masood and Javaria (2020). Hence, these studies haven’t used advanced statistical tools. However, studies that are linked with mediation and moderation analysis use advanced tools, e.g., structural equation modelling (SEM), to assess the outcomes. Study of Tiwari and Malati (2023) also uses SEM through AMOS to assess women's empowerment.

Table 1: Construct Reliability & Convergent Validity

Variable	Outer Loading	Cronabach's Alpha	Goldstein rho	Composite Reliability	AVE
Access to Micro Finance	0.951 0.957 0.896	0.928	0.941	0.954	0.874
Feel Secure	0.896 0.729 0.893	0.791	0.804	0.880	0.710
Increase of Confidence	0.881 0.936 0.893	0.887	0.890	0.930	0.817
Increase of Exposure	0.899 0.923 0.924	0.903	0.903	0.939	0.838
Women Empowerment	0.786 0.913 0.919	0.844	0.852	907	0.765

Hence, this study also uses SEM to assess the outcome of women's empowerment. According to Gunzeler (2013), SEM is a better tool than regression and may predict better results for causal and temporal relations. Use of SEM can be further optimised by using SMART-PLS, which is one of the most preferred software by statisticians and researchers (Wong, 2013). SMART-PLS working is based upon two models, i.e., outer (structural) model and outer (measurement) model (Ab Hamid et al., 2017). Structural Model is used to highlight the association between indicators and latent variables, while the Measurement Model is used to predict the association between variables used in the study (Wong, 2013). Therefore, the use of SMART-PLS is preferred to understand not only the results but also the valid paths and relationships in a detailed and efficient manner (Vijaybanu & Arunkumar, 2018).

Figure 1: Outer Loading and CFA

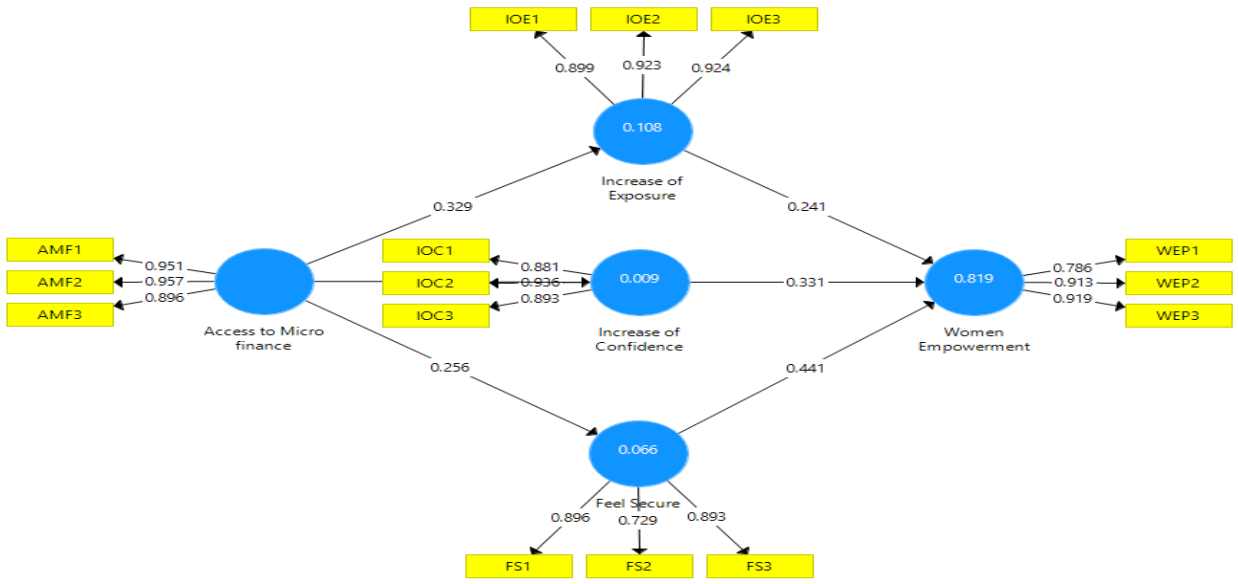


Table 1 indicates construct reliability, composite reliability and convergent validity. Adeleke et al (2015) indicated that outer loading, along with composite reliability and Average Variance Extracted (AVE). The values of outer loading may range from 0 to 1, and these values act as proof of the reliability of every indicator. Therefore, research may delete any indicator that has an outer loading of 0.60 or lower in order to increase overall convergent validity of the model (Afthanorhan, 2013). Coming towards the authenticity of measures used to reflect internal consistency, it is legitimate to indicate that Cronbach's alpha, Goldstein's rho and Composite Reliability all have the same range of values as outer loading and values lesser than 0.70 are not perceived as optimal to declare internal consistency. However, AVE with values 0.50 or above is sufficient to declare convergent validity (Ab Hamid et al., 2017). Therefore, in line with the parameters and threshold values mentioned here, it is optimal to believe that Table 1 is sufficient to declare construct reliability, composite reliability and convergent validity

Heterotrait-Monotrait Ratio

Table 2 is used to highlight Discriminant Validity. According to Malik et al (2021) and Rehman et al (2023), the most appropriate tool to highlight discriminant validity is the Heterotrait-Monotrait Ratio, which is actually the measure to show that the variables used in the study are different from each other and there is no chance of overlap either in terms of quantitative measures or qualitative measures. However, there is a need to use a specific benchmark to validate the results of the Heterotrait-Monotrait ratio, and the benchmark has been provided by Hair et al (2019) that no value must cross 0.85 to assure a significant difference in the focused set of variables. Hence, Table 2 is sufficient to affirm discriminant validity as there is no value at any of the junctions that is 0.85 or above.

Table 2: Discriminant Validity (Heterotrait-Monotrait Ratio)

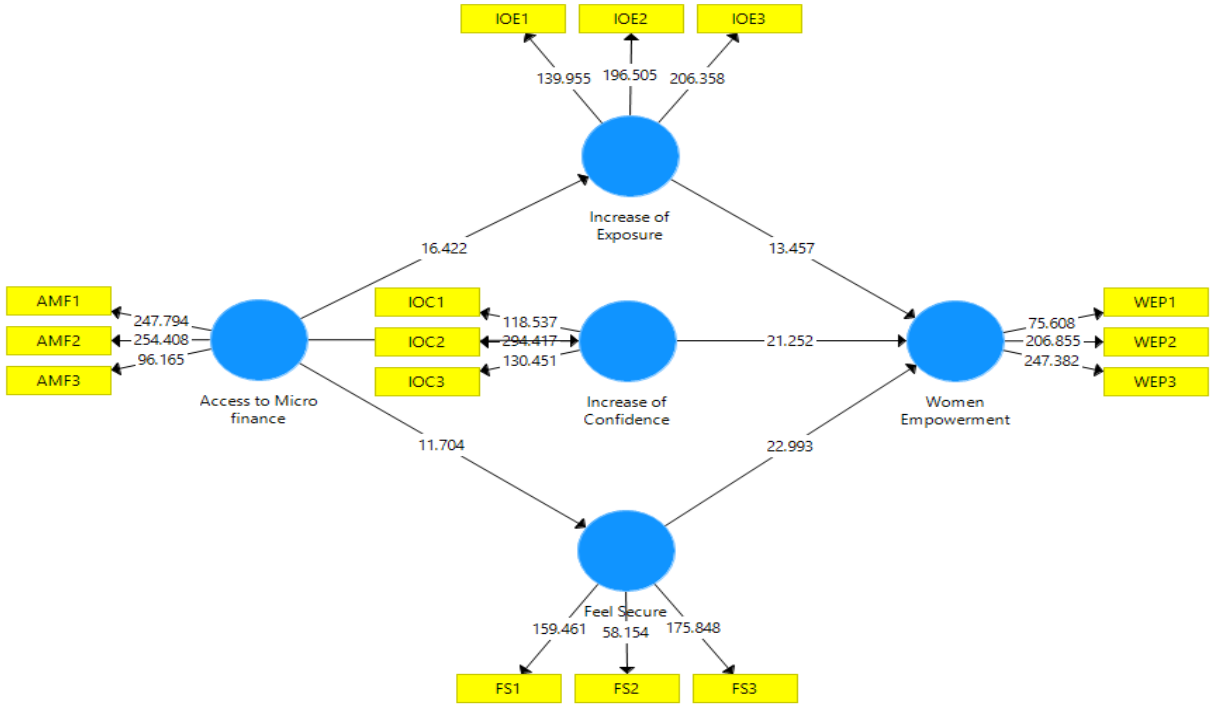
	Access to Micro finance	Feel Secure	Increase of Confidence	Increase of Exposure	Women Empowerment
Access to Micro finance					
Feel Secure	0.294				
Increase of Confidence	0.112	0.661			
Increase of Exposure	0.358	0.751	0.632		
Women Empowerment	0.258	0.839	0.809	0.845	

Table 3 is the Predictive Accuracy that is based upon the change that has been generated by 1% change in the values of the independent variable. Hence, the tool is the backbone to validate the structural (outer) model and infer (measurement model (Purwanto et al., 2020). Wong (2013) provides us with the rubric to evaluate the outcomes of predictive accuracy as non-reliable (ineffective) change, minimal change, moderate change and substantial change.

Table 3: Quality Criteria (Predictive Accuracy)

	R Square	R Square Adjusted
Feel Secure	0.667	0.652
Increase of Confidence	0.651	0.645
Increase of Exposure	0.640	0.631
Women Empowerment	0.518	0.510

Figure 2: Path-Coefficient



According to the study any value lesser than 0.25 is ineffective to highlight the impact of change in independent variable over the dependent variable. 0.25 is the indication of minimal change, 0.50 is the reflection of moderate change and 0.75 is the guarantee of substantial change. Hence, considering the Table 3 it is required to believe that there is no outcome variable that is not been affected by the change in predicting variable(s). In fact, the outcome value for all the variables are indicating moderate change that is seems legitimate to move further and apply inferential statistical tools on the research model.

Table 4: Path-Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Access to Micro finance -> Feel Secure	0.256	0.256	0.022	11.704	**0.000**
Access to Micro finance -> Increase of Confidence	0.095	0.095	0.023	4.210	**0.000**
Access to Micro finance -> Increase of Exposure	0.329	0.329	0.020	16.422	**0.000**
Feel Secure -> Women Empowerment	0.441	0.440	0.019	22.993	**0.000**
Increase of Confidence -> Women Empowerment	0.331	0.331	0.016	21.252	**0.000**
Increase of Exposure -> Women Empowerment	0.241	0.243	0.018	13.457	**0.000**

Table 4 indicates the path coefficient that is associated with the inferential statistical section of SMART-PLS. Hence, the tool is actually associated with a measurement model and used to

highlight the relationship between the variables of interest (Silaparasetti et al., 2017). However, results cannot be validated until or unless the results satisfy the benchmark criteria provided by Hair et al (2017) and Hair et al (2019), i.e., t-statistical values for all the cases must be equal to or greater than 1.97, and p-values must be less than or equal to 0.05. Both criteria must be met in order to obtain reliable results of inferential statistics.

Therefore, in the light of the benchmark values and measures indicated by Silaparasetti et al. (2017), Hair et al (2017) and Hair et al (2019), it is appropriate to declare that all the relationships that are associated with the study are found true. Hence, in the light of this study, it is appropriate to reject H_1O, H_2O, H_3O, H_4O, H_5O & H_6O, which means Access to Micro Finance has a definite & positive association with women's exposure, women's confidence and women's feeling of security. Similarly, an increase in women's exposure, optimisation of women's confidence and betterment in women's security are also positively associated with women's economic empowerment.

Table 5: Specific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Access to Micro finance -> Feel Secure -> Women Empowerment	0.113	0.113	0.010	10.773	**0.000**
Access to Micro finance -> Increase of Confidence -> Women Empowerment	0.032	0.031	0.008	4.150	**0.000**
Access to Micro finance -> Increase of Exposure -> Women Empowerment	0.079	0.080	0.007	10.826	**0.000**

Table 5 is used to indicate specific indirect effects that are mediating analysis, and it is also a part of the inferential statistical portion. Hence, the threshold value and rubric to evaluate the results are the same as those provided by Hair et al (2017) and Hair et al (2019). Hence, like Table 4 here, it is legitimate to declare that Table 5 is also fulfilling all the requirements and mediation of all three parallel mediators (i.e., Feel Secure, Increase of Confidence & Increase of Exposure), all of which were found true for the research.

Therefore, it is optimal to accept H_7A, H_8A & H_9A. Hence, all the mediating variables, i.e., increase in women's exposure; increase in women's confidence and increase in women's security play a positive and indirect role in the relationship between access to micro-credit and women's economic empowerment.

CONCLUSION & DISCUSSION

Conclusion

Findings of the study affirm that access to Micro-Finance has an indirect association with women's economic empowerment. Other than this major finding, the results through SMART-PLS also reflected that access to Micro-Finance has a positive relationship with an increase in women's exposure, an increase in confidence & increase in women's security. On the other side, an increase in women's exposure, an increase in confidence & increase in women's security also have a positive relationship with women's economic empowerment. Hence, it is optimal to check the mediation role of all three parallel mediating variables. Thus, the use of specific indirect effect has been

made, which highlighted the valid mediating role of all three variables in relating access to micro-credit with women's economic empowerment.

Discussion

Findings of this study indicated that access to micro-credit has a positive and indirect association with women's economic empowerment. Moreover, according to the outcomes of research, the selection of all three parallel mediating variables is also satisfactory. Hence, initially it is optimal to highlight that the use of Darwish et al (2020); Fayyaz et al (2015) and Maslow (1943) to incorporate theoretical triangulation based upon Maslow's Hierarchy of Need Theory, Quality of Life Theory and Three-dimensional models for women empowerment that cannot be gauged in a generalized manner even with respect to a developing country like Pakistan (Adeel et al., 2023).
Therefore, in line with Adeel et al (2023) and Sahar et al (2025), this study is also associated with women's economic empowerment and hence finding results in numeric form is not difficult (Griffin & Phoenix, 1994). Moving towards the model development, it is optimal to indicate the selection of predicting variables according to Sahar et al (20025) and relating it to women's economic empowerment in an indirect manner is found to be legitimate and affirmative, as the findings of this study also support the relationship.
However, the use of mediating variables is based upon the indications of Adeel et al (2023); Arputhamani and Prasannakumari (2011); Hoque et al. (2023) and Tiwari and Malati (2023) and as the findings proves the mediating relationship of all the three variables which makes us indicate the use of mediating variables fruitful and justified. Outcomes of the study indicated that access to micro-credit improves women's exposure (Adeel et al., 2023; Malik & Luqman, 2005; Mengstie, 2022 & Prajapati & Patel, 2015), women's confidence (Anand & Karn, 2023; Dungana et al., 2023 & Dutt, 2015 & Gautam, 2024) and women's security (Agarwal et al., 2018; Gassama, 2021 & Mina & Ansari, 2022). Lastly, the outcomes of this study also validate the mediating role of women's exposure that has been supported by Anand and Karn (2023), Sinha et al (2018) and Okunlola et al. (2019). Hence, it is optimal to accept the postulates, points and reflections made by these studies. Moving further, the findings of this study are also positive for women's confidence as the mediating variable between access to micro-finance and women's economic empowerment. Hence, it is also legitimate to accept the points and reflections made by Al-Qahtani et al. (2021); Al-Shami et al (2021); Anand and Karn (2023) and Gautam (2024). Lastly, the findings of this study also affirm the mediating role of women's security, thus also legitimising the points and indications of Arputhamani and Prasannakumari (2011); Chakraborty and Abraham (2025); Hoque et al (2023) and Sinclair et al (2016)

Policy Implications

This study can be used to understand the importance of women's exposure, women's confidence and personal feeling of security. Hence, policy makers may have a definite understanding of the parameters they must consider for optimisation of confidence, exposure and feeling of security that is required by any female, especially from urban areas like Karachi. However, different policies and practices might be opted for by females from rural and urban areas, as indicated by Muhammad et al (2012) for better policies and practices of MFIs. On the other side, better policies may also be developed to deal with discrimination and harassment that may reduce women's exposure, confidence and self-security. Similar points are also indicated by Shakoor et al (2021), and relevant policies are deemed necessary for the removal of discrimination from society.

Need For Future Research:

Like all the other studies, this study also has some limitations that can be viewed and overcome by other researchers to find out more usable models and results.

i. Initially, researchers can use the model of this study to conduct a comparative study with reference to the different provinces and cities of Pakistan. Hence, it is recommended to use control variables that may highlight different cities or provinces for comparative studies.
ii. Moreover, studies may also conduct further studies by taking reference from Tiwari and Malati (2023) to understand the impact of access to microfinance on different types of women empowerment.
iii. Lastly, studies may also use moderating variables like governmental support, etc., with an increase in women's exposure or an increase in women's confidence to clarify the impact that governmental support can create for women's economic empowerment.

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