



Analysis of the Relationship between Informal Settlements and Social Exclusion with the Mediating Role of Social Capital in the Metropolis of Mashhad: A Mixed-Methods Study

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Abstract

Background and Objective: The phenomenon of marginalization, as one of the major challenges in Iranian metropolises, not only reflects spatial inequalities but also paves the way for various forms of social exclusion. This study was conducted to analyze the relationship between informal settlements and social exclusion, emphasizing the mediating role of social capital in the metropolis of Mashhad.

Methodology: This research employed a mixed-methods (quantitative-qualitative) design. The statistical population consisted of residents of informal settlements in Mashhad, from which 500 individuals were selected through stratified random sampling. Quantitative data were collected using a researcher-made questionnaire, and qualitative data were gathered through 20 semi-structured interviews. Quantitative data analysis was performed using Structural Equation Modeling (SEM), while qualitative data were analyzed using thematic analysis.

Results and Findings: Quantitative findings revealed that informal settlements have a direct and positive effect on social exclusion ($\beta = 0.59$), and social capital exerts a significant negative effect on social exclusion ($\beta = -0.42$). Furthermore, social capital plays a significant mediating role in the relationship between informal settlements and social exclusion. Qualitative findings uncovered three main themes: pervasive structural deprivation, social isolation and experience of discrimination, and weakness of support networks. Exploratory factor analysis also identified three factors contributing to informal settlements: economic poverty and employment issues, migration and lack of urban services, and lack of legal ownership. The findings indicate that informal settlements lead to social exclusion through both direct and indirect pathways (via social capital). This study suggests that urban policies should focus not only on physical interventions but also on strengthening bridging social capital and establishing participatory local institutions. The results of this research can serve as a basis for equity-oriented planning in similar metropolises.

Keywords: Informal Settlements, Social Exclusion, Social Capital, Structural Equation Modeling, Thematic Analysis, Mashhad.

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Extended Abstract

Introduction

The rapid growth of informal settlements, or marginalization, is a prominent manifestation of spatial inequality in developing countries' metropolises. These areas are often characterized by poverty, inadequate infrastructure, and legal ambiguities regarding land tenure. Living in such conditions can lead to multi-dimensional social exclusion, depriving residents of full participation in economic, social, and political life. Social capital, comprising networks of trust and cooperation, is theorized to act as a buffer against exclusion. This study aims to analyze the relationship between informal settlements and social exclusion in Mashhad, Iran, with a specific focus on the mediating role of social capital. The main research questions are: 1) What is the direct relationship between informal settlement and social exclusion? 2) What is the effect of social capital on social exclusion? 3) Does social capital mediate the relationship between informal settlement and social exclusion?

Methodology

A mixed-methods approach was adopted to provide a comprehensive analysis. The quantitative phase involved a cross-sectional survey. The statistical population was residents of informal settlements in Mashhad, from which a sample of 500 individuals was selected using stratified random sampling. Data were collected via a standardized questionnaire measuring three main constructs: informal settlement conditions, social exclusion, and social capital (bridging and bonding). Data analysis was performed using Structural Equation Modeling (SEM) with SPSS-26 and AMOS-24 software to test the hypothesized relationships and the mediation effect. The qualitative phase involved 20 semi-structured interviews with residents, local activists, and urban experts, selected through purposive sampling. The interviews were analyzed using thematic analysis in MAXQDA software to gain an in-depth understanding of the mechanisms and lived experiences of exclusion.

Results and Discussion:

Quantitative results from the SEM analysis confirmed a significant direct and positive relationship between informal settlement and social exclusion ($\beta = 0.59$, $p < 0.001$). Social capital had a significant negative effect on social exclusion ($\beta = -0.42$, $p < 0.001$). Crucially, the results confirmed the mediating role of social capital, with a significant indirect effect ($\beta = 0.20$, $p < 0.01$), indicating that informal settlement also exacerbates exclusion by eroding social capital. Exploratory Factor Analysis (EFA) identified three key factors driving informal settlement growth: 'economic poverty and unemployment', 'migration and lack of urban services', and 'lack of legal ownership.' Qualitative findings enriched these results by identifying three core themes: 1) Pervasive structural deprivation (e.g., lack of basic services, poor infrastructure), 2) Experiences of social isolation and discrimination (e.g., stigmatization, feeling of insecurity in city centers), and 3) Erosion of support networks and social capital (e.g., trust limited to kin, lack of connection to formal institutions). These themes illustrate how spatial marginalization translates into social and psychological exclusion in daily life.

Conclusion

The findings demonstrate that social exclusion in Mashhad's informal settlements is not merely an economic issue but a complex outcome of structural deprivation, spatial stigma, and weakened social capital. The study underscores that social capital, particularly the lack of bridging social capital that connects residents to broader resources and institutions, plays a critical mediating role. While bonding social capital (strong ties within the community) exists,

it is insufficient to counteract exclusionary forces and may sometimes reinforce isolation. Therefore, urban policies must move beyond physical upgrading alone. Interventions should deliberately aim to build bridging social capital by creating participatory local institutions, facilitating links between communities and city authorities, and implementing inclusive urban policies that reduce discrimination. This research provides a validated model for understanding the socio-spatial dynamics of exclusion in similar contexts.

Declarations

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Authors' Contribution

Authors contributed equally to the conceptualization and writing of the article. All of the authors approved the content of the manuscript and agreed on all aspects of the work declaration of competing interest none.

Conflict of Interest

The authors declare no conflict of interest.

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