

## **A Spatial Autocorrelation Analysis of Women's Mental Health and Walkability Index in Mashhad City, Iran, and Recommendations to Improve It**

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**Abstract :** Today, along with the development of urbanism, its negative consequences on the health of citizens are emerging. Mental disorders are common in the big cities, while mental health enables individuals to become active citizens. Meanwhile, women have a larger share of mental problems. Depression and anxiety disorders have a higher prevalence rate among women and these disorders affect the health of future generations, too. Therefore, improving women's mental health through the potentials offered by urban spaces are of paramount importance. The present study aims to first, evaluate the spatial autocorrelation of women's mental health and walkable spaces and then present solutions, based on the findings, to improve the walkability index. To determine the spatial distribution of women's mental health in Mashhad, Moran's I was used and 1000 questionnaire were handed out in various sub-districts of Mashhad. Moran's I was calculated to be 0.18 which indicates a cluster distribution pattern. The walkability index was calculated using the four variables pertaining to the length of walkable routes, mixed land use, retail floor area ratio, and household density. To determine spatial autocorrelation of mental health and the walkability index, bivariate Moran's I was calculated. Moran's I was determined to be 0.37 which shows a direct spatial relationship between variables; 4 clusters in 9 sub-districts of Mashhad were created. In High-Low cluster, there was a negative spatial relationship and hence, to identify factors affecting walkability in urban spaces semi-structures interviews were conducted with 21 women in this cluster. The findings revealed that security is the major factor influencing women's walking behavior in this cluster. In accordance with the findings, some suggestions are offered to improve the presence of women in this sub-district.

**Keywords :** Mashhad, spatial autocorrelation, women's mental health, walkability index

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