



Residential satisfaction in deprived urban neighbourhoods: a case study of Harare's selected informal settlements

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Received: 9 July 2021 / Accepted: 1 August 2022 / Published online: 5 November 2022
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Abstract

This paper examines residential satisfaction and the factors that influence it within the context of Harare's selected informal settlements (Hopley, Hatcliffe extension and Epworth ward 7). The study presents interesting findings from regression analysis; some of which challenge the dominant narratives that characterize deprived neighbourhoods as having low residential satisfaction. From the bivariate (OR = 1.600, $p < 0.05$) and multivariate (OR = 1.647, $p < 0.05$) analyses, residents with strong social networks have higher odds of being very satisfied with their residence compared to residents with weak social networks. Also, long-time residents (OR = 1.671, $p < 0.01$) were found to be very satisfied with their residence compared to newcomers. Additionally, respondents who agreed to receive help from local politicians have higher odds (OR = 1.851, $p < 0.01$) of very satisfied residential satisfaction compared to those who did not receive help from local politicians. Furthermore, place attachment is significantly associated with very satisfied residential satisfaction. Residents with high place attachment (OR = 1.535, $p < 0.05$) are more likely to be very satisfied with their residence compared to those with low place attachment. The implications of the findings for urban policy and practice are also highlighted.

Keywords Informal settlement · Harare · Length of stay · Place attachment · Residential satisfaction · Social network

1 Introduction

In urban studies and housing literature, residential satisfaction has received increased scholarly attention (Li & Wu, 2013). Residential satisfaction is conceptualized as a measure of residents' satisfaction with both their housing units and the neighbourhood environments (Terzano, 2014; Hashim, 2003; Ogu, 2002). Residential satisfaction evaluates the extent

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to which housing conditions meet residents' aspirations, needs, and expectations (Mohit et al., 2010; Salleh, 2008). Higher residential satisfaction indicates a greater magnitude of consonance between actual and desired housing conditions (Li & Wu, 2013). Some of the existing studies focus on residential satisfaction in public housing schemes (see Byun & Ha, 2016; Shahriari et al., 2014; Mohit et al., 2010), residential satisfaction with privacy in gated communities (Bandauko et al., 2022), while others examine predictors of residential satisfaction (see Ibem et al., 2019; Gan et al., 2016; Li & Wu, 2013). Other scholars have also examined residential satisfaction in Global South contexts, particularly in China and Malaysia, focusing on urban villages and low-cost public housing, respectively. For example, Li & Wu (2013) analyze residential satisfaction in three Chinese cities of Beijing, Shanghai, and Guangzhou. In Malaysia, Salleh (2008) examines residential satisfaction in the states of Penang and Terengganu and documents that neighbourhood characteristics are the most critical factors influencing residents' residential satisfaction. As well, Buys & Miller (2012) explore residential satisfaction in inner urban higher density contexts in Brisbane, Australia and observe that social contacts (family and friends) were among the primary predictors of residential satisfaction in the study's context.

Despite the growing academic literature on residential satisfaction, few studies have been conducted within the context of informal settlements in developing countries, especially in sub-Saharan Africa (SSA). Existing studies on residential satisfaction in SSA focus largely on the dynamics in public housing schemes and other formal residential settings (see, for example, Ibem et al., 2019; Okoye & Chigbu, 2017; Ibem & Amole, 2013; Clement & Kayode, 2012; Ukoha & Beamish, 1997). While research on residential satisfaction in public housing and formal residential neighbourhoods is growing, scholarship on this subject in informal settlements remains extremely limited even though informal settlements provide alternative housing options for most of the urban poor in SSA cities. In the context of Harare, existing studies on informal settlements focus mainly on the challenges confronting these neighbourhoods (see, Chikowore, 2021; Matamanda, 2020a, 2020b); territorial stigmatization and its implications for residents' lived experiences (see, Bandauko et al., 2022), and the role of informal settlements in human development focusing on Epworth Ward 7, Hopley, and Hatcliffe Extension (see, Bandauko et al., 2022).

Housing serves many purposes. Housing is one of the necessities of life (Coker et al., 2008). Housing is more than a physical structure that meets dwelling needs. Housing epitomizes a myriad of things: a socio-economic determinant of health (see, Redden et al., 2021; Rolfe et al., 2020; Arku et al., 2011; Baiden et al., 2011; Luginaah et al., 2010; Dunn et al., 2006; Dunn, 2000), a place of social interactions (see, Vera-Toscano & Ateca-Amestoy, 2008; Ozaki, 2002), a place of privacy (see, Tao, 2018; Oldman, 2005), a place of identity formation (see, Bradley, 2017, Curtis, 2010; Giddens, 1991), enhancement of resilience of cities (see, McGee et al., 2017; Vale et al., 2014), and a place of comfort. Thus, by examining residential satisfaction in informal settlements, the study will generate new findings that can inform urban development interventions, including informal settlement upgrading programmes. The current study's findings may assist government, housing developers, and other relevant stakeholders to better comprehend users' needs and expectations. Additionally, studying residential satisfaction in informal settlements is important for determining housing improvement proposals and for designing locally appropriate place-based interventions to improve living conditions for people living in such deprived neighbourhoods.

The key questions addressed in this paper include: what is the level of residential satisfaction among residents of selected Harare's informal settlements? What individual and neighbourhood factors predict residential satisfaction among residents of Harare's selected informal settlements? These questions are important because literature in the Global North tends to associate deprived neighbourhoods with low residential satisfaction, even though residential satisfaction defies global generalization. A context-sensitive scholarly engagement with these questions is important to challenge some of the dominant narratives that associate deprived urban neighbourhoods with low residential satisfaction.

This paper examines residential satisfaction in Harare's informal settlements, focusing on the city's expanding informal neighbourhoods of Hopley, Hatcliffe Extension, and Epworth Ward 7. The paper examines informal settlement residents' satisfaction with their residential environment and determines the main predictors of residential satisfaction. The study makes both theoretical and policy contributions. Theoretically and empirically, the study contributes to the on-going debates on residential satisfaction, by extending the empirical focus to informal settlements, which are often under researched on this subject in the Global South. The study also contributes to housing literature by identifying factors predicting residential satisfaction in informal settlements. The empirical insights from Harare's selected informal settlements have implications in other urban contexts as informal settlements are a global phenomenon that has similar characteristics like tenure insecurities, limited access to urban services, and inadequate infrastructure. Evidence from this study has policy and practical implications within the context of the Sustainable Development Goal (SDG# 11) which advocates for inclusive, safe, resilient, sustainable cities, and human settlements (Koch & Ahmad, 2018). Existing scholarship has established that residential satisfaction is closely related to residents' quality of life, particularly for low-income households (Li et al., 2019; Riazi & Emami, 2018).

The rest of the paper is structured as follows. The next section reviews empirical studies on residential satisfaction, exploring the different factors shaping it. This is followed by the conceptual framework and the context of the study. Subsequently, the research methodology is outlined, including the sampling, data collection and analytical techniques adopted. Results from bivariate and multivariate ordered logistic regression are then presented. The paper ends by discussing the findings within the context of existing literature on residential satisfaction in informal settlements and highlighting the implications of these findings for urban policy and practice.

2 Literature review: residential satisfaction in informal settlements and its predictors

As mentioned earlier, the subject of residential satisfaction has received much attention in academic literature. Residential satisfaction is often conceptualized as the difference between households' actual and expected housing and neighbourhood conditions (Ibem et al., 2019). A review of literature reveals that the existing studies have predominantly focused on the following factors as predicting residential satisfaction: the participants' sociodemographic features, housing characteristics, and socio-spatial variables (see, Dekker et al., 2011). First and foremost, individual or household attributes can affect residential satisfaction. Such factors, according to Li and Wu (2013), include race, gender, presence of children, age, edu-

cation, gender, marital status of the head of household, and income. Second, housing features predominantly encompass factors such as housing tenure (owned or rented), location (urban, suburban, or rural) and physical conditions. For instance, positive housing characteristics, including larger house dimensions and superior internal structure, have been found to predict higher residential satisfaction (Davis & Finedavis, 1981). Regarding socio-spatial variables, the characteristics that neighbourhood satisfaction surveys evaluate are invariably defined in four quality areas: the physical environment, access to various activity nodes, local services, and facilities, socioeconomic settings (Baum et al., 2010).

Residential satisfaction studies have examined the influence of these factors within the context of informal settlements in the Global South (see, for example, Adewale et al., 2019; Abdul & Hashim, 2015; Wokekoro 2015; Amietsenwu & Ajayi, 2010; Dimuna & Omatsone, 2010; Coker et al., 2008). For instance, Adewale et al. (2019) examine residential satisfaction in Oke-Foko, Ibadan Metropolis' core areas. The authors found that most of the participants in their study (52%) were generally satisfied with their housing conditions, with an overall satisfaction level score of 3.21. The factors explaining this level of satisfaction include home ownership status, living in a family house or rent-free occupancy, high levels of place attachment, and love for their ancestral home. Other scholars report different findings on residential satisfaction in deprived urban neighbourhoods (see, Dimuna & Omatsone 2010; Coker et al. 2008). Specifically, Coker et al. (2008) found that residents of high-density zones (over 300 persons per hectare) reported a low level of satisfaction based on housing conditions and neighbourhood environments—emanating from overcrowding.

Studies on residential satisfaction in informal settlements have also been conducted from comparative perspectives (see, Amietsenwu & Ajayi 2010; Abdul & Hashim, 2015). Particularly, in the context of Lagos Metropolis, Nigeria, Amietsenwu and Ajayi (2010) examine occupants' satisfaction in two contexts—neighbourhoods close to and those far away from dumpsites. The authors found that occupants adjacent to dumpsites show lower levels of satisfaction compared to neighbourhoods far away from dumpsites. In contrast, Abdul and Hashim (2015) examine three core and unplanned neighbourhoods in Kano Metropolis, Nigeria and found no significant difference in the mean level of satisfaction with housing situations across the three neighbourhoods. However, the authors found that the neighbourhoods differ in terms of the mean level of satisfaction concerning housing features, neighbourhood accessibility, and neighbourhood facilities. Additionally, the observed difference in the mean level of satisfaction is attributable to poor physical planning in the city, unequal distribution of urban amenities and services in unplanned areas, and limited space for infrastructural development (Abdul & Hashim, 2015). Consistent with Abdul and Hasim (2015), Wokekoro's (2015) study of Marine Base and Afikpo quarters in Port Harcourt, found that most of the residents were dissatisfied with their housing settings because of the lack of access to basic facilities and services, including proper domestic waste management facilities, water, and power supply.

Other researchers have also examined how social and emotional connections to individual's housing environment influence or predict residential satisfaction (see, Casakin & Reizer, 2017; Li & Wu, 2013; Caldieron, 2011). For example, a study conducted in three informal settlements in Beijing, Shanghai, and Guangzhou found that lack of social attachments had a significant negative effect on residential satisfaction (Li & Wu, 2013). The authors emphasize that "local context not only matter but may be the principal determinants of residential satisfaction" (Li & Wu, 2013: 923). Unlike Li and Wu's findings, other stud-

ies in different contexts demonstrate a statistically positive association between emotional connections to a place and residential satisfaction. In Puerto Rico, Caldieron (2011) found that residents of informal settlements in La Perla have strong emotional connections to their neighbourhood and are, therefore, satisfied with their dwellings. The high residential satisfaction among residents despite the glaring socio-economic problems of their settlement is intriguing. This is partly due to the degree of strong emotional attachments to their settlements and the fact that the neighbourhood offers residents the opportunity to be part of a network of self-support systems.

Regarding neighbourhood's physical and social characteristics, the physical and social features of housing units have been recognized as a predictor of residential satisfaction in informal settlements (see, Adewale et al., 2019; Türkoğlu et al., 2019; Addo, 2016). For example, in their study on residential satisfaction among formal and informal settlements, Türkoğlu et al. (2019) found that the neighbourhood's physical and social characteristics (attractiveness, accessibility, attachment, municipal services, and environmental stressors) were the primary predictors of residential satisfaction in Istanbul Metropolitan area. Among these factors, the authors observed that attractiveness was the most predominant factor in residents' neighbourhood satisfaction. Furthermore, there were marked differences in residential satisfaction among formal and informal settlements. While residents of formal housing neighbourhoods found their neighbourhood attractive compared to those of informal settlements, residents of informal settlements had strong attachments to their neighbourhoods compared to residents in planned housing environments (Türkoğlu et al., 2019). Similarly, a study in Ghana found that residents of low-income informal settlements (James Town, Tema Manhean, Madina, Accra New Town, and Ashaiman) were moderately satisfied with the neighbourhood features and most satisfied with community support services (Addo, 2016). Moreover, the author documented that most residents expressed dissatisfaction with dwelling units' features and reported low habitability index for most of the neighbourhood facilities. Nonetheless, social support emerged as one of the determinants of residential satisfaction in addition to neighbourhood characteristics (Addo, 2016).

A review of the empirical studies demonstrates mixed findings regarding the diverse factors predicting residential satisfaction. The review indicates that most studies on residential satisfaction in informal settlements within the context of SSA have focused predominantly on Nigeria and other Global South contexts. However, there are no known studies that examine predictors of residential satisfaction in Harare's informal settlements. Thus, the question of what factors predict residential satisfaction among residents of Harare's informal settlements remains unexplored and timely. Therefore, the findings of the study must be acknowledged as an effort to contribute to the highly under-researched area of residential satisfaction in Harare, Zimbabwe.

3 Conceptual framework of the study

Figure 1 provides a broad framework for the present study. This framework is adopted based on the review of the literature on residential satisfaction in informal settlements and conceptual frameworks of previous studies (see for example, Adewale et al., 2019, Ibem et al., 2019; Ibem & Amole, 2013). Drawing on these studies, this paper demonstrates that residential satisfaction among residents of Harare's informal settlements is contingent on

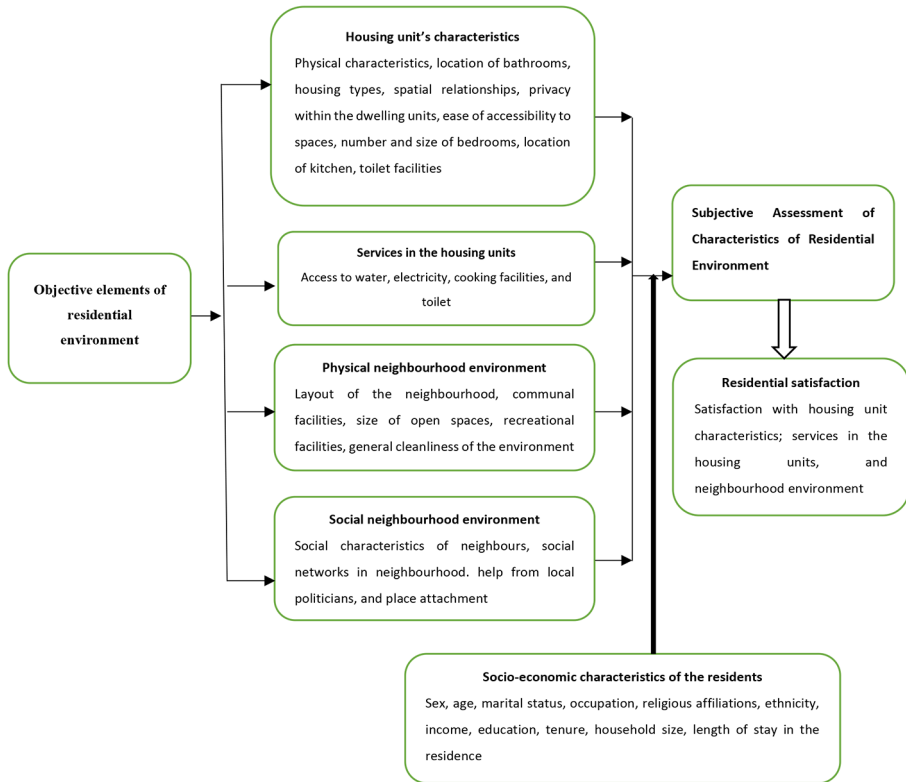


Fig. 1 Conceptual framework of the study. Source: Adapted from Adewale et al. (2019)

residents' demographic factors (length of stay), social neighbourhood environment (residents' social networks, help from local politicians, and place attachment).

The framework (Fig. 1) demonstrates that individual's residential satisfaction is a function of two key components: the dwellers' objective assessment and subjective evaluation of their residential environment's diverse components (Ibem et al., 2019). Consequently, the central postulation in the framework is that informal settlements' residential environment consists of services in the dwelling units, physical and social attributes of the neighbourhood setting, and objective characteristics of the dwelling units (Adewale et al., 2019). Further, when the residents interact with the residential settings' objective features, they appraise their residential environment's functioning in meeting their overall housing needs and aspirations (Adewale et al., 2019). The assessment, emanating from the gap between their housing needs and aspirations, becomes the subjective component of the residential environment characteristics, culminating in a measure of residents' residential satisfaction. Grounded in this conceptualization and consistent with previous studies, the central presupposition is that the primary predictors of residential satisfaction among residents of informal settlements of Harare are social networks, length of stay, help from local politicians, and place attachment.

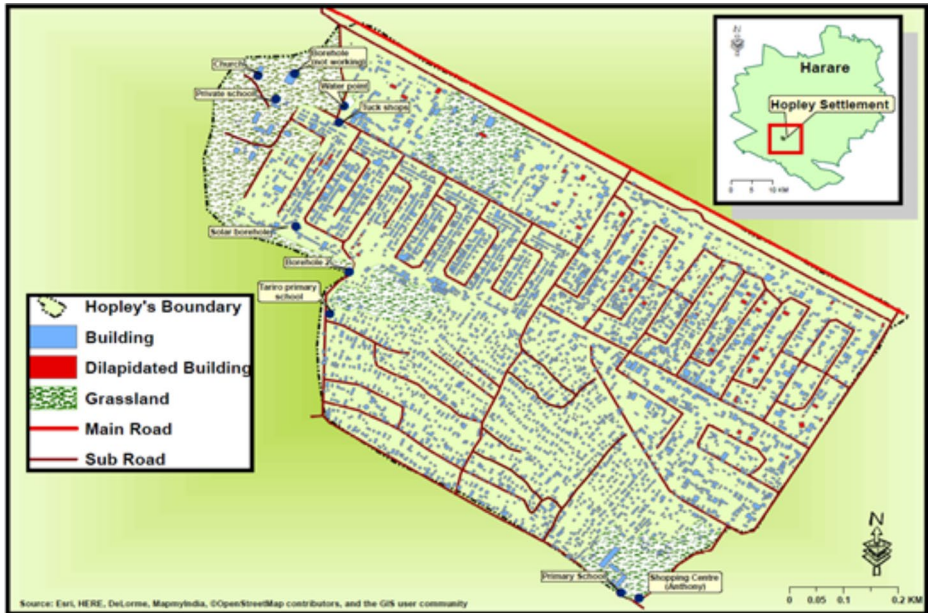


Fig. 2 Existing developments in Hopley. Source: Migrants on the margins project

4 Hypotheses

Based on the review of the literature on residential satisfaction in informal settlements, the paper hypothesizes that: (a) residents with strong social networks will be more likely to report high residential satisfaction compared to those with weak social networks; (b) Long-time residents will report high residential satisfaction compared to newcomers; (c) High place attachment will positively predict residential satisfaction; (d) Compared to respondents who reported not receiving help from local politicians, those who reported of having received help are more likely to report high residential satisfaction; and (e) Gender and age will not be associated with residential satisfaction.

5 Study context

The study was conducted in Harare's three expanding informal settlements namely, Hopley, Hatcliffe Extension and Epworth Ward 7. These settlements are underserved in terms of water, sanitation, formal housing, and transport infrastructure. They are home to diverse populations, including victims of forced displacement and eviction, descendants of former migrant workers from Mozambique and Malawi, people from overcrowded old high-density suburbs looking for land, and new arrivals from the countryside. The three informal settlements are located on the periphery of Harare's administrative boundary (Fig. 2).

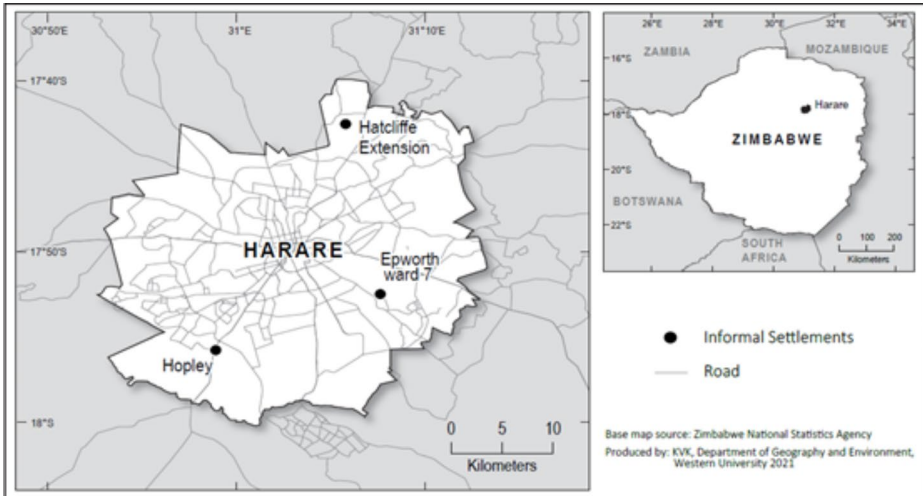


Fig. 3 Location of study sites. Source: Migrants on the margins project

6 Characteristics of study communities

Hopley Hopley was established by the Government of Zimbabwe in 2005 to accommodate victims of ‘Operation Restore Order’, which led to massive demolitions of informal housing developments in Zimbabwe’s major towns and cities (Bandauko et al., 2022; Muchadenyika, 2020). Though the current statistics vary, the United Nations Population Fund (UNFPA), a UN organization working in Hopley estimated the population of the settlement to be around 200,000 in June 2018. The number of households estimated to be above 20,000. Hopley’s planned area is approximately 443.7ha of which 117ha were set aside for the development of 7,800 residential stands ranging from 150m² to 300m² (Fig. 3). Hopley is one of the most overcrowded informal settlements in Harare, where majority of the residents do not have access to basic infrastructure and services. The settlement comprises of six zones that have mixed types of housing structures; with some built from temporary structures like plastics, wood and others with brick and mortar (McGregor & Chatiza, 2020a). However, it is important to note that Hopley is a heterogeneous settlement; while 90 per cent of it comprises of unplanned houses, there are some sections that have been developed with approved layout plans (Muchadenyika, 2020). Nonetheless, Hopley depicts all the main characteristics of an informal settlement—acute lack of essential infrastructure and services (e.g., water and sanitation), poor quality and overcrowded housing conditions, tenure insecurity and the construction of houses without planning permission, among others.

6.1 Hatcliffe Extension

Hatcliffe Extension emerged in 1993 as a transitional holding camp for evictees (who moved from other camps such as Porta farm and Dzivarasekwa Extension) (Chirisa et al., 2014; McGregor & Chatiza, 2020b). The settlement is located about 30km North of Harare (Fig. 4). Currently, Hatcliffe Extension is home to more than 30,000 people and the number of

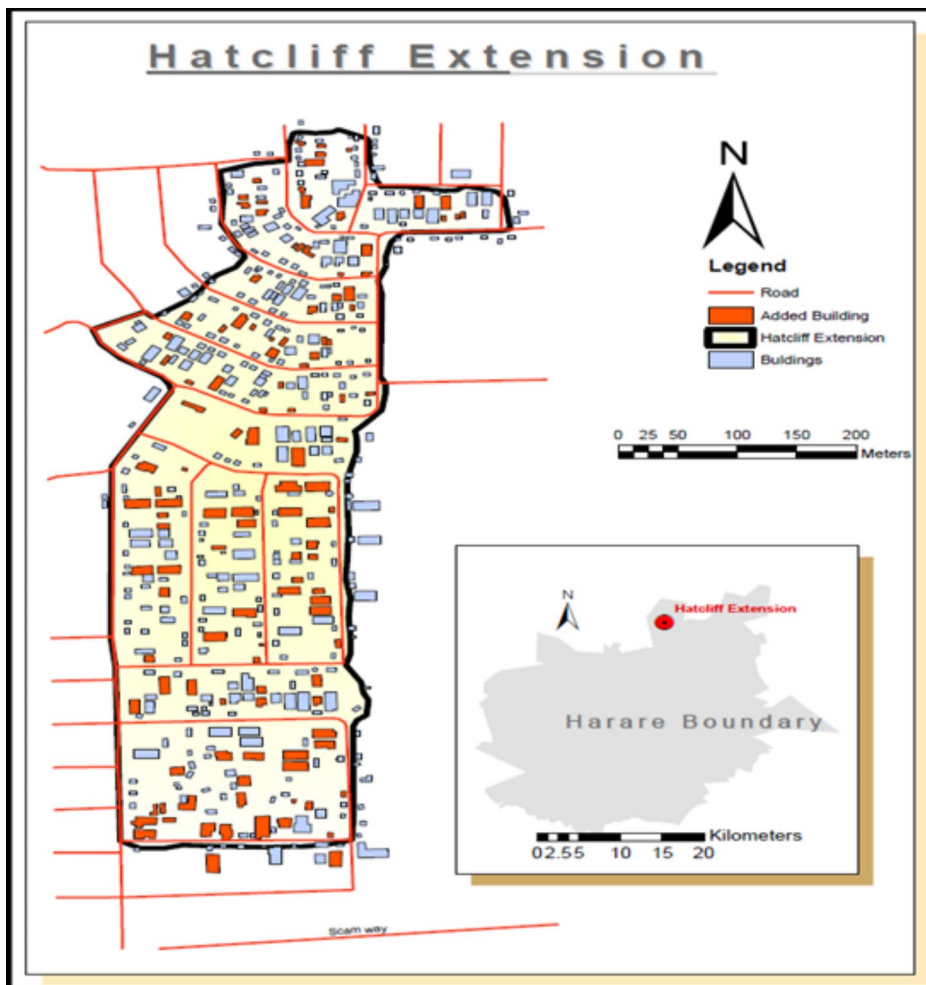


Fig. 4 Map of Hatcliff Extension and its environs. Source: Migrants on the margins project

households exceeds 18,000. The housing stock in Hatcliff Extension comprises of brick-and-mortar houses, wooden cabins, and polythene shacks.

6.2 Epworth Ward 7

Epworth is one of the oldest settlements in the Harare metropolitan region (Muchadenyika, 2020); which originated during the liberation war in the 1970s as a settlement of war displacedes who had sought sanctuary on land belonging to the Methodist church (for detailed historical accounts, see Muchadenyika 2020; Chitekwe-Biti et al., 2012). Though Epworth is another settlement outside Harare, it is largely considered to be part of peri-urban settlements in the city. Epworth Ward 7 emerged in 1995 and is located on what was the grazing land of 'original' Epworth residents (McGregor & Chatiza, 2020a). Epworth Ward 7 is commonly known as 'Magada', which literally means those who squatted or settled themselves.

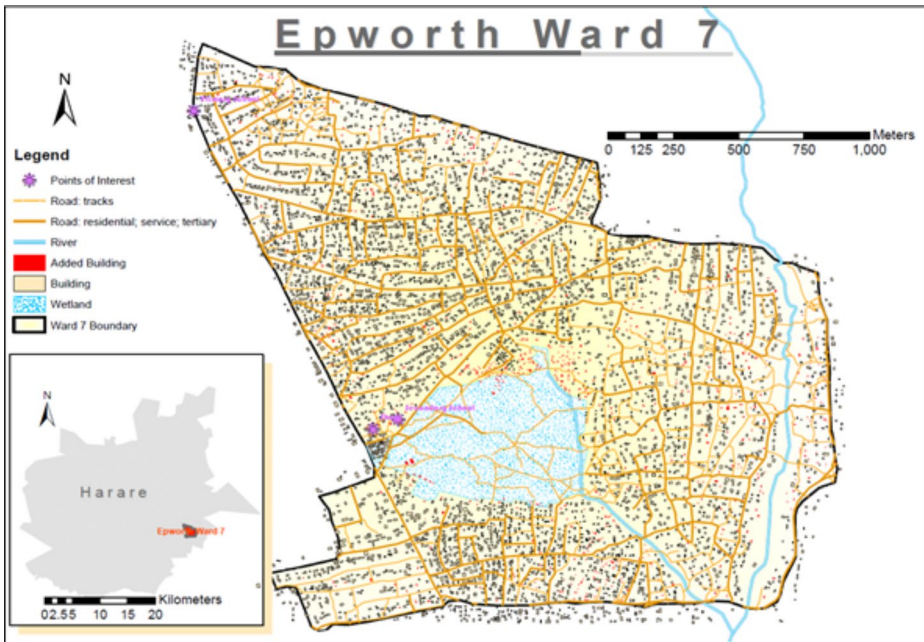


Fig. 5 Map of Epworth Ward 7 and its environs. Source: Migrants on the margins project

The residents of Epworth Ward 7 were former tenants in other parts of Epworth and outsiders who bought plots illegally from ‘originals’ (McGregor & Chatiza, 2020a). Epworth Ward 7 is located 15 kilometers to the east of Harare Central Business District (Fig. 5). Based on the 2012 census estimates, the population of Epworth Ward 7 was at 39,031, with an estimated number of households of 10,662 (ZimStats, 2012). With this estimated population, Epworth Ward 7 is almost the same size with Bindura, one of the municipalities located 88km northeast of Harare. Between 2005 and 2007, there was a massive influx of people into Epworth Ward 7 because of an ‘*Operation Murambatsvina*’ that had affected places such as Mabvuku, Tafara, Mbare, Budiro and many others. However, the population has since expanded to an estimated 80,000 people (McGregor & Chatiza, 2020a), which indicates a rapidly expanding settlement. In terms of housing, Epworth Ward 7 has a mixture of both permanent and semi-permanent housing structures, which are made of brick and mortar. Currently, Epworth Ward 7 is undergoing infrastructure upgrading and regularization processes, which will likely improve housing circumstances in the settlement.

The diverse socio-economic and physical characteristics of the three neighbourhoods make them interesting to investigate and predict residential satisfaction in informal settlements.

7 Research methods

This study is part of a larger study on “supporting the social mobility of trapped populations in marginal urban spaces”. Cross-sectional household survey data was collected from the three informal settlements (Hopley, Hatcliffe Extension and Epworth Ward 7). These settlements were selected based on the 2014 Harare informal settlements profiles report that was prepared by Dialogue on Shelter, Zimbabwe Homeless People’s Federation in partnership with the City of Harare. The profiles report covered issues such as the history of the settlement, housing conditions, tenure security, livelihoods, and economic activities, among other socio-economic and spatial characteristics. The three informal settlements epitomize the most enduring faces of urban poverty and deprivation in the city. Data was collected using a structured household questionnaire, which contained information such as the respondents’ socio-demographic characteristics, housing characteristics, social neighbourhood characteristics, respondents’ mobility and connections, support in the neighbourhood, impressions about the neighbourhood, and future aspirations. The survey respondents in the selected informal settlements were randomly selected, and a face-to-face survey was administered with an adult aged 18 years or older. The administration of the household survey was designed and implemented in a way to achieve an approximately equal number of respondents across the three study sites. The survey was administered by a team of trained enumerators from the Zimbabwe Homeless People’s Federation (ZHPF), the majority of whom were residents in the selected settlements with a strong neighbourhood immersion. All the survey assistants were fluent in both English and Shona (local language), which facilitated easy translation in circumstances where participants grappled to understand certain questions or concepts of the study. A total of 500 survey respondents were reached: 159, 148, and 193, respondents in Hopley, Hatcliffe extension and Epworth Ward 7, respectively.

8 Measures

8.1 Dependent variable

The dependent variable used in this study is “residential satisfaction”, and it was derived from responses to the statement: *I am satisfied with where I am living at the moment* (1 = strongly disagree; 10 = strongly agree). From the survey responses, an ordered variable named ‘residential satisfaction’ was generated and coded as follows: (0 = Very dissatisfied; 1 = Dissatisfied; 2 = Satisfied; 3 = Very satisfied). The ordered nature of the outcome variable is consistent with previous studies (see Zeng et al., 2021; Adewale et al., 2019). The usefulness of ordered nature of this variable is that it demonstrates that individuals’ residential satisfaction is not a matter of, ‘Yes, I am satisfied or No, I am not satisfied.’ Rather, it gives a clear ordering in the residents’ residential satisfaction level.

8.2 Independent variables

Following the literature (see, Adewale et al., 2019; Ibem et al., 2019; Ibem & Amole, 2013), four sets of explanatory variables were used, namely: demographic factors, economic factor(s), social neighbourhood environment factors, and services in the housing units’ char-

acteristics. For demographic factors, age, gender, length of stay and tenancy security were included in the analysis. Length of stay is one of the key independent variables. The participants were not asked directly in the survey how long they have resided in the neighbourhood. Length of stay as a predictor variable was constructed from the question: *have you always lived in this place?* Those who answered, ‘yes’ to the question were assumed to have stayed longer in the neighbourhood compared to those who answered ‘no.’ A binary variable called ‘length of stay’ was generated and coded as follows: (1=newcomers; 2=long-time residents). Age was included as a covariate. From the survey data and consistent with previous studies (see Adewale et al., 2019; Ibem et al., 2019), categorical variable ‘age of respondents’ was generated, which was coded as (0=18–30; 1=31–40; 2=41–50; 3=51–60; 4=61 above). Gender was included as a dummy variable (0=female; 1=male).

The variable, tenancy security was constructed from the question: *Has the household ever been evicted from anywhere else in the city?* (Yes or No). Based on the survey responses, a binary variable ‘tenancy security’ was constructed and coded as (1=High tenancy security) and (2=Low tenancy security). Because residents of informal settlements are subjected to eviction, policing, and their dwellings considered as ‘out of place’, ‘urban outcast’ and ‘spatial misfits’ (see, Wacquant, 1993), those who answered ‘yes’ are assumed to have low tenure security while those who answered ‘no’ are assumed to have high tenancy security. For economic factor(s), we included the variable ‘savings’. This variable was derived from the question: *Do you have any savings?* (Yes or No). Based on the survey responses, we then generated a binary variable and coded as (1=Low savings) and (2=High savings).

For social neighbourhood factors, social networks, help from local politicians and place attachment were included. The variable, ‘social network’ was constructed from the question: *On a scale of 1–10, how many friends would you say you have in the neighbourhood?* (1=none; 10=a lot). The variable, ‘social networks’ was recoded as 0=1–2 “weak social networks”; 1=3–5 “moderate social networks” and 6–10 “strong social networks”. The variable, ‘help from local politicians’ was constructed from the statement: *On a scale of 1–10, local politicians have helped the people in this neighbourhood (1=strongly disagree; 10=strongly agree)*. The variable, ‘help from local politician’ was recoded to generate a binary variable: (1=1–3 “No” and 2=4–10 “Yes”). The variable, ‘place attachment’ was constructed from the question: *Do you think you will leave this place to live somewhere else sometime in the future?* (Yes or No). Based on the survey responses, a binary variable ‘place attachment’ was generated and coded as (1=Low place attachment) and (2=High place attachment). Place attachment is a bonding that occurs between individuals and their meaningful environments (see, Giuliani, 2003, Low & Altman, 1992), therefore, respondents who answered ‘No’ to the question were assumed to have high placement attachment compared to those who answered ‘Yes’. For services in the housing unit factors, access to water, electricity, toilet, cooking facilities were included; which were aggregated and recoded as access to housing unit services (1=Low Access; 2=Moderate Access; 3=High Access).

8.3 Data Analysis

Three types of analyses were conducted. The first type of analysis was descriptive statistics. We used descriptive statistics to analyze the data on the personal characteristics of the respondents; compute the percentage for each of the 9 predictor variables and the outcome

variable. A series of ordered logit logistic regression models or ordered logistic regression analyses were employed to understand the association between the study's outcome variable (residential satisfaction) and main predictor variables (social networks, duration of stay, help from local politicians, and place attachment). This approach was adopted because of the ordered nature of the dependent variable. Lu (1999: 271) emphasized that "for ordinal dependent variables, the appropriate model is the ordered logit." In the second analysis, we estimated the bivariate associations between residential satisfaction and the predictor variables (Table 1). The third analysis involved multivariate analysis, sequentially adjusting for demographic characteristics, economic factor(s), services in the housing unit factors, and social neighbourhood factors (Table 2). Results with odd ratios (ORs) are reported for a meaningful interpretation. ORs larger than one indicates that respondents were more likely to have achieved residential satisfaction while ORs smaller than one denotes lower odds of attaining residential satisfaction.

9 Results

9.1 Descriptive statistics of the study sample

Table 1 shows sample characteristics. The findings indicate that more women (74.80%) were involved in the study compared to men (25.20%). The sample age distribution showed that more than half of the sample population were younger (between the ages of 18 to 40 years). The sample population above the ages of 40 was 40%. Regarding household savings, 77% of the respondents identified themselves as having low savings and 23% perceived their household savings as low. In terms of place attachment, 70.80% and 29.20% of the respondents reported low place and high placement attachment, respectively. Furthermore, the sample indicated that 19% of the respondents reported low access to housing unit services while 32.80% and 48.20% reported moderate access and high access to housing unit services, respectively. Regarding respondents' level of social networks, 65%, 20% and 15% of sample population reported weak, moderate, and strong social networks, respectively.

9.2 Bivariate analysis of social neighbourhood and demographic factors

Table 2 presents results from the bivariate analysis. At the bivariate level, possessing strong social networks in the neighbourhood predicted higher odds ($OR=1.600$, $p<0.05$) of being very satisfied with one's residence compared to those with weak social networks. Moreover, length of stay was statistically significant with residential satisfaction. Odds of residential satisfaction were 61% higher for old-time residents compared to newcomers. High place attachment ($OR=1.501$, $p<0.05$) was statistically and positively associated with being very satisfied with one's residence compared to those with low place attachment. Furthermore, residents who reported of receiving help from local politicians ($OR=1.501$, $p<0.01$) were very satisfied with their residence compared to residents who did not receive any forms of help from local politicians. Finally, compared to residents who have low place attachment, those with high place attachment ($OR=1.501$, $p.<0.05$) recorded higher odds of being very satisfied with their residence.

Table 1 Descriptive statistics of the sample

Variable	N=500	Percentage
Satisfied with where you are living? (Outcome)		
Very dissatisfied	109	21.80
Dissatisfied	148	29.60
Satisfied	89	17.80
Very Satisfied	154	30.80
Social Networks		
Weak social networks	325	65.00
Moderate social networks	100	20.00
Strong social networks	75	15.00
Gender		
Female	374	74.80
Male	126	25.20
Age		
18–30	155	31.00
31–40	145	29.00
41–50	106	21.20
51–60	62	12.40
61 above	32	6.40
Length of stay		
Newcomers	372	74.55
Long-time residents	128	25.45
Tenancy Security		
Low	293	58.60
High	207	41.40
Household savings		
Low savings	385	77.00
High savings	115	23.00
Help from local politicians		
No	96	19.20
Yes	404	80.80
Place of attachment		
Low place attachment	354	70.80
High place attachment	146	29.20
Access to housing unit services		
Low Access	95	19.00
Moderate Access	164	32.80
High Access	241	48.20

9.3 Multivariate analysis of social neighbourhood and demographic factors

Table 3 presents results from the multivariate analysis. Consistent with bivariate findings, multivariate analysis shows that having high social networks, length of stay (long-time residents), high place attachment, and residents who reported receiving help from local politicians were significantly associated with very satisfied residential satisfaction. After controlling for demographic characteristics at the multivariate level in model 1, a statistically significant association remains between social networks and residential satisfaction. Specifically, residents who reported high social networks (OR = 1.728, $p < 0.05$) were more likely to be very satisfied with their residence compared to those who reported weak social networks. Among demographic characteristics, gender, age, and tenancy security were not

Table 2 Bivariate ordered regression model predicting very satisfied residential satisfaction in Harare's informal settlements

Variable	Bivariate Odds Ratio (SE)
Social Network (ref: Weak networks)	
Moderate networks	0.868 (0.176)
Strong networks	1.600 (0.370)*
Gender (ref: Female)	
Male	-0.983 (0.187)
Age (18–30)	
31–40	0.845 (0.1769)
41–50	1.289 (0.292)
51–60	1.060 (0.280)
61 above	1.481 (0.552)
Length of stay (Newcomers)	
Long-time residents	1.619 (0.308)*
Tenancy Security (ref: High)	
Low	0.797 (0.130)
Household Saving (ref: Low)	
High	1.025 (0.195)
Help from local politicians (ref: No)	
Yes	1.798 (0.376)**
Place attachment (ref: Low place attachment)	
High place attachment	1.501 (0.266)*
Access to housing unit services (ref: Low)	
Moderate Access	1.255 (0.296)
High Access	1.237 (0.275)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; SE, standard error

predictors of individual's residential satisfaction. However, length of stay was statistically significant. Long-time residents (OR=1.667, $p < 0.01$) have higher odds of having very satisfied residential satisfaction compared to newcomers. In model 2, we controlled for economic factor(s). The relationship between residential satisfaction and those with high social networks remained significant (OR=1.721, $p < 0.05$), similar to model 1 (OR=1.728, $p < 0.05$). Also, long-time residents remained significant (OR=1.671, $p < 0.01$), similar to model 1 (OR=1.667, $p < 0.01$).

In model 3, we controlled for three factors—demographic, economic, and social neighbourhood factors. From model 3 and consistent with models 1 and 2, compared to residents with weak social networks, those with strong social networks (OR=1.657, $p < 0.05$) were more likely to be very satisfied with their residence. Similarly, long-time residents (OR=1.710, $p < 0.01$) have higher odds of very satisfied residential satisfaction compared to newcomers. From model 3, respondents who agreed to receiving help from local politicians (OR=1.851, $p < 0.01$) were more likely to be very satisfied with their residence compared to those who did not receive help from local politicians. Furthermore, place attachment is significantly associated with residential satisfaction. Compared to residents with low place attachment, odds of very satisfied with one's residence were 53% higher for those with high place attachment.

In model 4, we controlled for the following factors: demographic, economic, social neighbourhood factors and services in the housing unit. Residents with high social networks, long-time residents, having received help from local politicians, and high place

Table 3 Multivariate ordered regression model predicting very satisfied residential satisfaction in Harare's informal settlements

Variable	Model 1 OR (SE)	Model 2 OR (SE)	Model 3 OR (SE)	Model 4 R (SE)
Social Network (ref: Weak)				
Moderate network	0.892 (0.185)	0.891 (0.185)	0.809 (0.704)	0.803(0.693)
High network	1.728 (0.415)*	1.721 (0.143)*	1.657 (0.399)*	1.647(0.397)*
Gender (ref: Female)				
Male	0.726 (0.143)	0.728 (0.143)	0.735 (0.145)	0.731(0.145)
Age (ref: 18–30)				
31 to 40	0.919 (0.196)	0.919 (0.196)	0.862 (0.185)	0.859(0.185)
41 to 50	1.405 (0.324)	1.405 (0.324)	1.275 (0.297)	1.256(0.294)
51 to 60	1.198 (0.337)	1.197 (0.337)	0.940 (0.276)	0.915(0.270)
61 above	1.545 (0.606)	1.556 (0.612)	1.340 (0.533)	1.327(0.529)
Length of stay (ref: Newcomers)				
Long-time residents	1.667(0.322)**	1.671(0.324)**	1.710(0.333)**	1.741(0.344)**
Tenancy Security (ref: High)				
Low	0.734 (0.126)	0.734(0.126)	0.755 (0.130)	0.762(0.132)
Household Saving (ref: Low)				
High		1.039 (0.201)	1.039 (0.204)	1.038(0.204)
Help from local politicians (ref: No)				
Yes			1.851 (0.397)**	1.841(0.204)**
Place Attachment (ref: Low)				
High attachment			1.535 (0.288)*	1.507(0.286)*
Access to Housing Units Services (ref: Low)				
Moderate Access				1.168(0.284)
High Access				1.184(0.274)

* $p < 0.005$; ** $p < 0.01$; *** $p < 0.001$; SE, standard error

attachment remained significant predictors of residential satisfaction across the four models. However, age and gender were not predictors of residential satisfaction as observed across the four models. Based on these findings, the following stated hypotheses for this study are supported: (a) residents with strong social networks were more likely to report high residential satisfaction compared to those with weak social networks; (b) long-time residents reported high residential satisfaction compared to newcomers; (c) high place attachment positively predicted residential satisfaction; (d) compared to respondents who reported not receiving help from local politicians, those who reported of having received help were more likely to report high residential satisfaction; and (e) gender and age were not associated with residential satisfaction. Overall, the significant predictors of residential satisfaction in selected Harare's informal settlements were social networks (high social networks), length of stay (long-time residents), help from local politicians (those who reported yes), and place attachment (high place attachment).

10 Discussion

Drawing on cross sectional survey data, this paper sought to examine residential satisfaction in deprived urban neighbourhoods, using experiences from Harare's selected informal settlements. The study also investigates the different factors that predict residential satisfaction within the context of these urban informal settlements. The overarching findings are that social neighbourhood factors (social networks, place attachment and help from politicians) were significant predictors of residential satisfaction, whereas demographic factors were not predictors of residential satisfaction (except the length of stay).

From the findings, it emerged that residents with strong social networks are more likely to be very satisfied with their residence compared to those with moderate and weak social networks. As indicated earlier, social networks from the survey denote the number of friends that residents of informal settlements have in the neighbourhood. Strong social networks denote having a higher number of friends in the neighbourhood. Social networks are an integral part of social capital—a resource that people utilize in difficult times. Morgner et al., (2020: 497), for instance, indicate that “strong social ties sit at the core of organising life in informal settlements.” Thus, social networks are paramount to residential satisfaction in informal settlements and therefore, unsurprising that residents of Harare's informal settlements who reported strong social networks have higher odds of residential satisfaction. The implication is that if these people move to different neighbourhoods, it is likely that their social networks will be dismantled, and they will have to build new social networks from scratch in their new places. According to Massey (2017), social networks allow access to various livelihood assets that are crucial for building sustainable livelihoods. This outcome has been found in other contexts. Caldieron (2011), for example, emphasizes that despite the noticeable socioeconomic problems in San Juan's informal settlements, residents' strong emotional attachment to their settlements was due to the networks of self-support that the neighbourhood offered. As other studies have also found, social support is one of the key predictors of residential satisfaction in addition to dwelling units features and neighbourhood facilities in low middle-income neighbourhoods in Accra, Ghana (Addo, 2016). Similarly, the finding is consistent with Buys and Miller's (2012) result where social contacts (family and friends) were among the primary predictors of residential satisfaction in inner urban higher density (IUHD) environments in Brisbane, Australia.

Additionally, when social networks are analyzed through the study's conceptual framework as presented in Fig. 1, it is evident that one of the fundamental assumptions in the framework regarding the predictors of residential satisfaction in Harare's informal settlements has been validated. This is because the finding demonstrates that social networks are statistically significant with residential satisfaction. Indeed, social networks are an integral component of the social neighbourhood environment factors as depicted in the conceptual framework.

Among the demographic characteristics, the study reveals that only an individual's length of stay is associated with residential satisfaction. This finding aligns with Li and Wu's (2013) work which emphasizes that socioeconomic characteristics of informal settlement' residents do not necessarily have significant impacts in predicting residential satisfaction in the context of three Chinese cities studied. However, this finding also contradicts several results in planned residential settlements where individual demographic characteristics such as age, race, household sizes are linked to residential satisfaction (see, Mridha,

2020; Mohit et al., 2010). Regarding length of stay, old-time residents have higher odds of residential satisfaction than newcomers. This finding supports previous studies, including Ogu (2002) where length of stay was a significant predictor of residential satisfaction in inner cities of Nigeria.

The study further finds that place attachment or strong emotional attachment to a place is significantly associated with residential satisfaction in informal settlements, thus buttressing previous studies (see, Adewale et al., 2019; Türkoğlu et al., 2019; Caldieron, 2011; Amérigo & Aragonés, 1990). This finding is unsurprising because it requires a strong attachment to endure precarious conditions of limited chances of socioeconomic progress, high vulnerability, and limited economic opportunities in informal settlements. Considering these obstacles, those with low or no place attachment are less likely to reside in these harsh environments and are unable to achieve residential satisfaction. Also, the finding contradicts the accounts of Li and Wu (2013), who indicate that social attachment has a significant negative effect on residential satisfaction. The contradiction lies in the statistically strong positive association between residential satisfaction and place attachment in the current study.

Further, assistance from local politicians is a significant predictor of residential satisfaction. The finding indicates that residents who received help from local politicians have higher odds of residential satisfaction compared to those who did not receive help from local politicians. In Harare's informal settlements, politicians, including councillors have greater influence on people's lived experiences and in some cases these political leaders provide financial and material support. The plausible reason might be related to political expediency. Receiving help from local politicians is a form of community support, and therefore confirms Addo's (2016) account that community support service is a key predictor of residential satisfaction in five low-income informal settlements in Accra. Furthermore, when analyzed from the perspective of the conceptual framework of the study as presented in Fig. 1, it is obvious that one of the fundamental assumptions in the framework regarding the predictors of residential satisfaction in Harare's informal settlements has been authenticated. This is precisely so because residents who received help from local politicians relate to the social neighbourhood factors. This help could come in the form of helping to set up petty trading businesses, meeting their medical bills, payment of their wards and students' school fees, among others. This kind of relationship comes under the overarching umbrella of social neighbourhood environment factors as depicted in the study's conceptual framework.

Residential satisfaction among residents of the three informal settlements should be understood within the context of grassroots driven urban development initiatives that are incrementally improving the living conditions of informal settlement residents (Muchadeinyika, 2020). This is one of the reasons people living in the studied neighbourhoods are satisfied with their residential environments. Despite multiple challenges, informal settlement residents collectively mobilize financial and material resources to improve their housing conditions and improve access to infrastructure and basic services. In Hatcliffe and Epworth Ward 7, for instance, the Zimbabwe Homeless Peoples' Federation have been working in partnership with the Dialogue on Shelter Trust to implement community based informal settlement upgrading interventions to strengthen tenure security, enhance household resilience, and improve livelihoods. Such interventions shape residents' satisfaction with their neighbourhoods as they become hopeful that their settlements will eventually improve in all facets of urban development to match the qualities of 'formal suburbs'.

While these findings may be useful, there are some limitations in this study. First, this study is limited as only three informal settlements (Hopley, Hatcliffe Extension and Epworth Ward 7) were investigated. However, there is an estimated 62 informal settlements in Zimbabwe (Muchadenyika, 2015). Though the result may be applicable to other informal settlements that are not covered in this study, it is also imperative to consider the fact that no two settings are the same. Second, due to the cross-sectional design of the study, it is difficult to establish specific causal relationships in this analysis because of the impossibility of deciphering the temporal order of events between residential satisfaction and diverse predictor variables. Despite these limitations, this study is the first attempt to examine the different factors predicting residential satisfaction in Harare's selected informal settlements. Future research in Harare and other Global South contexts should examine this subject using mixed methods approach. Supplementing quantitative analysis with embodied experiences of residents via qualitative methods will generate new perspectives on residential satisfaction in informal settlements.

11 Conclusions and policy implications

The main conclusions from the study are that: (a) some of the residents are more likely to be very satisfied with their residence despite the precarious conditions; (b) demographic characteristics are not predictors of residential satisfaction, except length of stay; and (c) the main predictors of residential satisfaction in Harare's informal settlements are strong social networks, length of stay (long-time residents), help from local politicians (those who reported yes), and high place attachment.

These findings have policy implications. First, going by the evidence in the literature on the positive outcomes of residential satisfaction within informal settlements, the study's finding demonstrates that informal settlements' residents in Harare and similar situated informal settlements across several countries in SSA are more likely to experience residential satisfaction in the face of marginalization, stigmatization, and deprivation associated with their residential status. This demonstrates that residents of informal settlements in Harare are convinced that their current environment, to some extent, meets their needs, ideals, aspirations, goals, and values. Like their peers who reside in planned and better housing neighbourhoods, they have no other options than, as Adewale et al., (2019) rightly stated, to manifest positive citizenship and participate in activities that aim to safeguard and improve their overarching living conditions in such contexts. With these insights, policymakers at the national and local government levels must pay attention to informal settlement residents' needs, mindful that residents see these places as meeting their needs and aspirations. Urban authorities should implement progressive policies and programs to improve living conditions of informal settlement dwellers through targeted infrastructure interventions, especially in the most deprived areas such as Hopley. If governments begin to factor into policy discourses and implementation the interests of residents living in informal settlements in cities, there will be more progress towards achieving inclusive, resilient, and sustainable cities.

Second, this study's findings have implications for SDGs, especially SDG 11—which focuses on achieving safe, resilient, and inclusive cities. As Koch and Ahmad (2018) rightly emphasized, SDG 11 is urban-focused and has several positive repercussions for achieving other SDGs. This is critical because achieving safe, resilient, inclusive, and sustain-

able cities depend on several factors, including how residents of informal settlements think about their housing, neighbourhood and above all, their residential satisfaction. Thus, it is imperative that policies are formulated and implemented to improve the living conditions in informal settlements in Harare, and other similar contexts. In other words, there is a need for policy targeting in the Harare's urban informal settlements and elsewhere in the Global South.

Acknowledgements The second author acknowledges the University of Sussex's Migrants on the Margins research project (Grant No. ES/ N01474X/1). He specifically expresses appreciation to Professor Michael Collyer, the Principal Investigator on this project, for granting permission to use the data to write this paper. He also acknowledges the Development Governance Institute, a research institutional partner on the Migrants on the Margins project, for providing recent maps of the three informal settlements. All the authors appreciate the support of Karen Vankerkoerle (Department of Geography and Environment, University of Western Ontario) for drawing the map showing the location of the three study sites. Additionally, the authors thank the three anonymous reviewers for their constructive comments.

Funding The data used in this study was drawn from the Migrants on the Margins research project (Grant No. ES/ N01474X/1), which was funded by the Royal Geographical Society (RGS).

Data availability The data that support the findings of this study are available on request from the second author.

Declarations

Conflicts of interest/competing interests The authors have no relevant financial or non-financial interests to disclose.

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