

**The Effect of Social Relationships' on the Residents' Satisfaction in Multi-storey Housing**

تأثير العلاقات الاجتماعية على رضا السكان في الإسكان متعدد الطوابق

**Suheir Ammar\*, Kausar Haj Ali\*\*, Nor' Yusof\*\***

سهير عمار\*, وكوسر حج علي، ونور يوسف

\*Department of Architecture, Islamic University, Gaza, Palestine

\*\*School of Housing, Building and Planning, Universiti Sains Malaysia, Pulau Pinang, Malaysia

\*Corresponding author: Email: smsammar@yahoo.com

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**Abstract**

This study investigated the effect of participation on social relations on residents' satisfaction in multi-storey residential buildings in the Gaza Strip, Palestine, and highlighted the strength of the social relationships as a predictor of residents' satisfaction among other factors. The data was obtained from 525 residents. Random sample size was chosen. A special questionnaire was designed to achieve the study objectives. The findings showed the following results: the level of residents' participation in social relationships was lower than the level of residents' satisfaction with the quality of these relations, there is a strong, positive correlation between residents' participation and their satisfaction. Finally, the study presents the following recommendation: multi-storey housing represents the future development of housing in the study area, there is a need to enhance, support and monitor it from responsible authorities.

**Keywords:** multi-storey housing, participation, residents' satisfaction, social relationships.

**ملخص**

تفحص هذه الدراسة تأثير المشاركة في العلاقات الإجتماعية على رضا السكان في المساكن متعددة الطوابق في قطاع غزة بفلسطين. كما أنها تسلط الضوء على قوة العامل الاجتماعي وسط عوامل أخرى في التنبؤ عن رضا السكان. تم الحصول على المعلومات من 525 ساكناً، واستخدمت عينة عشوائية من السكان، وتم تصميم استبانة خاصة لتحقيق أهداف الدراسة. وقد أوضحت النتائج المخرجات التالية: أن مستوى مشاركة السكان في إقامة علاقات اجتماعية أقل من مستوى رضاهم عن نوعية هذه العلاقات، وجود علاقة قوية موجبة بين مشاركة السكان ورضاهم. وفي الختام أوضحت الدراسة التوصية التالية: حيث أن السكن متعدد الطوابق يمثل الرؤية المستقبلية لمنطقة الدراسة فهناك حاجة لتعزيز ودعم ومراقبة هذه المشاريع من السلطات المسؤولة.

**الكلمات المفتاحية:** الإسكان متعددة الطوابق، المشاركة، رضا السكان، العلاقات الاجتماعية.

**Introduction**

Multi-storey residential buildings are relatively a new orientation in the housing market in many developing countries. Alsousi (2005) stated that the construction of high-rise residential buildings is a new experience for residents and architects in some developing countries, such as Palestine. This type of building increases the need for cooperation among residents as they are spatially near to each other, and there are shared services and concerns among them. Wakely (1997) defined the production of a dwelling as a long and often infinite process of intermittent investment of time, energy and resources to meet individual householders changing needs, priorities and fortunes rather than a programmable project that can be planned and budgeted (p132). This comprehensive definition affirms the importance of the humanitarian and social aspects as well as the scientific one. The importance of social aspects begins from the development process of the houses and continues after residing to include relations between neighbours, particularly, in the same multi-storey building. The previous studies explains the social capital and relations in a community or neighbourhood. However, few of these studies investigated the social relations between the neighbours inside one multi-storey building and correlate the effect of this participation on residents’ satisfaction with the

quality of these relations. This paper is part of a thesis that investigates the effect of residents' participation in design and implementation works, maintenance and management works, and social relationship activities on their satisfaction in the multi- storey public housing in the Gaza Strip. In particular, this paper aims to investigate to what extent does residents' participation in social relationships affect residents' satisfaction in multi-storey residential buildings.

### **Literature review**

This study reviewed social relationship between residents, residents' participation in developing relationships and residents' satisfaction about social relationships.

Many researchers indicate the importance of having social relationships with neighbours. Cho & Lee (2011) and Hyyppä (2010) argued that resident's participation in community activities in apartments creates a sense of community and belonging. They added that community spaces and programs and active resident's participation will lead to a sound and sustainable community where a resident can meet his/her needs. Dawoud (2003) referred to the importance of the existence of a building committee in enhancing the participation between residents. He found that a building committee helps in many issues; solving problems between residents, solving management and maintenance problems and strengthening the relations between residents. Michael (1988) defined many objectives for public participation such as; achieving community cohesion and cooperation, getting a position and achieve recognition from others, expressing their needs, obtaining power and deciding to be more independent and to keep an eye on the officials. Social relations are essential for all residents, particularly residents in multi-storey buildings.

Strong social relations are a result of social capital which refers to the values and norms prevailing within the community, and the networks and the social trust that are based on those values and norms. Actually, social capital generates shared understandings which support co-operation and collective action for reciprocal benefits to improve efficiency of the

society (Dinda, 2008). Ha (2010) demonstrated that social capital is a sense of personal and collective efficacy.

Van der Voordt, et al. (1997) considered buildings as a translation of socio-cultural objectives into a spatial architectural form that is resulted from a long and complex decision-making process, taking into account constraints such as time, money and legislation. In fact, this definition explains the strong relationship between the physical and social aspects in buildings, particularly the residential ones. Muoghalu (1984) referred to the strong relationship between social values attached to housing and physical variables of housing. He assured that social indicators in housing must incorporate with the needs and demands of the inhabitants in relation to their life styles. Similarly, Van Hoogdalem et al. (1985) defined the major function of a building to be the spatial organization of social activities. They also referred to the importance of collecting data about the users; their goals, expectations and activities. The old Korean emphasized the importance of close relationships and high neighbourhood satisfaction in their saying, "A good neighbour is better than a brother far off" (Hur & Morrow-Jones, 2008). A similar meaning is available in an old Arabic proverb which is "Ask for the neighbours before choosing the house."

Weak social relations could be attributed to the existence of social problems in multi-storey housing. Many of these problems are a result of having common spaces and services. Such problems were reported by many scholars. Socio-environmental problems in the neighbourhood reported by Türkoglu (1997), were such as noise, crowding, air pollution and safety in the neighbourhood. The social and cultural problems reported by Potter and Cantarero (2006), were family relations, lack of cooperation between neighbors, cross-cultural understanding, and lack of sense of community. Lu (1999) defined a few variables regarding individuals’ perceptions of their dwelling and neighbourhood problems such as noise, crime, traffic, and rubbish. A lack of privacy was one of the residents’ dissatisfactory issues in Yemen. Djebarni and Al-Abed (2000) reported that residents had overcome this problem by erecting high screens of corrugated plastic sheeting on top of the courtyard walls.

In a study conducted in Nigeria, Muoghalu (1984) reported overcrowding which reduced privacy and increased noise as problems concerning dwelling. In the same context, Wong, et al. (2011) referred to problems associated with multi-storey residential buildings which were: population density that provides overcrowded and stressed feeling and reduces the sense of privacy, and security risk especially for the lower floors and conflicts among residents. Tawil et al. (2011) defined water seepage in wet areas from one floor to another below it as one of the most common disputes in residential developments; this technical issue can affect social relationships between neighbours. Djaafar (2007) defined other problems such as vandalism, rubbish thrown from upper floors, large areas of space between the blocks which have no real use and have been turned into wasteland, poor relationship between neighbours or even conflict, residents' response for emergency repairs and residents' involvements in management meetings. The last two issues are, actually, management issues, but they can affect relations among residents. In general, this study investigated social relationship issues related to residents' participation. As such, problems such as overcrowding, technical matters, or vandalism will not be included. Likewise, cross-cultural understanding will be excluded as it is not related to the study area. To sum up, in multi-storey residential buildings, there are many sharing spaces and issues among residents which cause some problems. This study investigated the effect of residents' participation in social relationship activities on their satisfaction about social relation. It is assumed that this can minimize the social problems among neighbours.

### **Residential Participation in Developing Social Ties**

Participation has Latin roots. The meanings of the word in English dictionaries often include the following: partaking in something, association with others in a relationship, social interaction in a group and taking part with others in an activity (Dijkers, 2010). In this study, residents' participation denotes to the willingness to cooperate and associate with other neighbours from the same building in social relationships. Hyypä (2010) argued that social participation may give residents the sense of belonging and promote them to be more active.

Wandersman (1981) demonstrated that participation in researches is investigated in different disciplines such as psychology, sociology as community power and voluntary actions, political science, environmental design, and urban and social planning. In addition, Wandersman (1981) divided residents into two types: people who like, need, and care to participate; others who consider participation as a load and become happy not to participate. The first group includes both people who take the initiative for participation and the others who will participate if they were given the opportunity to participate. Geary (1994) stated that residents’ participation is a good way to improve the quality of residents’ life, but it needs willingness and ability to participate. Leung (2005) categorized resident’s participation into three areas: participation in design and development, management and community-building activities. He defined community-building activities as activities that increase the sense of community, decrease the sense of isolation and build relationships between residents.

Nieminen et al. (2008) reported that there is no generally accepted method of measuring social capital, and they suggested four dimensions of social capital: social participation, social networks and support, trust and reciprocity and civic participation. Grootaert and van Bastelaer (2001) stated that the higher participation in design, implementation and service delivery systems, sharing in collective action, and improving the management of common resources, are effects of social capital of a society which includes in their perspective the institutions, the relationships, the attitudes and values that govern interactions among people. However, Grootaert et al. (2001) emphasized the impact of social capital as the base for different areas like design, implementation, management and interaction with others.

Nieminen, et al. (2008) stated that the indicators that defined social capital in many studies all over the world vary greatly. Variables to measure social capital used by Nieminen were such as visiting family, friends, neighbours, talking on the phone, safety feeling when walking in the neighbourhood and having someone to get practical help when needed. Dawoud (2003) defined four forms of participation in relations;

visiting, relations when problems occurred, relations on occasions, and no relations. Half of the respondents have the first form in his findings. He pointed to the importance of social relations for participation and interaction between residents, and his results showed that two-thirds of the respondents had very good relations with their neighbours in the same building.

Franke (2005) pointed to some questions that measure social capital like asking about the perception of friendliness, the capacity for assistance of community, feelings of dependency, difficulties with asking for assistance, and evaluation of the limits to the capacity for assistance. To investigate social capital, Takahashi et al. (2011) asked about; receiving any help or support, joining in addressing a problem or residential issue during the last twelve months and general questions measuring the accordance between neighbours. To sum up, one particular issue of social capital which is the social relationship between neighbours in the same building will be investigated in this study. This relation is significant among other types of relations in multi-storey buildings as it is the base of relations after the relations inside the same family. As a result, residents' participation affects the social relationships among residents. The next section will investigate the effect of social relations on residents' satisfaction.

### **Residents' Satisfaction and Social relationships**

Parker and Mathews (2001) stated that the modern usage of the word satisfaction has tended to be much broader than the early usage. It is related to other meanings such as adequate, enough, and be pleased or contented. They added that satisfaction appears to mean different things to different people and the most commonly found interpretations were satisfaction as a feeling and as some type of evaluation process. Önder et al. (2010) considered that resident's satisfaction is not only a physical evaluation, but it is, as well, a personal, social and cultural evaluation of the house and its surrounding environment. In this paper satisfaction is considered as an evaluation process. Grillo, Teixeira and Wilson (2010) demonstrated that the more satisfaction the individuals have with their community, the more likely they will be civically engaged. Chin (1990)

demonstrated that housing satisfaction evaluates the physical and social environment. Subjective measurement which includes perception, satisfaction, aspiration, and also disappointment can examine and explain the psychosocial aspects of a person (Mohit Mohammad Abdul, Ibrahim Mansor, & Rashid Yong Razidah, 2010).

The case study of Potter et al. (2006) about Crete in USA considered the importance of social aspects in achieving residents’ satisfaction. They had two types of residents: long-term residents and new arrivals. Therefore, they shared some dissatisfactory aspects and differed in others. The physical issues were of the most important for the newly arrived residents while stressors were most significant for the long-term residents. They defined sources of stressors as ability to communicate, isolation, discrimination, tension with neighbours, crime, and social and cultural differences. This change is resulted from being among culturally different people. Baum et al. (2010) concluded that the probability of less satisfaction was associated with mixed social neighbourhoods, for example, mixed and less homogeneous neighbourhoods across three types of socioeconomic mix; tenure, income and ethnicity were less satisfied. They added that crime and noise were problems in the neighbourhood associated with lower neighbourhood satisfaction.

Using a sample of households from micro-neighbourhoods and tracts, Hipp (2010) investigated which level of aggregation is more important for impacting neighbourhood satisfaction. He found that the residential stability of the micro-neighbourhood increased neighbourhood satisfaction as it fosters more social ties between residents, or as it creates a perception of recognizing more people and give a sense of familiarity comparing with the large tracts. Neighbourhood satisfaction studies that measure social aspects should be conducted to smaller contexts and not to large geographical areas as its effect appears clearly (Ha, 2010). A different perspective was reported by Aiello et al. (2010) who found that social interaction did not emerge as an important predictor of residential satisfaction in their study about Rome. Vera-Toscano et al. (2008) concluded the same; higher social relations did not provide higher level of individual housing satisfaction. This diversity in findings about the

importance of effect of social relations on residents' satisfaction is attributed to the society's values and norms and the characteristics of residents. A number of societies care more about social ties. Some people do not have time to make such relations, while others prefer to strengthen relationships with families and friends.

There are many studies about factors affecting residents' satisfaction about housing and its environment. While many scholars studied objective variables like dwelling characteristics, services, and facilities, others considered subjective variables like social relations, cultural issues. For example, Potter and Cantarero (2006) investigated four major domains: physical aspects, social aspects and cultural aspects, economic aspects and public services. In a study conducted about the relevance of social interactions on housing satisfaction, Vera-Toscano and Ateca-Amestoy (2008) investigated three groups of variables which were: individual and household attributes, housing characteristics, and social interactions. Chapman (2007) categorized the determinant variables into internal and external. The internal characteristics included data about individual and households like; age, education, marital status, family size, tenure and income. The external characteristics included available facilities, services and socio-cultural environment factors. Türkoglu (1997) investigated a wide range of variables including: physical conditions of the dwelling, accessibility to the city center, work place, hospital, shopping and municipal services, availability and maintenance of social, recreational and educational services, social and physical environmental problems, climatic control of the dwelling, and satisfaction with neighbours.

Both Leung (2005) and Sanoff (1990) defined residents' participation as a factor affecting residents' satisfaction. In addition, in a study conducted about participation in community organizations, Wandersman (1981) stated that individual participation can affect their satisfaction about the community organizations. Dassopoulos and Monnat (2011) concluded that participating in a neighbourhood block meeting and volunteering are associated with increased neighbourhood satisfaction especially for residents who perceive strong social ties in their

communities such as getting along with each other, sharing the same values, trusting each other and knowing each other’s kids.

Önder et al. (2010) stated that residents’ satisfaction with the house and its environment is a comprehensive formulation which includes the physical aspects in addition to the personal, social and cultural issue. Baum et al. (2010) agreed with Potter et al. (2006) that lower levels of neighbourhood satisfaction are associated with having poorer social contacts or social networks and they added other factors like being young, living in public housing and being born in a non-English-speaking country. Few of these studies considered the residents’ participation in social relations activity within a multi-storey building as an independent variable, and correlate this variable with residents’ satisfaction, as a dependent variable, about the quality of social relations empirically. This study fills this gap.

### **Data Collection and Methods**

The questionnaire was used as a tool to measure the levels of residents’ participation in social relations and their satisfaction about these social relations. One hundred pilot study questionnaires were administered for two housing projects in the Gaza Strip, Palestine to investigate the reliability and validity of the questionnaire. Cronbach’s Alpha Co-efficient equals 0.864 for the level of residents’ participation, and for the level of residents’ satisfaction it equals 0.842. Two of the government housing projects in Gaza, Palestine were chosen randomly to administer the main questionnaire. Then, the simple random sampling was used again to define some buildings and some apartments from these buildings. The formula to calculate the sample size was derived from (Yamane, 1970) which was used by (Mohit Mohammad Abdul et al., 2010)

$$n = \frac{N}{1 + Ne^2} \quad \text{Where: } N = \text{population size,} \quad e = \text{error coefficient}$$

$$n \text{ for the Tal Alhwa project} = \frac{1802}{1 + 1802(0.05)^2} = 327 \text{ apartments}$$

$$n \text{ for the Al'awdah project} = \frac{362}{1 + 362(0.05)^2} = 190 \text{ apartments}$$

The two housing projects were the Tal Alhwa and Al'awdah housing projects. An additional 5% was added to the sample size number to avoid bias from non-responsive residents. As such, the sample size for distributing the questionnaire was  $327 * 1.05 = 343$  respondents for the Tal Alhwa project, and it was  $190 * 1.05 = 200$  respondents for the Al'awdah project. The Tal Alhwa project was established on the concept of housing associations. This project addressed the limited income groups from employees in different associations and organizations. The second, Al'awdah housing project, did not concentrate on any specific groups. The first project has 1802 apartments, and the second project has 362 apartments implemented. The respondent of the questionnaire should be the head of the family either male or female. Besides, he or she can be an owner or renter of the apartment.

The questionnaire was distributed to householders on their houses by hand and some were filled out face to face when the respondent accepted. The others were collected the second day. The number of respondents from the Tal Alhwa project was 331, and from the Al'awdah project, 194 respondents. The questionnaire was carried out from the beginning of March 2012 until the end of April 2012. A five point Likert scale was used to measure the levels of satisfaction, the dependent variable, ranging from "1" for very unsatisfied to "5" for very satisfied. And for the levels of residents' participation, the independent variable, were ranging from "1" for strongly disagree to "5" for strongly agree.

To define the levels of residents' satisfaction and participation, descriptive analysis was used. A Bivariate correlation analysis was used to investigate the effect of residents' participation on their satisfaction. A multiple linear regression was used to examine the strongest predictor of the residents' satisfaction.

## Results

This section presents the findings of descriptive, correlation and multiple regression analysis.

### Analysis of the Levels of Residents’ Satisfaction in Making Social Relations

Seven items were used to measure residents’ satisfaction about the social relations activities. The mean score of residents’ satisfaction was 3.7. The higher mean scores were for these items "safety level in the building" and "sense of belonging" with mean scores of 4.06 and 3.82 respectively (Table 1). The lower score in Tal Alhawa project was for the item "cooperation among neighbours" with a mean score of 3.37, and in Al’awdah project, it was for the item "residents’ participation in social occasions" with mean scores of 3.47. These scores are generally low. However, the averages of satisfaction about "cooperation among residents" and "my neighbours’ contacts with me" indicate that they are still considered problems for some residents.

**Table (1):** Levels of residents’ satisfaction about social relation.

Items	Talhawa (N=331)		Alawdah (N=194)		Total
	Mean	S. D	Mean	S D	Mean
Cooperation among neighbours	<u>3.37</u>	.975	3.81	.976	<u>3.53</u>
My sharing in social occasions	3.57	.921	<u>3.47</u>	1.312	<u>3.53</u>
My communication with my neighbours by visits	3.53	.916	3.64	1.239	3.57
My neighbours’ contacts with me	3.44	.979	3.59	1.202	<u>3.50</u>
Sense of belonging	<b><u>3.68</u></b>	.962	<b><u>4.05</u></b>	.967	<b><u>3.82</u></b>
Quietness in the building	3.55	1.087	4.45	.888	3.88
Safety level in the building	<b><u>3.85</u></b>	.932	<b><u>4.43</u></b>	.856	<b><u>4.06</u></b>

Both satisfaction about safety and quietness were considered as social issues in most of the studies. However, using factor analysis for the whole items of the study, these two items were loaded under design

factors. Actually, the architect can increase the safety level by a good dealing with the places and the quality of the openings "doors and windows" and the guard room in the building. Likewise, s/he can increase the quietness level inside the apartment by keeping a distance between the common spaces in the apartments, which are noisy from the sleeping spaces inside the apartment. As such, these two variables can be investigated as design issues.

On the other hand, the mean score of residents' satisfaction level about social relations (3.74) was higher than the mean score of their participation level (3.4). It can be said that some residents did not have relations with their neighbours; they either have less free time or prefer relations with relatives and friends. In any case, they were satisfied about this low level of relations.

### **Analysis of the Levels of Residents' Participation in Making Social Relations**

Eight items were used to measure the residents' participation in social relations. The mean score of residents' participation was 3.45. The lower mean scores were for the items "sharing in organizing or leading activities" and "delivering of financial or intangible support from my neighbours" with mean scores of 3.07 and 2.18 in Tal Alhawa project and 2.95 and 2.15 in Al'awdah project respectively as shown in Table (2).

**Table (2):** Levels of residents' participation in social relation activities.

Alawdah (N=194)	Talhawa (N=331)		Alawdah (N=194)		Total
	Mean	SD	Mean	SD	Mean
I visit my neighbours	3.66	1.022	<b>3.66</b>	1.270	3.66
My neighbours visit me	3.62	1.006	3.62	1.291	3.62
I exchange telephone calls	3.46	1.142	3.27	1.443	3.39
I ask urgent help from my neighbours	<b>3.81</b>	.959	<b>3.85</b>	1.150	<b>3.82</b>
I exchange presents	3.38	1.123	3.36	1.390	3.37

... continue table (2)

Alawdah (N=194)	Talahawa (N=331)		Alawdah (N=194)		Total
	Mean	SD	Mean	SD	Mean
I shared in organizing or leading activities	<u>3.07</u>	1.274	<u>2.95</u>	1.457	<u>3.02</u>
I deliver financial or intangible support from my neighbours	<u>2.18</u>	1.244	<u>2.15</u>	1.177	<u>2.17</u>
I share with others in solving a problem	<b><u>3.87</u></b>	1.022	3.61	1.243	<b><u>3.78</u></b>

This reflects a low level of tendency towards leadership. Additionally, low level of depending on neighbours for support indicates the importance of relatives or friends for many residents for support. The higher mean scores of Tal Alhawa project were for the items "I share with others in solving a problem," and "I ask urgent help from my neighbours" with mean scores of 3.87, 3.81 respectively, and for Al'awdah project they were for the items "I ask urgent help from my neighbours" and "I visit my neighbours" with mean scores of 3.85, 3.66 respectively. The higher one for both projects was for the item "I ask urgent help from my neighbours" which reflects a good level of cooperation among neighbours (Table 2).

The data analysis shows that the answers for the two items "I visit my neighbours" and "my neighbours visit me" were almost equal for the two projects with mean of scores 3.66 and 3.62 but the answers for the item "I exchange telephone calls" was lower than exchanging visiting. Keeping in mind, the majority of respondents were male and they met each other several times while going to work, to pray or to do some shopping.

### The General Indicators of Residents' Satisfaction

In addition to residents' satisfaction about social relation, this study investigated general indicators of residents' satisfaction using seven items elaborated in Table (3). The mean score of the general indicators of satisfaction for both projects was 3.62; the mean of the total scores was

3.56 for Tal Alhawa project, and it was 3.72 for Al'awdah project. The difference is not noteworthy; these means were not far away from the mean score of residents' satisfaction about social relations with neighbours (3.7). This ensures the importance of evaluating residents' satisfaction about issues related to participation in social relationship. Indeed, the general indicators of satisfaction may include many issues like building characteristics, accessibility to the house, location and others which are not included in the objectives of this study.

**Table (3):** The general indicators of residents' satisfaction.

Descriptive Statistics							
project name	Talahawa			Alawdah			Total
	N	Mean	S D	N	Mean	S D	Mean
The apartment meets my needs	331	3.80	.817	194	4.09	1.205	3.91
I achieve my expectation	330	3.54	.913	194	3.56	1.067	3.54
I would recommend this house to others	331	3.58	.939	194	4.11	.975	3.78
I have contact with my neighbours	331	3.76	1.960	194	3.02	1.283	3.49
I can rely on neighbours for support	331	3.08	1.047	194	3.58	1.041	3.27
I like this housing compared to the previous one	331	3.82	1.141	194	3.93	1.549	3.86
I would like to continue living	330	3.32	1.159	194	3.73	1.548	3.47
Mean of total	331	<b>3.56</b>	0.72	194	<b>3.72</b>	.732	<b>3.62</b>
Valid N (listwise)	329			194			

The mean score for indicator number seven "I would like to continue living in this house" was 3.47 which is somewhat low. This question was followed by another question asking about the reasons of the desire to change the apartment. The higher percentage (30.7%) in both projects was related to the desire of living in a larger house. For Tal Alhawa

respondents, the percentage for this reason was 31%, and for Al'awdah respondents, the percentage was 29%. The other reasons have a percentage lower than 4% which means that the percentages of residents who consider other reasons like dissatisfaction with management & maintenance works, neighbours, architectural interior design or social reasons were not enough reasons for them to change the house. The last choice of answers was 'others', and it included; change from rent to own, travelling outside the country, and changing to detached house. However, the respondents who answered the question asking about the reasons were 48.7% of the whole respondents. The respondents who did not agree to continue in living in their apartments were 23.2% which is less than the residents who gave reasons for the desire to change the apartment (48.7%), and the neutral responses were 22.3%. The others who did not wish to change the apartment were 54.3%. The percentages are detailed in Tables 4.

**Table (4):** Residents' willing to change the apartment.

<b>I would like to continue living</b>			
	<b>Value</b>	<b>Count</b>	<b>Percent</b>
Valid Values	Very dissatisfied	64	12.2%
	Dissatisfied	58	11.0%
	Neutral	117	22.3%
	Satisfied	138	26.3%
	Very satisfied	147	28.0%
<b>Missing Values</b>		<b>1</b>	<b>.2%</b>

#### **Correlation between the Level of Residents' Participation and their Satisfaction**

The correlation between residents' participation in social relationship and their satisfaction about the social relations with neighbours was positive and strong for both projects ( $r= 0.725$ ) at the 0.01 level where  $r$  is the Pearson correlation coefficient. In Tal Alhawa project  $r= 0.663$  at the 0.01 level, and  $r= 0.813$  at the 0.01 level in the second project.

The correlation between the general indicator of residents' satisfaction and the mean of residents' satisfaction about social relationships verified a positive medium correlation ( $r= 0.408$  at the 0.01 level). This means that any increase in residents' satisfaction about social relations will increase the general residents' satisfaction which ensures the importance of the social factor.

The multiple regression analysis was conducted to define which one of the three types of residents' participation is the best predictors of residents' satisfaction (RS) about their participation. The values of the standardised coefficients "Beta" of the three types of participation show that the residents' participation in social relations activities (RPSR) make the strongest contribution (37.7%) followed by the residents' participation in management and maintenance works (RPMM) with Beta value of (32.8%), and the last one is the residents' participation in design and implementation works (RPDI) with Beta value of (9.6%) in explaining the dependent variable (RS). The regression equation was,

$$Y= 1.726+ 0.235* RPSR+ 0.257* RPMM+ 0.057* RPDI$$

Where Y is the value of the dependent variable, which is being predicted or explained.

### **Discussion and Conclusion**

This study aimed to investigate the effect of residents' participation in social relationships on their satisfaction about these relationships. The literature review revealed different findings. Hipp (2010) found that the residential stability increased neighbourhood satisfaction as it fosters more social ties between residents. Both Aiello et al. (2010) and Vera-Toscano et al. (2008) found that social interaction did not emerge as an important predictor of residential satisfaction in their study about Rome. However, the finding of this study revealed a high positive correlation between residents' satisfaction and their participation in social relations. This diversity in findings about the effect of social relations on residents' satisfaction is attributed to the society's values and norms and the characteristics of residents. Additionally, this study diverges as it investigated the social relationships between neighbours in the same

multi-storey building which is more essential than relations with others in different buildings.

The mean score of residents’ participation was higher than the mean score of residents’ participation. Although some residents did not participate with neighbours in social relations, they were satisfied with this. Some residents attributed their low level of relations with neighbours to being busy and having less free time. Others stated that when they inhabited the apartment they expected other neighbours to visit them first. As these neighbours did not visit them, they will not initiate to visit. In addition, some residents prefer to make relations with friends and relatives. This is associated to some extent to the previous experience of the large family house. Nevertheless, Dawoud (2003) reported that the majority of respondents had very good relations with neighbours.

The lower levels of participation were for: "I shared in organizing or leading activities" and "I deliver financial or intangible support from my neighbours". The tendency towards leadership was low for many residents. In addition, they might prefer to get financial or intangible support from relatives or friends. The higher level of participation was for: "I ask urgent help from my neighbours". This is associated with the volatile security situation that dominating the region which make the neighbour nearer than relatives for asking urgent help.

The mean score of residents’ satisfaction was moderate. The higher mean scores were for item "Sense of belonging" and "Safety level in the building". However, safety was reported as a problem by Türkoglu (1997). Djaafar (2007) defined belonging as a problem for the majority. The lower score in the first project was for the items "My neighbours’ contacts with me", "Cooperation among neighbours" and "Residents’ participation in social occasions". However, these scores were generally acceptable. The average of satisfaction about cooperation among residents is still a problem for some residents. This goes in parallel with Djaafar (2007); Potter and Cantarero (2006) and Wong et al. (2011) who defined cooperation among neighbours as a problem.

The mean score for satisfaction general indicator "I would like to continue living in this house" was somewhat low. The main reason for the desire to change the apartment was to have a larger house. Still, some of the respondents would like to continue living in the apartment, but they chose the reason of the desire of having a larger house. They argued that they were satisfied about their current house, but if possible, they prefer a larger one. In general, dissatisfaction about social relations was not enough reason for many residents to change the house.

The correlation between residents' participation in social relationship and their satisfaction about the social relations with neighbours was positive and strong which goes in parallel with Mohit et al. (2010). They found a high positive correlation between each of dwelling unit features and social environment and residents' satisfaction. Other studies, however, found that social interaction was not an important predictor of residential satisfaction such as Aiello et al. (2010) and Vera-Toscano et al. (2008). This is attributed to the diversity in the importance of social relations in the society cultures.

The findings from multiple regression revealed that the residents' participation in social relations activities make the strongest contribution, followed by the residents' participation in management and maintenance works, and the last one is the residents' participation in design and implementation in explaining the dependent variable. This high contribution of the social factor referred to its importance as stated by Grootaert et al. (2001). They stated that higher participation in design, implementation and service delivery systems, sharing in collective action, and improving the management of common resources are effects of social capital of a society.

As multi-storey residential building is still a newly experience for residents and responsible authorities, there is a need to enhance, support and monitor it from authorities. This type of housing represents the future development of the housing in the study area as a result of lack of land and its high price. Besides, the findings of this study presented a baseline, for academic designers and social researchers, to conduct future studies regarding housing satisfaction and participation. Moreover, resident

should understand the differences between detached houses in which the owner has his own complete control over everything in the house and multi-storey building in which he should participate and cooperate with others to achieve satisfaction. The study highlighted the importance of resident’s participation to achieve satisfaction.

As any study, there were some limitations. Unfortunately, an interruption in distributing the questionnaire occurred between 10 of March until 15 of March as a result of the aggression of the Israeli army on Gaza. The researcher, on one hand, expected that people became in an anxious and unstable situation, and this can affect their answers and the reliability of the findings. On the other hand, they might not welcome the idea of filling out a questionnaire while they were feeling unsafe.

The research target was limited to the head of the family and not their children according to the questionnaire condition. Further research ought to measure the difference in satisfaction between the parents and their children because the former moved to this type of houses at an older age than their children. Moreover, the regression analysis showed that the independent variables explained 42% of the variance in the residents’ satisfaction. This shows that there are other variables which explained 58% of the variance.

The existence of strong correlation between residents’ participation and residents’ satisfaction contributes to the discourse that compare the influence of residents’ participation as a variable among other variables like facilities, services and the surrounding environment on residents’ satisfaction in multi-storey residential buildings in the future. Such a study can enhance the importance of residents’ participation. Besides, a study on how to encourage the participation of residents in multi-storey buildings is important.

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**Appendix**  
**The questions of the questionnaire**

**Section A:** Assessment of residents’ satisfaction “about independent variables

Please read each of the following statements, and indicate whether you agree or disagree with it by ticking one of the five levels defined below.

<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	2	3	4	5

<b>No</b>	<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Cooperation among neighbours					
2	My sharing in social occasions					
3	My communication with my neighbours by visits					
4	My neighbours’ contacts with me					
5	Sense of belonging					
6	Quietness in the building					
7	Safety level in the building					

**Section B:** Measuring the level of residents’ participation

Please read each of the following statements, and indicate whether you agree or disagree with it by ticking one of the five levels defined below.

<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
1	2	3	4	5

<b>No</b>	<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	I visit my neighbours					
2	My neighbours visit me					
3	I exchange telephone calls					
4	I ask urgent help from my neighbours					
5	I exchange presents					
6	I shared in organizing or leading activities					
7	I deliver financial or intangible support					

	from my neighbours					
8	I share with others in solving a problem					

**Section C.** General Indicators of residents' satisfaction

SD Strongly disagree    D disagree    N neutral    A agree    AS strongly agree  
 Please choose the answer that best describe your level of satisfaction

No	Item	SD	D	N	A	SA
1	The apartment meets my needs					
2	I achieve my expectation by choosing this apartment					
3	I would recommend this house to others					
4	I have contact with my neighbors inside my building more than in other buildings					
5	I can rely on neighbors for support in times of need.					
6	I like this housing compared to the previous one					
7	I would like to continue living in my dwelling.					

In case you like to change the apartment, what are the reasons for this desire?