

Assessment of Residential Satisfaction Indices of the Boys Aged 11 to 15 Years Old in the Idealistic Formal Operational Stage; Case Study: Newly Built Residential Complexes in Karimabad, Tonekabon

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ABSTRACT

Given the importance of considering the residents' satisfaction of residential complexes, especially children, it is necessary to evaluate the environmental quality of these complexes architecture related to residential satisfaction. In recent years, construction of high-rise residential complexes in the context of villa houses in Tonekabon city has been increasing and this issue often has affected young people who are in the intellectual period of their life. Hence, the article seeks to study the residential satisfaction indices within a specific age range focusing on gender (male) and evaluates the components affecting it. This work is done by analyzing the prominent features of formal operational age range (11-15 years old) and separating the mental and concrete attributes of the community members in newly built residential complexes of Karimabad district of Tonekabon city. This descriptive-analytical study is a kind of applied research that used mixed (qualitative-quantitative) method, and descriptive method has been used in parts of theoretical views and review of previous studies. To achieve the casual relationships and recognition of the correlation and relations among variables and indices, analytical survey method is applied. In this regard, in addition to the interview, a closed-ended questionnaire has been applied as well. The results show that among the set of factors affecting residential satisfaction, mental and idealistic dimensions more than concrete dimensions are considered and selected by the children and it is noteworthy that although the children have an abstract view in the formal operational age stage and their thoughts lead to idealism, concrete components are not ignored in the eyes of idealist children.

Keywords: Children, Formal Thought, Idealism, Concrete and Mental Attributes, Residential Satisfaction.

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1. INTRODUCTION

Today, research on housing and residential issues, in addition to studying physical dimensions, also includes the structural, functional, and identity aspects of residential environment (Mohammadpour Zarandi, & Daroudi, 2016, p. 39). Residential space is the most important land use in urban areas and its preparation constitutes the largest part of the expenditure of Iranian households. The concept of residential satisfaction from housing and residential complexes is one of the complicated concepts that the determination of its affecting factors requires a lot of research. By determining and providing the appropriate conditions for all age groups within the complex, and subsequently planning and designing neighborhoods, the feeling of satisfaction and communication between residents of residential complexes and neighborhoods can be created or strengthened and thus through improving the quality of life (Shahbani, & Haji Hosseini, 2014, p. 260). Often during the design and afterwards, individuals' satisfaction is not measured according to the age ranges and also with regard to their specific features which becomes more prominent in formal operational stage. In this age range, the human, with having unrealistic wishes which arise from idealism, is trying to change the existing situation and improve it, as long as this idealism is abandoned by increasing the power of intellectual thinking and the development of social experiences. Therefore, the present research, based on the research background and evaluation models presented in the following, will attempt to evaluate the factors affecting residential satisfaction in the introduced statistical population (children at the formal operational age range). Essentially, the population surveyed for previous studies in this regard is limited to adults, and so far little research has been done in this field within the age ranges under the age of 18, and ignoring these groups who are at the critical phase of their lives, causes psychological disorders. Therefore, firstly, the architectural factors affecting (independent variables) on the level of residential satisfaction in the mentioned age range (dependent variable) will be investigated. Considering the abstract and daring look of the idealistic formal thought at life, from the set of mental and concrete attributes created at this stage of life, some indices are extracted according to the theoretical foundations of the research, and in the following according to these indices, the case study (children aged 11 to 15 years old) is evaluated for assessing the satisfaction level of residential quality. Therefore, based on what has been said, the questions and main hypothesis of the research can be put forward as follows:

- What indices of mental and concrete components in residential complexes provide satisfaction of the child aged 11 to 15 years old?
- How much are each of mental and concrete components effective and important in the satisfaction

of idealist children?

The main hypothesis:

Although the children have an abstract view in the formal operational age stage, and their thoughts lead to idealism, concrete components are not ignored in the eyes of idealist children.

2. LITERATURE REVIEW

Study on the quality of urban environment and satisfaction in Iran is relatively new. Several researchers have sought to discover the factors and variables affecting the assessment of users' satisfaction with their residential environment.

In addition to the mentioned variables, the age characteristics of the statistical population (adults, adolescents, and children) also influence their satisfaction with the environment (Tebbi Masroor & Rezaee Moayyed, 2015, p. 64).

Nowadays, there are a lot of researches around the world in the field of residential satisfaction that focuses on the effects of physical characteristics of the built environment and social factors on the three dimensions of satisfaction of housing, neighborhood, or neighbors. These researches show that features such as access, tree cover and type of asphalt, public and private spaces are the most important predictors of people's satisfaction with the neighborhood and residential spaces (Ibrahim Abass & Tucker, 2018, p. 36). Also, factors such as gender, descendant, economic status, and housing ownership affect the individuals' satisfaction with their living place (Lin & Li, 2017, p. 76). Study the level of satisfaction with the residential environment of the household is the subject of different researches. In 1955, Rossi conducted the main research on the factors affecting household's residential satisfaction. After Rossi, during the 1960s to 1970s, residential satisfaction was used for a while in the field of interior design and architecture in residential complexes, but from the 1980s up to now, it has been evaluated to assess and improve the performance of housing conditions (Brandstetter, 2011, pp. 56-80). Meanwhile, satisfaction with neighboring unit which plays a very significant role in providing residential satisfaction emphasizes the mental evaluation of life's quality (Aiello, Ardone, & Scopelliti, 2010, pp. 264-275). David Smith was the first geographer who discussed the quality of life, welfare, and social justice in geography. He used mental and concrete social indices to assess the quality of life, welfare, and social justice (Tebbi Masroor & Rezaee Moayyed, 2015, p. 63). According to Aragonés and Amérigo (1997), the concrete attributes of the environment change to mental attributes and affect the sense of satisfaction. Mental attributes are also influenced by the personal features and characteristics of the people who use the space (Rafieian, Asgari, & Asgarizadeh, 2008, p. 54). Okocha and Beamish carried out some researches in 1997 on the social and economic features of the

residents, and one of the results was that households with different socioeconomic backgrounds have different levels of demands, tolerance, and attitudes towards residential satisfaction (Galster & Hesser, 1981, pp. 735-758). Brandstetter in his study in 2004, after some extensive analyses, extracted six variables as indices that have a great influence on the residential satisfaction process. These six variables are Age, family life process, household income, financial heritage, homeownership, and motivation for the last residential resettlement (Brandstetter, 2011, pp. 56-80). In another study on residential satisfaction, Rivlin discusses the relationship between religious beliefs, culture, and satisfaction with the residential environment (Hur & Morrow Jones, 2008, pp. 619-635).

3. THEORETICAL FRAMEWORK OF RESEARCH

In this section, first, various concepts such as satisfaction, housing discussion, and finally residential

satisfaction and the characteristics of the age period of formal operations are examined. Then the research chart is drawn based on the studies performed. In the following, the theoretical framework is discussed.

3.1. Child and the Levels of Cognitive Development

Determining the child's age range varies from country to country. In the first article of the Convention on the Rights of the Child, the child means a human being under the age of 18. In Article 1 of the Protection of Child Rights Act, child includes those up to the age of 18 years (Rokh, 2012, p. 45). Jean Piaget, a French psychologist, was among the first psychologists who studied the stages of child development in extensive researches on the formation of different cognitive concepts such as place, space, time, causality, number, and law, and described the age range according to the way of imagination and language learning, behavior and ethics (Ibid, p. 46).

Table 1. Piaget's Theory of the Child's Cognitive Development Levels

| The Stages of Child's Intellectual Development | Age Range |
|--|---------------|
| 1. Sensory-Motor (Nursery School) Stage | Birth-2 Years |
| 2. Pre-Operational (Pre-School) Stage | 2-7 Years |
| A) Pre-Conceptual | 2-4 Years |
| B) Intuitive | 4-7 Years |
| 3. Concrete Operational Stage (Lower Primary School) | 7-11 Years |
| 4. Formal Operational Stage (Upper Primary) | 11-15 Years |

Adapted from (Simatwa, 2010, pp. 366-369)

3.2. Formal Operational Age Stage

In fact, adolescence is associated with a gradual physical transition from childhood to adulthood, characterized by changes in the body, increased abstract thinking capacity, increased orientation to

the future, and internal control, and wider awareness of the environment (Friedman, 1989, p. 310). This period is between ages 10 to 20 or 12 to 19 years old. Buildings and spaces affect the health, physical, mental and moral development of children and consequently adults (Hanachi & Azad Armaki, 2012, p. 90).

Table 2. Features of Formal Operational Stage and Its Theoretical Concepts

| Features of Formal Operational Stage (11-15 Years) | Theoretical Concepts |
|---|--|
| Increased Abstract and Systematic Thinking | Imagination (Unrealistic and Ideal Wishes) and the Foresight of Place Representation |
| Increased Orientations to the Future | Residential Foresight |
| Wider Awareness of the Environment | Revelation of the Environment and Residential Place |
| Individual's thought Focuses More on Sensory Perceptions and Psychological Representations (Applying Mental and Symbolic Formats and Hypothetical Concepts) | Deeper Sensory and Emotional Perception Toward the Place |
| Hypothesizing, Prediction, Planning, and Description of Reasoning Processes (Unlimited Thinking Ability) | Interpreting Issues of thought in Looking Ahead to the Future |
| Thinking about his/her thoughts (Self-Centering) and Organizing It for Higher Levels and Independence | Idealism and better Demands (Disapproval of Realities and Criticizing the Existing the Status Quo) |
| Allocation of Time for Recreation in Residential Space | Social Relationships and Environmental Interaction |

3.3. Residential Satisfaction

Resident satisfaction is equivalent to a sense of satisfaction that a person understands or experiences from his/her current home where he lives. In this regard, many variables affecting the evaluation of users have been investigated. The variables of beauty, size and natural area, social interaction, safety of services, maintenance facilities, and environmental comfort are among the most important variables (Behzadfar & Ghazizadeh, 2011, p. 16). Residential Satisfaction can be considered as a situation in which individuals, in addition to physical facilities, are concerned with social and cultural issues and the relationships between residents (Choudhury, 2005, pp. 2-5).

3.4. Theories Related to the Child Residential Satisfaction

In recent researches conducted on children aged 8 to 16 years to learn about the growth of their priorities over the place in the residential area, it was concluded that young children choose places based on the capabilities, while older children tend to choose places for their cognitive characteristics or the aesthetic properties. It is clear that quiet and calm places for thinking are as important as some of the obvious attractions and capabilities to them. What children most dislike is insulting their opinions about the environment (Gharehbaglou, Einifar, & Izadi, 2013, p. 72). Among the other concepts related to the child's attitude towards the physical and concrete environment, issues such as the free playground can be examined from two aspects, namely nature and its value in the children's

cognitive and physical development (Chawla & Heft, 2002, pp. 201-216) and the balance between order and disorder (Blinkert, 2004, pp. 104-106). Studies conducted on children and their residential satisfaction indicate their presence and interaction, and somehow the participation of children and adolescents and their role in creating a suitable environment for achieving residential satisfaction and quality (Daroudi, Jahanshahloo, & Shahriary, 2015, pp. 125-141). A common point in all studies is that the age differences in the assessment and use of places among children and adolescents vary with age changes. In the conceptual perception of discussions and theoretical studies regarding the residential satisfaction of the children, it is often referred to some structural and personal characteristics and attributes that are summarized in two concrete (physical) and mental (non-physical) parameters, which are further referred to as the indices of the research.

3.5. Mental and Concrete Attributes Involved in Residential Satisfaction

In various studies, concrete and mental attributes in creating satisfaction have been identified. Concrete criteria are Features that, in addition to being more tangible, there are similar perceptions and expectations of them among the residents, such as lifetime and size of housing or its accessibility. In contrast, mental criteria are those that people do not have the same attitude towards them and are more likely to be affected by the personal characteristics, desires, and tendencies (Mozafari, Latifi, & Berkpoor, 2016, p. 84).

Table 3. Extracting Effective Factors on Mental Attributes and Its Affecting Indices in Satisfaction

| Mental Attributes | | | | |
|-------------------------|------------------|--------------------------------|---|---|
| Criteria and Components | Indices | | | |
| Independent Variable | Social Factors | Neighbors and Public Relations | When a Neighbor is Satisfactory, The Person Evaluates His or Her Current and Residential Conditions | (Michelson, 1966, pp. 355-360) |
| | | Length of Residency | Sense of Belonging and Memories | (Naghdi, Balali, & Mohammadrezaee, 2016, pp. 455-475) |
| | | | Social Contact and Symbolic Identity (Social Security) | (Lang, 2012, p. 53) |
| | Personal Factors | Age and Gender | Age has a Positive Meaningful Linear Relationship with Perceived Quality of Environment and Satisfaction, Sense of Security | (Carp & Carp, 1982, pp. 295-312) |
| | | Personal Characteristics | Demographic Factors, Personality Factors, Values, Expectations, Comparison with other Residencies and Hope for the Future | (Gifford, 1999, pp. 21-29) |
| | | Residential Conditions | Residential Simulations- an Assessment of the Criteria of the Real Residence Builder and Neighbors | (Galster & Hesser, 1981, pp. 735-758) |
| | | Social Position | The Higher Strata are More Satisfied than the Lower Strata - the Owners are More Satisfied than the Tenants | (Baba & Austin, 1989, pp. 763-780) |

| Mental Attributes | | | | |
|-------------------------|------------------|-----------------|--|--------------------------------|
| Criteria and Components | | Indices | | |
| Independent Variable | Cultural Factors | Privacy | Possibility of Appropriate Communication between the Members with Each other and Even with other Close Relatives | (Naghizadeh, 2001, pp. 90-103) |
| | | | Fear of Violating and Invasion of One's Privacy (Sense of Security) | (Rajabipoor, 2016, pp. 87-104) |
| | | Territory | A Biological Dimension for Identity, Motivation and Perceptual-Psychological Security | (Lawson, 2001, p. 167) |
| | | Personalization | The Existence of the House Creates Personalization | (Rapaport, 2012, p. 110) |

Table 4. Extracting Effective Factors on Concrete Attributes and It's Affecting Indices in Satisfaction

| Concrete Attributes | | | | |
|-------------------------|---------------------------|---------------------------------|---|--|
| Criteria and Components | | Indices | | |
| Independent Variable | Environmental Factors | Dimensions and Area of the Land | The Quality of Habitat and Residence | (Abdul Mohit, Ibrahim, & Razidah Rashid, 2010, p. 17) |
| | | Land Position | Geographical and Regional Dimension | |
| | | The Number of Residents | The Demographic Dimension of Neighboring Units | |
| | | Landscape | Facade of the Complex and Neighboring Buildings | (Behzadfar & Ghazizadeh, 2011, pp. 15-24) |
| | Neighboring Units | Residential Open Space | The Need for a Complimentary Space Alongside the Interiors of Apartments to Meet the Recreational Needs | |
| | | Privacy | Privacy is an Important Part of Understanding Himself or His Identity | (Gifford, 1997, pp. 16-45) |
| | | Buildings Facades | Visual Effects of Neighboring Units (Attractive Public Spaces All Day and Night) | (Dempsey, Bramley, & Power, 2011, p. 293) |
| | | Flexibility | A Powerful Combination of Places that Can be Used for Different Purposes | (Bentley, Alcock, Murrain, McGlynn, & Smit, 2004, pp. 5-8) |
| | Green Space and Landscape | | | |
| | | Green Space and Landscape | It Makes Activation and Stimulation and Increases the Excitement and Vitality | (Hamid & Babamiri, 2012, p. 311) |

The following diagram has been extracted using the definitions and theoretical foundations based on the

mental and concrete components affecting residential satisfaction.

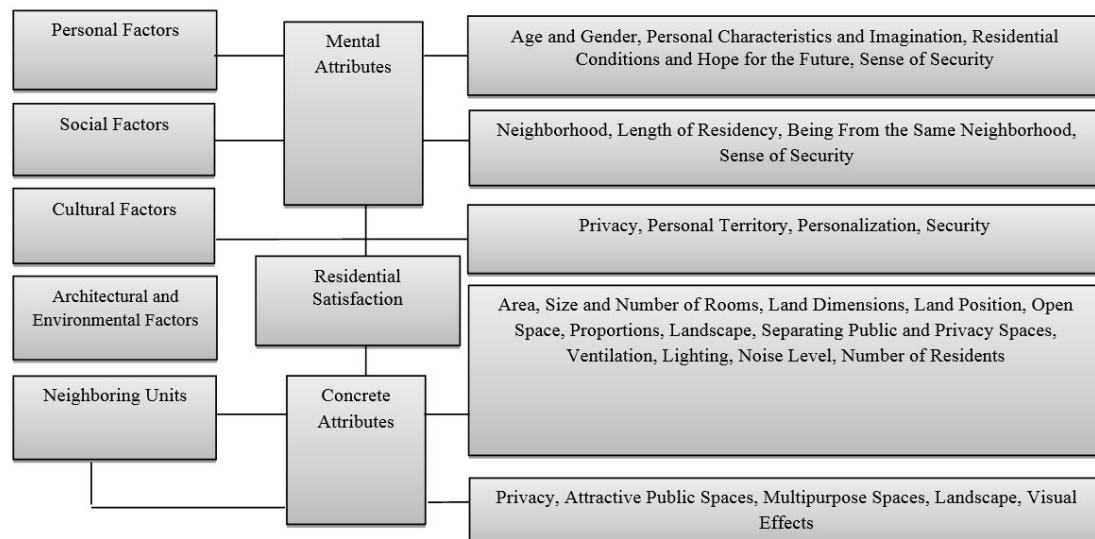


Fig. 1. Analytical Model of Residential Satisfaction

4. RESEARCH METHOD

Considering the nature of the research subject, the descriptive-analytical method is used, and to achieve the causal relationships and the relationships between variables and indices, the analytical-survey method has been used in this study.

At first, by identifying the variables affecting the problem, the relevant indices were determined, and then using the questionnaire and as field research the required information was collected. Attempts have been made to examine the characteristics of the research variables as a bridge between the influential mental components and the concrete components of the main research community. Assuming the constant cultural, economic, and political factors as well as field observations, it became clear that male children spent more time outside the apartment complexes (focusing on concretes) and were selected as the statistical population of the research. Moreover, in order to complete the process, data saturation has been used in the interview for using the items in the questionnaire.

The data have been completed and then analyzed and evaluated using multivariable regression technique and SPSS.19 software. The statistical population in this study is 100 adolescent boys aged 11-15 years old in newly built residential complexes in Karimabad district of Tonekabon city, which after completing the questionnaire, about 13 people were excluded from the population. To verify the validity of the measurement tool, Lawshe's method has been used; also, Cronbach's alpha technique is used to examine the internal consistency of the items of the questionnaire.

In the proposed scheme due to the lack of access to all the people of the statistical population, the stratified sampling method which is a probability sampling technique has been used. The sample size is calculated using Cochran's formula. It should be noted that the

total size of the population according to the age and sex limitations (in the Karimabad district) is 135 people, which has reached 100 people after calculating the number of samples through Cochran's formula. n is the sample size, N the number of people in the population, d the error level, Z the statistic value of normal distribution with 1.96 and the error level of 0.05, p the ratio of attributes distribution, and q is the ratio of their lack of distribution, which in this study due to the probability of distributions is identical and equal to 0.05.

Relationship 1. Cochran formula

$$n = \frac{\frac{Z^2 pq}{d^2}}{1 + \frac{1}{N} \left[\frac{Z^2 pq}{d^2} - 1 \right]}$$

Since the members of the population do not have the same consistency and congruity, in order to restrict the research, the following six components were identified as interfering factors: Climatic Characteristics, Cultural Characteristics, Personal Characteristics, Length of Residency, Urban Texture, Economic, Political and Management Characteristics.

5. INTRODUCING THE STUDY AREA

Tonekabon is one of the cities of Mazandaran province in northern Iran. The residential area of Karimabad is located on its northwest side. Unconventional tower constructions in this area have caused more under-age young strata that go through their intellectual and idealistic maturity. Therefore, the research is based on the residential area of the newly built apartment that is in contrast to the adjacent villa area, and has been allocated to the adolescent boys of 11 to 15 years old, and includes 26 residential apartments respectively with 36, 30, 21, 10, 8,... units.



Fig. 2. Location of Karimabad District toward Tonekabon City
(Google Earth and the Authors' Adaptation)

6. IDENTIFICATION AND CLASSIFICATION OF EFFECTIVE FACTORS IN THE SATISFACTION OF THE CHILDREN IN THE (IDEALISTIC) FORMAL OPERATIONAL STAGE

To purify the relevant data and to analyze the effective indices in the research process, data saturation has been

used in the interview of the statistical population, related to residential satisfaction and living environment.

Table 5. Indices Obtained Through Interviews with Children Aged 11 To 15 Years Old in the New Residential Complexes of the Karimabad District

| Row | Indices Mentioned by the Children in Relation to the Interview | How to Respond to Indices |
|-----|---|--|
| 1 | The Degree of Place Attachment | The Desire to Stay in the Environment |
| 2 | Bustle | Decrease the Security and Unwillingness to Build Apartment |
| 3 | Welfare Accommodations | The Desire to Improve the Welfare, Recreation and Sport Accommodations Near the Living Place |
| 4 | The Construction of Apartments, The Destruction of Residential Villas and Green Space | Unwillingness to New Constructions |
| 5 | Relations with Neighboring Units | Having a Familiarity and a Kind of Habit and Desire to Establish Relationships |
| 6 | The Need for Play and Recreational Spaces in the Apartment | The Necessity of Recreational and Play Space in the Apartments |
| 7 | Growth in the Number of Residential Towers and Apartments | Increasing Residential Units as the Result of Population Growth |
| 8 | Landscape | Destroying Landscapes and Damaging Nature |
| 9 | Alienation (Neighbors) | Unfamiliarity with Some of the Neighbors, Although Low, Due to the Immigration of Foreigners |
| 10 | Land Position Toward the City | Relatively Desirable |

Given the various factors identified in the interviews, it became clear that the desire for abstraction to the future is observable in the speech topics of most of these children. Also, mental attributes (neighbors, length of residency, residential conditions, and personal

characteristics) and concrete attributes (environmental features, number of residents, landscapes, privacy, facade of buildings, residential open space, etc.) are observable in the interview as well.

Table 6. Concepts of the Mental and Concrete Dimensions of Satisfaction Used in Interview with Children

| Concepts | Mental Attributes | Concrete Attributes |
|----------|---|---|
| | Neighbors and Getting Used to the Neighborhood | Geographical Location |
| | The Existence of Peers and Playmates | The Destruction of Landscapes |
| | Improving Welfare Accommodations and Create Recreational and Sports Complexes | Existence of Play and Recreational Spaces |
| | Attachment to Living Place | Reducing the Security with the Congestion of Residential Towers |
| | Length of Residency | Privacies |

Table 7. Dimensions Raised in Interviews with Children 11 to 15 Years Old

| | |
|---|---------------|
| | Neighborhood |
| | Environmental |
| Residential Satisfaction Indices | Cultural |
| | Social |
| | Personal |

7. FACTORS AFFECTING THE RESIDENTIAL SATISFACTION OF AN IDEALISTIC CHILD

According to the theoretical literature of the research and interview, indices that are actually considered as the main attitudes of the research have been obtained.

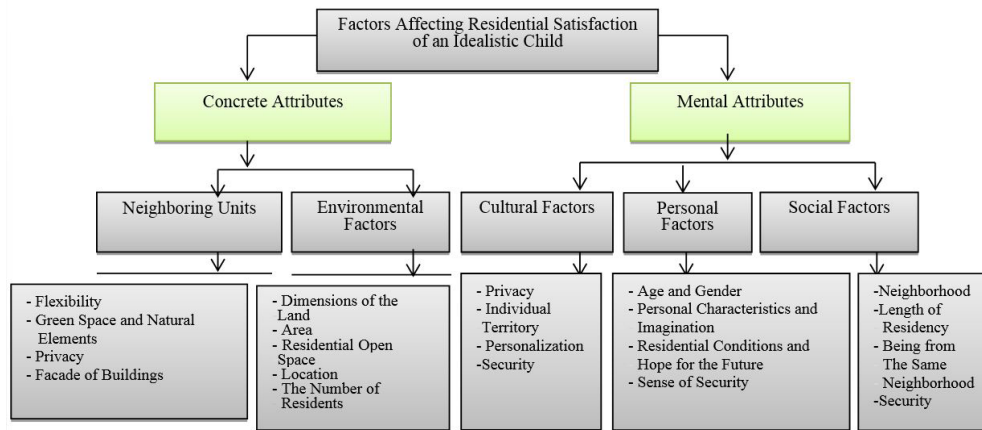


Fig. 3. Factors Affecting the Residential Satisfaction of an Idealistic Child

8. RELIABILITY AND VALIDITY OF THE MEASUREMENT TOOL

The Cronbach's alpha value of the research is 0.889,

which is of a high level for implementing this questionnaire in the community.

Table 8. Reliability Level of the Questionnaire

| The Idealistic Child Satisfaction with the New Residential Complexes in Karimabad, Tonekabon | Number of Items | Cronbach's Alpha Value |
|--|-----------------|------------------------|
| | 30 | 0.889 |

To verify the validity of the indices, the confirmatory factor analysis method was used. Reliability analysis, convergent validity, and competency verification of satisfaction components were obtained in LISREL software. As the results of Table 10 show, the Goodness of Fit Indices (IFI, RFI, NFI, NNFI, CFI) obtained from the first, second, third, fourth, and fifth order confirmation factor analysis are in the range of 0.97 to 0.99, which are more than the threshold level of 0.90 recommended in research texts; this suggests that the models for evaluating and measuring the structures of the research have a very good fit level. In addition, the RMSEA value obtained from the confirmatory factor analysis of all orders ranges from 0.024 to 0.032, which are lower than the recommended value of 0.05 according to the research texts. It is worth noting that the RMSEA value is greater than 0.05 and less than 0.08, which represents a relatively good fit. Also, the

value of less than 3 for χ^2/df indicates a suitable and fit for the data, using evaluation and models of research structures.

The validity and internal consistency of the research structures are calculated using Cronbach's alpha coefficient. After confirming the indices by architectural experts, the test was performed on 100 children, aged 11-15 years old in Kerimabad district, Tonekabon, in the format of a 30- question questionnaire, of which, 87 answer sheets were used as the base of this work. For inferential analysis, and normality of the components, the Kolmogorov-Smirnov test was used, which showed that the significant level obtained in all of the indices of mental attributes (social, personal and cultural factors) and objective attributes (environmental factors, neighboring units) is more than 0.05. Therefore, the indices have a normal distribution.

Table 9. Fit Indices of Evaluating and Measuring Models of Research Structures

| GFI | RFI | IFI | CFI | NNFI | NFI | RMSEA | χ^2/df | df | χ^2 |
|------------------------------------|------|------|------|------|------|-------|-------------|------|----------|
| Social Factors Index | | | | | | | | | |
| 0.90 | 0.97 | 0.99 | 0.99 | 0.99 | 0.98 | 0.025 | 1.30 | 1011 | 1319.88 |
| Personal Factors Index | | | | | | | | | |
| 0.97 | 0.98 | 1 | 1 | 0.99 | 0.99 | 0.031 | 1.46 | 59 | 86.35 |
| Cultural Factors Index | | | | | | | | | |
| 0.99 | 0.99 | 1 | 1 | 1 | 1 | 0.032 | 1.48 | 10 | 14.75 |
| Environmental Factors Index | | | | | | | | | |
| 0.96 | 0.98 | 1 | 1 | 1 | 1 | 0.031 | 1.48 | 10 | 14.75 |
| Neighborhood Factors Index | | | | | | | | | |
| 0.98 | 0.97 | 1 | 1 | 1 | 1 | 0.030 | 1.48 | 10 | 14.75 |

Table 10. The Results of Kolmogorov-Smirnov Test about the Normality of the Data

| Kolmogorov-Smirnov | Statistic | P-Value |
|-----------------------|-----------|---------|
| Social Factors | 0.693 | 0.722 |
| Personal Factors | 0.844 | 0.475 |
| Cultural Factors | 0.619 | 0.839 |
| Environmental Factors | 0.742 | 0.435 |
| Neighboring Units | 0.512 | 0.470 |

9. RESEARCH FINDINGS (AVERAGE OF THE OPINIONS, STANDARD DEVIATION, T-STATISTIC, SIG)

After assessing the opinions of the people in the surveyed community through questionnaire, the average of their opinions towards the types of effective indices in residential satisfaction with the average level of statistical distribution (level 3, the average of 5-point

Likert scale) has been compared. One-sample t-test statistic (i.e. comparison with the constant number or the average level assumptive ratio) is used for this purpose. Obviously, the mean value greater than 3 (in the descriptive statistics table below), as well as the positive value of t-statistic and p-value less than 0.05 (in the t-hypothesis testing table), will indicate the significant effect of each factor.

Table 11. One-Sample T-Hypothesis Test

| Comparison with Constant Number 3 I.E. the Average Level | | | | |
|--|---------|--------------------|-------------|------|
| Items | Average | Standard Deviation | T-Statistic | sig |
| 1. Existence of Landscapes within the Region | 4.64 | .562 | 20.605 | .000 |
| 2. Creating Cultural Places Like Local Library, Internet Cafe, In the Range of Residential Towers | 3.20 | .473 | 14.639 | .000 |
| 3. Attention to Open Space Within Complexes | 4.78 | .464 | 27.087 | .000 |
| 4. Residential Towers of the Region Have Grown Irregularly and Scatteredly | 4.04 | .570 | 12.902 | .000 |
| 5. Intensity of Tower Construction and Congestion within the Region in Dissatisfaction | 4.68 | .652 | 18.198 | .000 |
| 6. The Same Facade of the Buildings | 3.85 | .558 | 14.182 | .000 |
| 7. The Existence of Recreational Centers and Complexes Within the Region | 3.40 | .488 | 13.324 | .000 |
| 8. Attention to the Furniture of Collective Environments and Access Routes in The Region | 4.00 | .571 | 12.374 | .000 |
| 9. Getting Used to the Living Area | 3.78 | .418 | 30.079 | .000 |
| 10. Sharing Builder's Opinion on Improving Residential Status | 4.76 | .431 | 28.847 | .000 |
| 11. The Existence of the Pond and Fountain within the Complex | 4.76 | .431 | 28.847 | .000 |
| 12. Existence of Private and Quiet Places and Spaces | 3.38 | .602 | 4.461 | .000 |
| 13. Creating Diverse and Desirable Furniture (Vegetation) in Pedestrianized Environments | 3.98 | .552 | 12.533 | .000 |
| 14. The Quality of the Sky Line and the Proper Altitude Level and Avoidance of Building High-Rise Structures in an Irregular Way | 3.26 | .486 | 3.775 | .000 |
| 15. Attention to the Native Materials in the Facade and Combine them | 4.06 | .549 | 13.629 | .000 |
| 16. The Design of the Area in Terms of Beauty and Attraction | 4.76 | .431 | 28.847 | .000 |
| 17. Existence of Communal and Friendly Spaces | 4.02 | .514 | 14.013 | .000 |
| 18. Distance and Observance of the Privacy and Neighborhood of the Towers | 4.82 | .388 | 33.161 | .000 |
| 19. Length of Residency in the Area and Sense of Ownership | 4.06 | .549 | 13.629 | .000 |
| 20. Existence of Classmates and Peers | 4.02 | .514 | 14.013 | .000 |
| 21. The Use of Security Controls Inside the Complex | 4.78 | .389 | 33.161 | .000 |
| 22. Regional Facilities in Terms of Accommodations and Services | 4.78 | .464 | 27.087 | .000 |

| Comparison with Constant Number 3 I.E. the Average Level | | | | |
|--|---------|--------------------|-------------|------|
| Items | Average | Standard Deviation | T-Statistic | sig |
| 23. The Existing Congestion From the Perspective of Residents | 3.38 | .567 | 4.735 | .000 |
| 24. The Existence of Open Space in the Neighborhood From Visual Dimension | 3.38 | .567 | 4.735 | .000 |
| 25. The Existence of Past Memories in Satisfaction | 3.98 | .473 | 14.639 | .000 |
| 26. Existence of Environmental Elements in the Complex | 3.91 | .414 | 15.013 | .000 |
| 27. Existence of a Larger Play Space in Residential Towers | 4.78 | .464 | 27.087 | .000 |
| 28. Creating Wide Routes and Sidewalks | 3.92 | .488 | 13.324 | .000 |
| 29. Existence of Places and Transparent Spaces, and Avoidance of Using Heavy and Opaque Materials in Residential Complexes | 4.89 | .385 | 33.163 | .000 |
| 30. Hope for a Better Future of Life | 4.32 | .693 | 33.189 | .000 |

Table 12. Factors Affected by the Research Items and the Definitions Taken From Them

| Indices | | Definitions | Related Items |
|---------------------|---------------|--|---------------------------------------|
| Mental Attributes | Social | Attention to Neighbors and the Length of Residency and the Existence of Classmates and Peers | 9, 19, 25 |
| | Personal | Attention to Children's Participation in Biological Issues and Their Interactions | 4, 5, 10, 17, 20, 23, 30, 28 |
| | Cultural | Attention to the Effects of the Privacy of Living Place | 12, 18, 21, 29 |
| Concrete Attributes | Environmental | Aesthetic, Functional, Operational, Welfare and Recreational Needs | 1, 2, 3, 8, 11, 16, 24, 26, 27, 22, 7 |
| | Neighborhood | Flexibility, Facade of Buildings, Landscape and the Green Space Within the Range | 15, 16, 14, 13, 6 |

10. ANALYSIS OF FINDINGS

In order to analyze the findings, general indices were

estimated using a one-sample T-test, including its effects.

Table 13. Comparison of Indices

| Comparison with Constant Number 3 I.E. the Average Level | | | | | |
|--|-------------------------|---------|--------------------|-------------|------|
| Indices | | Average | Standard Deviation | t-Statistic | sig |
| Mental Attributes | Social Dimension | 4.32 | .224 | 41.935 | .000 |
| | Personal Dimension | 4.33 | .259 | 35.921 | .000 |
| | Cultural Dimension | 4.30 | .238 | 38.667 | .000 |
| Concrete Attributes | Environmental Dimension | 4.01 | .329 | 21.737 | .000 |
| | Neighborhood Dimension | 3.58 | .226 | 18.317 | .000 |

The t-statistic values in the level of (sig <0/05) are meaningful for all indices. Indices of social, personal, cultural, environmental and neighborhood in the idealistic child satisfaction (11 to 15 years old) in newly built effect with a reliability level of 99%. According to the calculations, the most important factors are personal, social, cultural, environmental

and neighborhood dimensions respectively.

11. CONCLUSIONS

According to the results of Table 14, it is concluded that personal dimension and also social and cultural dimensions of mental attributes play an important role

as the most effective factors in residential satisfaction for the idealist child in residential apartments of Karimabad district. In mental attributes, personal dimension (age and the existing peer group, hope for a better and more ideal future of life, etc.), social dimension (participation and opinion of the child in environmental ideals, length of residency, being from the same neighborhood, getting used to the environment, etc.), cultural dimension (privacy and calm environment, territory and geographical range, etc.) and also in concrete attributes, attention to environmental indices (furniture, landscapes and land

dimensions, area, etc.) and neighborhoods (flexibility, green space and landscapes, privacy and facade of buildings, etc.) played a significant role in children's satisfaction, which in order of their effectiveness and according to the age of children and being in the formal operational stage, the indices of their idealism tend more towards mental attributes. In fact, the choice priorities of an idealist child in the overall view and spontaneously are mental attributes just like personal and social attributes but it cannot be said that concrete components are ignored in their view, which confirms the assumption of the research.

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