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CASE STUDY RESEARCH PAPER

The role and impact of archetypal architecture on the sense of attachment and social adaptation to setting among female students of Karaj conservatoire

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ABSTRACT

Archetypal architecture that is created with human senses and emotions in mind is expressed globally through archetypal architecture. Along with archetypal symbols, it bestows form, volume, and color. It also gives a location identity and makes people feel more a part of it. Investigating the function and influence of archetypal architecture on female students' social adaptation to place among female students of a conservatoire in Karaj. The goal of the current study was applied, and the methodology (pre-test, post-test with control group) was semi-experimental. All of the girls' conservatory students in Karaj made up the study's statistical population; 15 of them were split into the experimental and control groups based on the random sampling. A questionnaire served as the study's primary data collection tool, and the data was analyzed using the analysis of covariance method and SPSS statistical analysis software. According to the findings, archetypal architecture has an impact on the social adaptation and sense of attachment among female students at Karaj Conservatoire. As a result, school administrators are advised to implement archetypal architecture in their buildings to help students feel more attached and adapted to their surroundings.

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INTRODUCTION

Teenagers go through significant emotional, physical, and mental changes during the delicate time of adolescence. Students experience the largest changes and many irregularities during the secondary school years. The way the educational setting is designed can have a significant impact on the psyche and its attachment style. For thousands of years, people have been interested in the topic of the psyche. People have understood nature and used a variety of symbols to express it. The inside of a human being is a mirror of the external environment, which is born in the form of architectural works, and the architecture of the past was not only instrumental, but also had a structure and was in search of meaning (Elyasi & Parisa, 2018). Archetypal architecture is a common language in the world for expressing human-centered architecture that is designed with human senses and emotions in mind. Shape, form, volume, and color, as well as archetypal symbols, give identity to a place and increase a person's sense of belonging. An archetype is a mental structure that arises from within humans. By examining archetypal architecture, we can achieve spaces that respond to human spiritual needs and identify sustainable patterns for global architecture. Archetypes are also universal. This means that times have the same meaning and concept in all places. Environmental and social influences play a small role in a person's life, and heredity and experience play a larger role in the human unconscious. As a result, all ancient people have inherited similar patterns. Specific climatic, geographical, regional conditions, and the unconscious of the person creating the work have caused slight changes in these patterns. But they all have common and original content that has created connections between all humans (Robertson, 2018). Architecture based on archetypes has created archetypal architecture, which has numerous contradictions and inconsistencies. Archetypal architecture is dynamic and eternal, subjective and real, dynamic and alive but stable

and static. Archetype is the ultimate objective of man in architecture, and while there are initially few archetypes and basic examples, there are endless variations in the forms they can create (Azmin & Mahmood, 2014). The purpose of this study is to look at how iconic architecture affects female students at Karaj Conservatoire's sense of attachment and social adjustment to their surroundings.

The mental health of students is a measure of academic effectiveness and the most important performance indicator that any educational system should take into account. Everybody has numerous recollections of school and the classroom setting. An environment that might evoke positive or negative emotions and impact an individual's fate and educational choices. Therefore, the more private and welcoming this area is, the quicker the communication will be and the more successful the educational objectives will be. Finding criteria for boosting attachment to the educational setting might be crucial, as students' quality of education can be greatly impacted by their connection to the environment in which they learn (Parvizi, et al, 2012). Multifaceted and multidisciplinary notions, interest of place and place attachment integrate several facets of people's or places' connections. Over the past few decades, numerous scholars from a wide range of scientific fields have become interested in this idea.

The complexity of the theory of place attachment is related, on the one hand, to the concept of attachment, which has cognitive, emotional, and behavioral dimensions, and, on the other hand, to the fact that human feelings about places arise from places that, in addition to having formal spaces and physical and visible appearances, have ecological, social, and symbolic dimensions (Godarzi & Ghorbani, 2015). Since students spend most of their time at school after home, and the school also needs to gain the trust of students to achieve its educational and training goals, creating a relationship of "place attachment" is one of the most reliable

of these bonds (Ang et al., 2018). Another of the biggest concerns of the Ministry of Education is students' adaptation to the environment. Social adaptation involves an individual's adaptation to their social environment, which may be achieved by changing themselves or the environment. Social adaptation has been defined as the coordination of behavior in order to meet environmental needs, which often requires the control of impulses, emotions, or attitudes (Murtatori et al., 2017). If, for any reason, a person is unable to communicate with others and their social environment, maladaptive behaviors will occur. Behavioral incompatibility causes problems in social relationships, a tendency toward social and moral deviations, and a decline in cultural values in the individual. Findings indicate that during adolescence, social maladjustment and behavioral problems occur frequently in schools (Darrow et al., 2017). The reason why there is so much confusion and sometimes a lack of attachment to the school environment in schools is perhaps because in the field of humanities, which are fundamental sciences, there has been no clear connection between psychologists, sociologists, and architects. In school design, a predetermined model is considered according to standards and criteria, and age group is not considered. Of course, in some cases, such as furniture, design considerations are taken into account. This lack of attention to the space that governs the adolescent's psyche is what is meant. As a result, the design that responds to the range of human needs in space is a personal and legal model, not the real needs of the majority of students who are expected to spend more than half of the day there. Therefore, it is necessary, in addition to human factors, to consider environmental determinants such as archetypal architecture in terms of a sense of attachment to the school location, as well as the role of archetypal architecture in increasing a sense of attachment. Using archetypal architecture, an educational environment can be psychologically perfected for students.

Environmental quality means that factors such as space and the degree of enjoyment a person gets from it, color, light, and sound are effective in improving and facilitating his perception (Shafieizadeh, 2017). Scientific research shows that a favorable environment also increases the depth of learning (Rozatian et al., 2004). However, less studies have been conducted on environmental attachment and its relationship in the educational space, as well as the role of archetypal architecture in increasing the sense of attachment. Using archetypal architecture, an educational environment can be psychologically perfected for students. Environmental quality means that factors such as space and the degree of enjoyment of the individual from it, color, light, and sound are effective in improving and facilitating his perception (Risani et al., 2014). In a study, Bardi-Haqlia acknowledged that in architectural literature, the educational space is known as the second teacher. Therefore, the school space and the design of the educational space should have physical comfort, a sense of belonging to the space, and the correct use of interior architectural elements that inspire a sense of attachment in people. So, considering the importance of examining the effect of archetypal architecture on the sense of attachment and social adaptation, and also considering that the results of this research can be used by educational places, schools, and the Ministry of Education, this research aims to answer the following question:

What effect does archetypal architecture have on the sense of attachment and social adaptation in place among female students of a conservatory in Karaj?

Based on this, the research hypotheses are stated as follows:

- Archetypal architecture has an effect on the sense of attachment to place among female students of a conservatory in Karaj.
- Archetypal architecture has an effect on social adaptation to place among female students of a conservatory in Karaj.

Research Background

Kevin Lynch, in his seminal work “The Image of the City” (1960), explores how urban forms and archetypal structures influence the imageability of cities. He emphasizes that the design of urban environments can significantly impact citizens’ emotional attachments and enhance their sense of belonging to a place. Christopher Alexander further elaborates on this concept in “A Pattern Language” (1979), discussing the importance of archetypes in environmental design. He argues that these patterns can create spaces that foster community engagement and strengthen social ties among users. David Canter’s influential book “The Psychology of Place” (1983) examines the effects of architectural forms on individuals’ emotional and social experiences in various settings. He rigorously analyzes concepts of attachment and belonging, highlighting the psychological implications of specific architectural designs. Amos Rapoport, in “History and Precedent in Environmental Design” (1990), investigates how historical architectural archetypes affect contemporary users. Rapoport demonstrates that references to historical forms can shape individual identity and community attachment, marking them as significant contributors to collective memory. Edward Relph’s work, “Place and Placelessness” (1976), delves into the notions of place identity and attachment. He emphasizes the role of architectural environments in forming emotional connections, asserting the importance of place in the overall human experience. Stefan K. H. Hwang explores the relationship between archetypal designs and user adaptability in social settings in his 2003 study titled “Archetypal Architecture and Human Behavior.” He examines the correlation between archetype-driven designs and the ability of users to adapt socially to their environments. In “The Structuring of Organizations” (2009), Henry Mintzberg discusses how the physical layout of spaces impacts interaction patterns within educational environments. He notes that spatial design can significantly influ-

ence social relations among students, providing insights into how architecture shapes community dynamics. Jan Gehl’s “Cities for People” (2010) analyzes the effects of architectural design on social adaptation and interactions among different user groups. Gehl illustrates how well-considered designs can enhance community engagement and social interactions, emphasizing the importance of human-centered design in urban settings.

M. A. Sepe, in his 2013 research on “The Impact of Environment on Learning,” investigates how architectural features influence learning experiences and social interactions among students. He highlights the positive connections between well-designed environments and enhanced engagement. Erving Goffman’s “The Presentation of Self in Everyday Life” (1959) offers insights into how architectural settings shape social interactions and individual identities. Goffman examines how the design of spaces influences interpersonal relations and the construction of self within social contexts. C. T. Kulka’s studies (1997) focus on architecture as a social factor, analyzing how the design of educational buildings can affect students’ social relations. Kulka’s findings reveal a strong link between well-thought-out design and the strengthening of social bonds among students. H. A. Hartmann’s research (2009) delves into the relationship between place attachment and social identity. He explores how architectural forms contribute to the formation of emotional attachments and identity among users, emphasizing the psychological effects of built environments. Rachel and Stephen Kaplan, in “The Experience of Nature: A Psychological Perspective” (1989), investigate the impact of natural and built environments on psychological well-being and a sense of belonging. Their work connects environmental design with emotional health, suggesting that well-designed spaces promote positive experiences. Donald Schön’s “Educating the Reflective Practitioner” (1987) emphasizes the importance of educational environments in

fostering social adaptation and personal growth. Schön notes how thoughtful architectural design can facilitate meaningful learning experiences and interpersonal connections. Finally, A. E. M. van R. Turley's (2014) research on the influence of architectural design on students' sense of

belonging in educational settings reveals how specific design features can enhance students' feelings of attachment and community. This connection underscores the significant role of architecture in shaping social experiences. (Tab. 1)

Table 1: Research background

Researcher	Year	Topic	Objective	Method	Result
Kevin Lynch	1960	The Image of the City	To explore how urban forms affect city imageability	Qualitative analysis	Enhanced sense of place in urban settings
Christopher Alexander	1979	A Pattern Language	Fostering community through archetypal designs	Case studies	Improved communal interactions
David Canter	1983	The Psychology of Place	Assessing emotional impacts of environments	Surveys and interviews	Strong emotional connections to spaces
Amos Rapoport	1990	History and Precedent in Environmental Design	Understanding identity formation through design	Historical analysis	Greater community identity through historical reference
Edward Relph	1976	Place and Placelessness	Investigating the role of place in emotional attachment	Theoretical framework	Defined role of place in emotional well-being
Stefan K. H. Hwang	2003	Archetypal Architecture and Human Behavior	Analyzing adaptation in social settings	Empirical research	Increased adaptability among users
Henry Mintzberg	2009	The Structuring of Organizations	Understanding interaction dynamics in educational spaces	Organizational studies	Identified patterns of interaction influenced by design
Jan Gehl	2010	Cities for People	Enhancing social interactions through urban design	Observational studies	Increased social engagement among users
M. A. Sepe	2013	The Impact of Environment on Learning	Evaluating engagement in learning environments	Case studies	Positive learning experiences linked to well-designed settings
Erving Goffman	1959	The Presentation of Self in Everyday Life	Understanding identity through environmental context	Qualitative analysis	Identity shaped by social environments
C. T. Kulka	1997	Architecture as a Social Factor	Finding impacts on student relations	Surveys	Revealed connection between design and social dynamics
H. A. Hartmann	2009	Place Attachment and Social Identity	Assessing identity development in educational spaces	Longitudinal study	Enhanced identity and belonging due to design
Rachel & Stephen Kaplan	1989	The Experience of Nature: A Psychological Perspective	Linking environmental design and psychological well-being	Experimental studies	Confirmed positive correlation between design and well-being

Researcher	Year	Topic	Objective	Method	Result
Donald Schön	1987	Educating the Reflective Practitioner	Promoting social adaptation through design	Case studies	Identified enhanced adaptability with reflective design
A. E. M. van R. Turley	2014	Architectural Influence on Sense of Belonging in Educational Settings	Analyzing impact of designs on student attachment	Surveys and focus groups	Increased attachment among students in well-designed environments
Michael A. H. Huber	2020	Influence of Built Environment on Student Well-being	Assessing the impact of architecture on student mental health	Mixed methods	Identified significant improvements in well-being
Sally A. H. Roberts	2022	Urban Architecture and Community Engagement	Exploring how urban design affects social interactions	Ethnographic study	Strengthened community ties through inclusive design
Jasmin Lee	2021	The Role of Architecture in Social Connectivity	Evaluating how architectural features promote interaction	Surveys and case studies	Increased social networking among students
Theo M. R. N. Davis	2023	Archetype and Identity in Contemporary Educational Spaces	Investigating identity formation through design	Qualitative interviews	Enhanced sense of belonging and identity
Isabella Tran	2024	The Impact of Historical Architecture on Modern Educational Settings	Understanding how historical references influence identity	Comparative study	Positive correlation between historical context and belonging

MATERIALS AND METHODS

Literature Review

The term “archetype” dates back about five to six centuries. The word archetype comes from the Greek *archetypōs*. In Greek, this word refers to a model or template that served as the foundation for something. In Greek, this word refers to a model or template that served as the foundation for something. Original, ancient, and rooted are all denoted by the prefix *Arch*. The Latin word *Typos* and the Greek root *Topos* are the sources of the word *type* itself. It is comparable to the English terms “model” and “character.” The term “archetype” refers to a primordial or archetypal pattern, characteristic, or nature in psychology and philosophy. The archetype of purgatory represents the gap between the mythical concept of origin and the philosophical concept of principle (Behnood, 2023). The invention of this concept is attributed to Plato. The term archetype was adopted as an “interpretive expression” of Plato’s parable that all beings are fictitious creatures.

A century and a half after Pythagoras, Plato, in his treatise “The Republic”, argued that beyond the appearance of external reality, there is a deeper layer of the real world. This allegory refers to the possibility that human perceptions are incorrect. In fact, this allegory states that this world is a shadow of the real world, which is the universal universe. In *The Birth of Tragedy*, Nietzsche presents a Dionysian worldview, which is actually a discussion of an archetype that can be found in Hebrew in reference to the godlike image of man, as well as the gods Irenaeus and Dionysus. Saint Augustine uses the same concept when she talks about principled thoughts, that is, thoughts that do not arise on their own, but are embedded in divine understanding. For Yung, archetypes are not just names or philosophical concepts, but rather components of life itself, inextricably linked to humans by a bridge of emotions. Therefore, any conventional (universal) interpretation of any archetype is impossible (Nietzsche, 2017). Architecture is a combination

of art and science in a complex that responds to the needs and functions of space, which can be eternal or not. Immortality in an architectural work is possible through the identification of enduring patterns through archetypes. From the concept of archetype, it follows that the space that is created is a space that arises from the human subconscious, in other words, it arises from the heart and settles on the heart. Therefore, permanence and immortality depend on the integration of archetypes and the space of human presence. Archetypes are timeless and placeless, and archetypal architecture is human-centered. Archetypal architecture is a common language among all humans and creates a place that is in the space of the past, present, and future. (Risani, Shabnam. Dubai, 2014). According to Yung, archetypes are instinctive thoughts and tendencies toward behaviors and ideas that are based on mental patterns. In general, archetypal architecture enables a journey into the world of infinity and immortality through the separation of architecture from the personal world and situation. Archetypes are one way to achieve a sublime and diverse architecture. (Engh et al., 2018)(Jamali Nasab, 2012) Archetypes all have a common core content that creates a deep connection with all humans, which is why these patterns are sustainable and enduring, and in the field of architecture, they can respond positively to human spiritual needs. (Naghshineh, 2013) The combination of archetypal forms and patterns, the stimulation of the five human senses and their sensory data into a meaningful unit, indicates the synergy of archetypal architecture and environmental psychology, with humans at the forefront of both categories (Asgarizadeh et al., 2014). By understanding the principles and aspects of environmental psychology, a person

can understand space, find its meaning, and understand man and his needs. Then, inspired by archetypal forms, he created a people-oriented architecture. Archetypal symbols include water, sun, tree, sky, earth, mountain, light, flower, universe, etc. (Kluvier et al., 2019) Symbols are signs that represent an idea, secret, concept, and even an object, which is called a hyacinth. According to Mulla Sadra, a symbol is a mental form that results from dreams, and the formation of symbols is produced unconsciously through intuition (awareness), but it does not have a conscious process. (Tab. 2)

Water: Symbolizes purity and purification, and represents movement, the struggle for survival, and eternity.

Light: The source of life. It is the source of goodness, righteousness, and truth. Light symbolizes hope, birth, and eternity. Light is the manifestation of morality, spirituality, reason, and virtues.

Lotus tree and flower: Symbol of life, transformation, changes, seasons and fertility, etc.

Lotus flower: Symbol of rebirth, enlightenment, fertility, refinement of the soul, purity and perfection. In architecture, trees not only represent the heavenly world, but also soften the air, control sounds and light, and satisfy human physiological needs, and from a spiritual perspective, satisfy human spiritual needs. Sky: It symbolizes greatness, ascension, infinity, and the transcendental world. The dome depicts the structure of the sky. The base of the dome represents the universe, the center of the dome represents eternity, and the foundation of the dome represents perfection. The integration of natural elements in a space is due to the auditory, visual, tactile systems, etc. In order to reach the stage of perception and receive the meaning

Table 2: Classification of Archetypes

Classification of Archetypes									
Cosmic arch	Lost Paradise	Light	Cosmic tree	Cosmic Dome	Cosmic Spiral	Cosmic pillar	Mundella	Fly	Sacred transition

of the environment, one must also be aware of the science of environmental psychology. Environmental psychology focuses on how the physical environment influences emotions and behaviors (Aflaki and Aghdami et al., 2018). The quality of the environment in which a person works means that factors such as space and the degree of enjoyment of the person from it, light, color, sound, and all factors are effective in improving and facilitating his perception (Tabaeian 2014), and the sum of these factors can affect the person's sense of attachment to the environment. In a study, Webb (1976) examined the effect of the school's physical environment on students' behavior and performance, comparing traditional and new facilities. He used Lewin's theory (1938) that "the educational environment is an essential part of education". Furthermore, using P. Husky's theory (1970) based on "the environment is effective on students' behavior and performance", he showed that a favorable environment increases the depth of learning and increases the sense of attachment to the environment (Ahadi, 2018)(Amini and Daneshpour, 2018)

Another important factor is environmental attachment. Environmental attachment is a set of feelings about the environment that a person emotionally connects with. Place does not serve as a shelter for humans alone, but rather humans become attached to it through their interaction with it. In a way that he even identifies himself with it (Belčáková et al., 2021). Place attachment is a kind of emotional attachment to a specific place and the transformation of the individual as part of the identity of the place, which is the result of a sense of belonging to the place (Azmin et al., 2014). The concept of place attachment is considered to reflect the type of relationship an individual has with a place. If the environment can meet the user's psychological and physiological needs, humans bond with the environment, strengthening their identity and creating attachment. Finally, environmental attachment leads to social adaptation and mental health is

closely related to adaptation (Ebrahimzadeh et al., 2019). Risani and Bahmanpour (2014) conducted a study titled "Archetypal Architecture Map in Environmental Psychology," and the results were to identify archetypal concepts and adapt them to the environment, and ultimately how to create people-oriented architecture. On the other hand, Behnoud (2023) examined the concept of archetype and its reflection in architecture, and the results indicate that architecture, by holding two thresholds: first, the reality of construction, industrial, and material, and the other, the abstract, semantic, mental, and spiritual dimension, is a suitable arena for the symbolic reflection of archetypes. The interdisciplinary approach, with the aim of reaching fundamental concepts in architecture, provides new aspects beyond the general perspective of research conducted so far, with a psychoanalytic reading. Parvizi et al. (2019), in a study titled Creating Attachment to Place in Educational Spaces with an Emphasis on Collective Unconscious Schemas, concluded that examining how students perceive space is effective in creating qualities such as familiarity and identity. In this article, by looking at the category of the unconscious in the fields of psychology and architecture and analyzing collective unconscious schemas, it emphasizes examining the mechanism of its impact on the way students recognize and find meaning. If collective unconscious schemas are used in the stage of finding meaning in space, the recognition stage, which results in the promotion of attachment to place, can occur properly. If collective unconscious schemas are used in the stage of finding meaning in space, the recognition stage, which results in the promotion of attachment to place, can occur properly. The results indicated that there is a significant relationship between the components of attachment to place and the architectural characteristics of the environment with students' adaptation. Goodarzi and Ghorbani (2015) investigated the factors affecting place attachment in open educational spaces. Based

on the research findings, strengthening place, emotional attachment, increasing quality, physical space, and social bonding have a significant effect on students' place attachment to open educational spaces at the university. Parvizi, Ardestani, and Balash (2014) conducted a study titled *Developing students' health by promoting attachment to place in school design: Based on the archetype schema*. In this article, by looking at the category of the unconscious in the field of mental health and architecture and analyzing collective unconscious schemas, the authors examined the mechanism of its impact on the way students recognize and find meaning. If collective unconscious schemas are used in the stage of finding meaning in space, the recognition stage that leads to the promotion of attachment to place can occur correctly. Belčáková et al. (2021) conducted a study titled *Cultural and Environmental Assessment of the Landscape Archetype with Scattered Settlements in the Cadastral Area of Cadastre, Slovakia*. This research suggests that reasonable details be provided for each category of dispersed housing units of the proposed incentives. Cultural and environmental assessment of dispersed settlement units led to the definition of indicators that indicate the presence of a specific archetype. AK Azmin, WAI Mahmood (2014) conducted a study titled *Designing an Integrated Preschool Archetype: A Pioneering Experience in Malaysia*. This study highlights the relevance of the experimental architectural approach to preschool design to facilitate emancipatory preschool design, with an integrated concept of "education and care".

Case Study

Karaj city, the capital of Alborz Province in Iran, is located approximately 36 kilometers west of Tehran and is recognized as one of the rapidly growing cities in the country. Geographically, it sits at the foothills of the Alborz mountain range, enjoying a mild and semi-arid climate that is conducive to both living and agriculture. Its strategic location serves as a vital communication corridor between Tehran and other western

cities, contributing to significant migration and urban development. The natural beauty of Karaj, marked by its gardens, parks, and mountainous landscape, attracts both residents and tourists alike. According to the latest statistics, Karaj's population reached around 2 million in 2023, reflecting a substantial increase over recent years. The city's demographics are diverse, comprising various Iranian ethnicities, which enriches its cultural fabric and lifestyle. Urban planning efforts have focused on developing educational and healthcare infrastructures, with several reputable universities and research centers established to attract students and scholars. The presence of numerous factories and industries has transformed Karaj into a significant industrial hub, boosting employment opportunities and economic growth in the region. (Fig. 1)

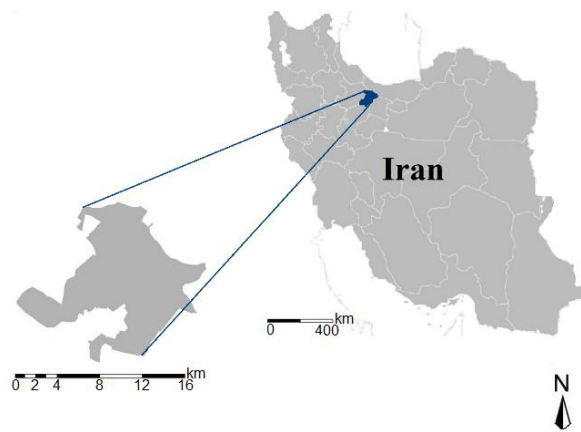


Figure 1: Geographical location of Karaj city in Iran

DISCUSSION AND FINDINGS

The present study was an applied research in terms of purpose and semi-experimental in terms of method (pre-test, post-test with control group). The population of this study was all female students of a conservatory in Karaj, from whom 60 were randomly selected and questionnaires on attachment and social adjustment were distributed among them. Then, 30 students who had obtained lower scores were selected as a sample, and 15 of these 30 people were randomly assigned to the experimental group and

15 to the control group. After that, only the experimental group was trained in the archetype architectural environment, and then the questionnaires were completed again to examine the effect of this environment on the students' attachment and social adjustment variables. To measure attachment to place, the Safarinia questionnaire (1939) consisting of 21 questions designed on a 5-point Likert scale was used. The researchers reported the reliability of this questionnaire using a Cronbach's alpha of 0.88 for the entire scale. To measure social adjustment, the Bell questionnaire (1961) consisting of 20 questions designed on a 5-point Likert scale was used. The reliability of this questionnaire was reported to be 0.88. To implement archetype architecture in the school, the art of architecture students was used in beautification and changes in the appearance of the school. Also, the space and beautification of the courtyard and entrance hall were done along with painting and coloring the walls, floors and stairs of the school. Descriptive statistical methods such as frequency, percentage, mean and standard deviation were used to analyze the data, and inferential statistical methods such as covariance analysis were used. All of these data were analyzed with SPSS statistical analysis software.

The average of the attachment variable in the control group was 66.1 prior to the test and 66.67 following it, according to the research findings. Additionally, this value in the experimental group is 62.3 in the pre-test and 75.86

in the post-test, indicating an increase in the group's average. In the social adjustment variable, the experimental group's pre-test value is 62.67 and post-test value is 93.19, indicating that the average social adjustment of students in the experimental group has increased. In the control group, the average is 55.71 before the test and 63.14 after the test. Then, the assumptions of data analysis were examined. Based on the findings in the table, the results of the Shapiro-Wilk test showed that the distribution of the research variables in both the experimental and control groups studied in the pre-test and post-test stages was normal. Also, in examining the assumption of homogeneity of the regression slope, it was found that the significant number was greater than 0.05, and therefore the assumption of homogeneity of the regression slope was met. Then, the results of the M-box test showed that the covariance matrix of the components of these variables in the two groups was equal. Also, the Levine test was used to compare the variances of the two groups, and the non-significance of the Levine statistic showed that the variance of the dependent variable in the experimental and control groups was equal. Next, to test the research hypotheses and to investigate the effectiveness of archetypal architecture on the sense of attachment and social adaptation in place in the students the conservatory in Karaj, analysis of co-variance (ANCOVA) was used in accordance with the assumptions of parametric statistics. (Tab. 3)

Table 3: Results of ANCOVA in the two experimental and control groups

variable	Source of changes	Sum of squares	df	Mean squares	F-statistic	sig	Eta square
Attachment	Pre-test effect	4241.098	1	4241.098	58.901	0.000	0.602
	Test effect	1460.783	1	1460.783	20.288	0.000	0.342
	Error	2808.140	39	72.004			
Social adaptation	Pre-test effect	16.941	1	16.941	0.340	0.563	0.009
	Test effect	1.929	1	1.929	18.039	0.002	0.291
	Error		39				

The above table shows that, considering that the significance level of the groups for the attachment variable is reported as 0.000 and this value is less than the 0.05 error, therefore, there is a significant difference between the control and treatment groups in the post-test phase. According to the eta square column, it is determined that the effect of the interventions on this variable was 34.2%. In other words, archetypal architecture had an effect on the students' sense of attachment to the place, and accordingly, this first hypothesis is confirmed. Also, for the social adaptation variable, the significance level of the groups was reported to be 0.002, which is less than the 0.05 error, and therefore there is a significant difference between the control and experimental groups in the post-test, and according to the eta square column, it is determined that the effect of the interventions on this variable was 29.1%, and as a result, the second hypothesis is also confirmed. The table below reports the difference in the means in the two variables of attachment and social adaptation.

According to the results of the above table regarding the variables of attachment and social adjustment, the mean difference between these two groups is significant ([the significance level is 0.000](#)), and therefore it can be said that the mean of the experimental group is significantly higher than the mean of the control group.

RESULTS AND CONCLUSION

According to this study, female students at the Karaj Conservatory's sense of attachment and social adjustment to their surroundings are significantly impacted by archetypal architecture. This suggests that the use of ancient patterns in

school design is more significant than in other settings. For instance, it is feasible to utilize new patterns instead of the typical ones if the goal is to create a museum environment where visitors do not need to stay for a long period. Although the emphasis on using cultural and old patterns is stated to accelerate attachment to place in schools, it should be emphasized that this does not mean imitating and repeating the past, but rather the aim is to continue the patterns in applications such as educational applications, especially schools. Similarly, using these patterns at home can also provide a more peaceful atmosphere, and deviating from them at home, whether in terms of activity, meaning, or physicality, will make it difficult to connect with it and deprive it of comfort ([Parvizi et al., 1401](#)). The importance of the attachment index to place in educational spaces in order to advance the goals of education and ensure the mental health of students necessitates the need to understand how to enter this category. Meaning-making during the stages of perception, perception, and cognition requires adaptation to the mental patterns and schemas of students so that they feel connected to the environment and can enter the next stages of creating attachment to the place. Attachment to the place of study and the architectural characteristics of the environment (archetype), the feeling of belonging to the space, environmental attractiveness, environmental perception, and psychological security can play an important role in the adaptation and attachment of students. Therefore, paying attention to environmental architecture and attachment to spatial architecture can increase students' motivation for social adaptation and attachment to

Table 4: Final estimated means of attachment and social adjustment in groups

variable	group	Mean	Mean difference	Standard error	Sig value
Attachment	Control	65.31	11.902	2.642	0.000
	Treatment	77.21			
Social adaptation	Control	63.39	29.54	0.348	0.000
	treatment	92.93			

the environment and people. In other words, the more attention is paid to the archetypal architectural feature in the school, the more students' adaptation and attachment to the environment will increase. Students will get more attached to the environment if it is visually appealing and contains elements like light, appropriate patterns, green space and trees, geometric and cosmic designs and patterns, water, and archetypal symbols. The findings of this investigation align with those of research conducted by Goodarzi and Ghorbani (2015), Parvizi et al. (2022), and Rashid Kluwer et al. (2019). According to the study's findings, school administrators should employ archetypal architecture in their buildings to help students feel more attached and adapt to social situations. Future researchers should also look into how this kind of architecture affects other psychological factors.

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