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Original Research Article

Analyzing the Impact of Place Attachment on Social Adaptability in Educational Spaces Based on the Principle of Place Intensification in Seamon's Theory (Case Study: Girls' Schools in Urmia)*

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Abstract

Problem statement: An individual's social attitude reflects their perspective towards people or the environment within a community. An individual who adapts to changes in their physical, occupational, and social environments is considered environmentally adaptable. In the process of adaptation, individuals achieve a balance among their social activities. Schools, as social environments, enhance social adaptability by increasing a sense of place attachment. The main questions of this research are: What are the components affecting place attachment according to Seamon's theory, and how does the component of place intensification influence social adaptability?

Research objective: This research aims to conduct a field study on the factors influencing Seamon's theory and place intensification on place attachment and social adaptability. This study enables researchers to extensively examine the role of factors affecting social adaptability.

Research method: To achieve the objectives, the study initially uses a descriptive-analytical method to extract the components of Seamon's theory. Then, a semi-experimental design with a pre-test, post-test, and follow-up is conducted on two groups of 45 participants each (observation and control groups). After the sessions, follow-up is carried out using the researcher-developed social adaptability questionnaire.

Conclusion: The theoretical findings of the research include six components of Seamon's theory: place intensification, place creation, place release, place realization, place identity, and interaction with place. Place intensification is the variable under investigation. The findings indicate that group activities aimed at place intensification, such as forming a hymn group and theater groups, sports teams, group excursions, decorating classrooms and panels with handmade items, cleaning the classroom and yard with student participation, and painting benches significantly enhance students' social adaptability. Over time, these practices impact students' personalities, making them more adaptable. Therefore, schools should focus on activities that intensify place attachment to increase interaction and a greater sense of belonging, thereby enhancing social adaptability. In other words, increasing attention to the physical environment and place attachment in schools results in improved social adaptability among students.

Keywords: *Place Attachment, Social Adaptability, Educational Space, Girls' Secondary School, Seamon's Theory, Place Intensification.*

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Introduction

Adolescence is a very sensitive period in terms of emotional changes, physical development, and social relationships (Benner et al., 2018). The early secondary school period (middle school) involves the most significant changes in psychological, social, and physical dimensions, requiring greater attention (Jafari Harandi et al., 2023). During this period, one of the major issues and challenges is the interaction between society and individuals (Farhanfar et al., 2015, 68). Eliminating social environment and interactions from life is impossible, as humans need others and interaction with them for living. Social adaptability is one aspect of socialization, which some researchers equate with social skills (Farmer et al., 2022, 32). Socialization is a bilateral communication process between individuals and the environment, making it a complex process influenced by various factors. This process includes acquiring social skills, how to interact with the environment and people, and social adaptability. The family environment, school, and society play crucial roles in learning to adapt to the environment (Tombak-İlhan et al., 2023). Schools, as microcosms of the social environment, can provide the necessary education in social skills. Today, education not only focuses on transferring knowledge and information but also on life and social skills. Generally, social dynamism is considered a prerequisite for innovation and creativity in contemporary societies, stemming from the essence of living in a community and interacting with others. Schools, as the first formal community during adolescence, are the best places to enhance social adaptability (Dawes et al., 2023). To enhance social adaptability, various environmental psychology theories, including place-attachment theory, can be utilized, which refer to the emotional bonds individuals form with their environment (Low & Altman, 1992). From a theoretical perspective, place-attachment focuses on the emergence of individual-place relationships and the perception of the environment, as well as how people connect with specific places (Goudriaan et al., 2023, 595). Researchers view place-attachment as a dynamic phenomenon comprising social meanings and emotional bonds. Various theories have been proposed regarding the link between place-attachment and social adaptability. Researcher Seamon has conducted extensive studies on the relationship between place-

attachment and environmental and human factors, such as social adaptability, pro-environmental behavior which have led to the formation of Seamon's theory. Therefore, Seamon's theory was chosen for this study to examine the effects of place-attachment and its relationship with social adaptability. This research aims to conduct a field study on the influential factors of Seamon's theory, with a focus on examining the impact of place intensification on social adaptability. Given the influence of place-attachment on various aspects of human behavior and the necessity of social adaptability, especially in adolescents, this research allows scholars to extensively explore the role of factors affecting social adaptability in relation to the environment. To achieve these goals, the definition of place attachment is discussed, then the factors of place attachment are presented according to Seamon's theory. Then the related researches are examined in the field of place attachment and social adaptation. Subsequently, related research on the relationship between place-attachment and social adaptability is reviewed.

Research Questions

Considering the importance of place attachment and its implications, the researchers aim to find the answers to the following questions: What are the components influencing place attachment according to Seamon's theory in girls' schools in Urmia? How does the place intensification component affect place-attachment and, consequently, its impact on social adaptability in girls' schools in Urmia? What is the relationship between the place intensification component in Seamon's theory, place attachment, and social adaptability?

Research Background

In this study, the literature related to place attachment, social adaptability, Seamon's theory, and the sense of place-attachment in educational spaces is reviewed based on research conducted by other scholars. A study titled "The Study of Relationship between Environmental Attachment and Mental Health and Social Adjustment of First Grade High School Students in Varamin City" indicates that the emergence of place-attachment not only leads to mental health but also increases adaptability (Paivastegar et al., 2016, 195). Research on the role of

environmental architectural features and place-attachment in social adaptability shows significant relationships between place-attachment components and architectural features of the environment with students' adaptability. Environmental attractiveness, emotional and behavioral attachment, and psychological security play the most significant roles in predicting students' social adaptability (Rashid Kalvir et al., 2019, 83). A study on predicting the sense of place-attachment in urban residential environments demonstrated that the physical design of the residential environment is crucial in creating a sense of belonging. The degree of attachment to the home is much higher than to the neighborhood and city and depends on age, gender, and length of residence (Kamalipour et al., 2012, 459). Research on the impact of place-attachment on user guidance and management shows that a long-term stay increases supportive behaviors and pro-environmental behaviors, such as waste separation and environmental conservation (Grocke et al., 2021, 298). An analysis of the factors influencing place-attachment in the market revealed that human, spatial, and temporal factors are influential in creating attachment in the Tajrish market (Mojtabavi et al., 2022, 33). In the study "The relationship between the decoration system of the educational space and the sense of belonging to the school with the mediating role of place-attachment among students", a significant relationship was found between the tidiness of educational spaces, sense of belonging to the school, and place-attachment (Solaimanpour Omran, 2021, 1). Research on the impact of teaching self-regulation strategies on social adaptability and visual-motor coordination of students with learning disabilities showed significant differences in social adaptability and visual-motor coordination scores, indicating the impact of self-regulation strategy training on social adaptability and visual-motor coordination (Soltani et al., 2023, 34). In the study "Evaluation of the Effect of Physical Components on Place-attachment in Communal Spaces of Selected Residential Complexes in Tehran," the physical components such as coherence and unity, privacy, facility management and supervision, natural and green elements, visual richness, and navigability and readability have the most significant effects, respectively (Rahimi et al., 2020, 15). For reviewing the research background, studies related to place-attachment and

social adaptability were reviewed and evaluated. It is also emphasized that part of the studies that complete the background is presented within the framework of the theoretical foundations of the research.

Theoretical Foundations

Today, the concept of place-attachment in the design of educational spaces has gained significant attention, especially due to the growing importance of the psychological dimension of architectural spaces. This interest has drawn researchers to explore concepts such as place-attachment and its effects, including adaptability and the relationship between these two concepts. In this study, to elucidate the topic, brief definitions of the relevant concepts will be provided.

• Social adaptability

Social adaptability refers to the degree of social bonding and cohesion between different groups in society, as well as the level of trust and communication between individuals and social groups (Fan et al., 2020; Ludin et al., 2019, 621; Townshend et al., 2015, 913). Given its importance in both scientific and political discourse, social adaptability has numerous definitions. Fonseca et al. (2019) defines social adaptability as the continuous process of enhancing well-being, a sense of belonging, and voluntary social participation among community members, promoting the diversity of values and cultures, and granting equal rights and opportunities within society (Fonseca, 2023, 115). From this definition, the essential characteristics of social adaptability can be extracted as follows: 1. Quality of social relationships (including social networks, trust, acceptance of diversity, and participation) (Larsen, 2013; Klein, 2013, 892; Myeong & Seo, 2016), 2. Identification with social institutions and a sense of belonging (Schiefer & van der Noll, 2015, 583 & 584), 3. Orientation towards public goals and purposes (sense of responsibility, solidarity, adherence to social order) (Green et al., 2009). Increasing research on the role of social adaptability in the environment identifies it as the primary resource for communities to utilize in a constrained social context (Binder et al., 2015; Fan et al., 2020; Gongora-Svartzman & Ramirez-Marquez, 2022, 1686). This study adds to the body of research confirming and highlighting the importance of social cohesion in resilient communities (Fan et al., 2020). In the process of

social adaptability, an individual continually strives to achieve harmony and balance between external and internal life conditions and social activities (Karabeyoğlu, 2023, 45). The issue of social adaptability is a significant part of psychological research because psychological adaptation is seen as the process of harmonizing between the individual and groups, society, and the environment. Social adaptability is mainly divided into three levels: society (macro environment), social group (micro-environment), and the individual (internal individual adaptation). At the societal level, an individual's social adaptability is considered in the context of social, economic, political, and spiritual growth. At the social group level, the learning motivations for the adaptation process are evaluated to determine differences in individual interests with social groups (work teams, family, etc.). Internal individual adaptation aims to achieve harmony, balance in internal positions, and self-evaluation based on others' positions (Kurbanovna & Aubakirovna, 2023, 68). Social Identity Theory (SIT) predicts that if individuals identify with a group, they are more likely to act in the group's interest (Brown, 2000, 745). Similarly, if a person is attached to a place and identifies with its community, they are more likely to prioritize the place/community's interests over personal interests (Carrus et al., 2013, 154). Specifically, a person attached to a place may behave in ways that benefit that place (Kelsey et al., 1995, 547). Most research findings indicate that individuals with higher levels of place-attachment are more likely to have greater social adaptability (Stedman, 2002, 561; Ramkissoon & Mavondo, 2017).

• Place attachment

Place-attachment is a dynamic concept whose theoretical foundations are drawn from multiple disciplines. Researchers have long endeavored to describe the various characteristics and opportunities of this concept, reflecting on the needs of users who feel comfortable within a space, both physically and psychologically (Khalil & Jacobs, 2021). Place-attachment is often described in psychology as an emotional bond between an individual and a place (Gross & Brown, 2008). A place is an environment where individual or group actions, different experiences, intentions, and meanings spatially converge (Casey, 2009 as quoted in Seamon, 2014, 11). Physical and social interactions that form the character and values of a place are understandable through place-attachment theories

(Ramkissoon et al., 2013). Place-attachment shapes individuals' behaviors and leads to collective actions within a place (Manzo & Perkins, 2006). Individuals who focus their interests on a place tend to emphasize the overall well-being of the place for the community rather than personal interests, resonating with social activities (Fornara et al., 2020, 197). Social relationships and group identity are considered crucial foundations of place-attachment (Scannell & Gifford, 2010, 2), and with increasing attachment, support for the place grows (Han et al., 2019, 108). According to Morgan, place-attachment involves the interaction between emotion, cognition, and behavior in relation to a place, comprising four conceptual dimensions: place identity (Patwardhan et al., 2020), place dependence, Place realisation, and social bonding (Ramkissoon et al., 2013). While emotion plays a central role in social bonds with a place, many studies have explored the psychological dimensions of place experience under various subcategories, such as sense of place, place dependence, community feelings, sense of community, community identity, and place identity (Ram et al., 2016). However, due to the interdependence of place-attachment dimensions, the use of the two sub-dimensions of place dependence and place identity to evaluate place-attachment has been repeatedly demonstrated in the literature (Woosnam et al., 2018). Attachment, as one of the most prominent concepts in contemporary psychology, refers to the process of forming and breaking emotional bonds between humans. John Bowlby (attachment theory's progenitor) used findings from behavioral science, scientific theories, and psychological and psychoanalytic insights to present attachment theories in his three-volume work "Attachment and Loss". The key concept of this theory is to examine and describe how infant attachment to the mother and the stresses related to attachment affect individuals. According to this theory, attachment consists of four components: creating a secure base, a safe haven (referring to the attachment figure when faced with danger or threat), the desire to maintain care, and the grief of separation from the attachment figure (Pourjafar et al., 2015). Overall, by reviewing various studies on environmental attachment, the influential factors can be categorized into several main branches (Table 1).

Place-attachment can be an emotional connection to a

location, usually involving physical, social, and temporal elements (Devine-Wright, 2013). Generally, features such as environmental qualities, cultural values, mobility, length of stay, and recreational activities affect place attachment. Place-attachment theories help understand human dynamics, place experiences, and ways to improve places for better experiences. Fig. 1 illustrates the overall relationships of place attachment.

Place-attachment research identifies human needs for a sense of belonging, a sense of place, and social and personal identity, which become motivators. Various theories have been proposed by researchers in this field, including Seamon’s place-attachment theory, which links place attachment, social adaptability, and environmental

behaviors. Seamon’s theory (2012, 2014, 2015, 2018) in architecture, design, urban planning, and place management and development explores the emotional-spatial relationship between individuals in a place, their relationship with the environment, and their shared presence (individuals’ relationship with the environment). Generally, the environmental set of a place includes its material and environmental qualities, forming its physical and spatial structure. In Seamon’s theory, six processes are examined to create a sense of place attachment. These six processes collectively influence the dynamic and constructive connection between users and the places they experience in their daily lives. This place bonding process is crucial as it evaluates the dynamic decision-making

Table 1. Main Factors of Environmental Attachment According to Various Studies. Source: Authors.

Main Factors of Environmental Attachment		
Place components	Physical Factors	The physical factors of the place have a direct effect on the satisfaction of the place and indirectly on the place attachment (Stedman, 2002).
	Social Factors	People create attachment to a place based on attachment to people (Marris et al., 1996).
	Fintional Factors	The activities of the place give meaning to the place, and as a result, it leads to place attachment (Low & Altman, 1992)
	Symbolic Factors	Memories of growing up and experiences of a place are effective in creating place attachment. A place can be a part of our experience and a symbol of that experience (Riley,1992).
Human components	The degree of place attachment varies from person to person (Tuan, 1977). Bonaiuto believes that people choose places based on conscious preferences and become attached to them. Individual factors such as age, income, marital status, education, social class, individual’s definition of life, backgrounds, beliefs, etc. are among the factors of individual characteristics of people (Bonaiuto, 1999)	
Time components	Among other factors, we can mention the factor of time or duration of residence. The time factor is a determining factor in the degree of place attachment, which sometimes causes place attachment in individuals and groups without considering other dimensions(Relph, 1976).	

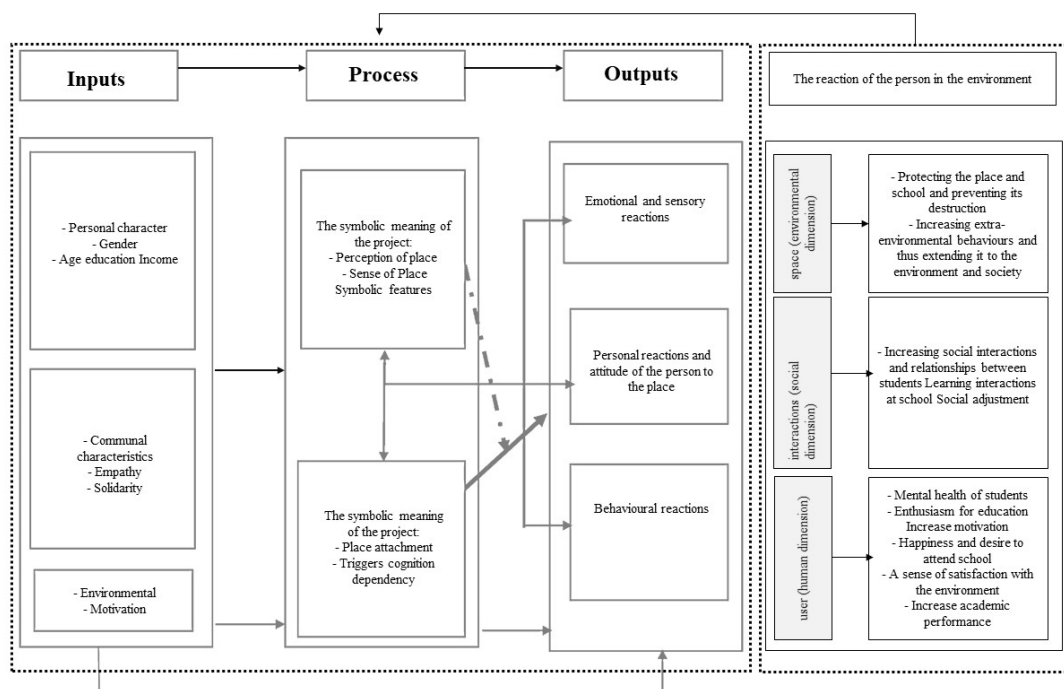


Fig. 1. Diagram of Place-attachment Relationships. Source: Authors.

constantly influenced in social-environmental settings. The bond is defined and adjusted over time; therefore, the value of this approach lies not only in understanding individuals' motivations to guide the community but also in the continuous reevaluation of spatial conditions to transform places into satisfactory and purposeful locations. Seamon's theory, compared to other researchers' theories, helps explain the dynamic processes for reshaping places (Seamon, 2018). Thus, Seamon's theory is used to understand place management and development processes as an ongoing evolving process. In this study, Seamon's approach (2012, 2014, 2018) involves six interrelated factors of place attachment, comprising two processes of place essence (place interaction, place identity, place release) and place becoming (place realization, place-making, place intensification). The conceptual and methodological framework shapes the understanding of place-attachment as a constructive process in what Seamon calls the "triple interpretation of place attachment" (Seamon, 2018). Table 2 provides a summary of the six processes for creating a sense of place attachment, derived from Seamon's theory.

Given the various dimensions of Seamon's place-attachment theory, place intensification and place-making are chosen for examination and impact assessment. According to Seamon's theory, place intensification is one of the primary factors in creating a sense of place attachment. In this factor, human and environmental aspects are simultaneously evaluated and analyzed. In the place intensification factor, enhancing and highlighting environmental features through macro and micro policies of executive environmental agents, spatial and physical reconfiguration of the environment, and attention to environmental activities and projects can occur. In this factor, the environment can be controlled through ancillary activities, human relations, or

minor changes in the physical environment. In this study, with the help of Seamon's place intensification principle, we first focus on increasing the sense of place-attachment through place intensification to enhance place attachment, and then we examine social adaptability among students to assess the relationship between place-attachment and social adaptability. Fig. 2 illustrates these relationships in a diagram.

Overall, place-attachment can be examined in three categories: human, social, and environmental, with this study emphasizing the social dimension and its subset, social adaptability, as depicted in Fig. 3.

Research Methodology

In this study, the initial step involved field observation and examining student behavior to identify a school facing social adaptability issues. Teachers had expressed concerns about the challenges related to group activities among students.

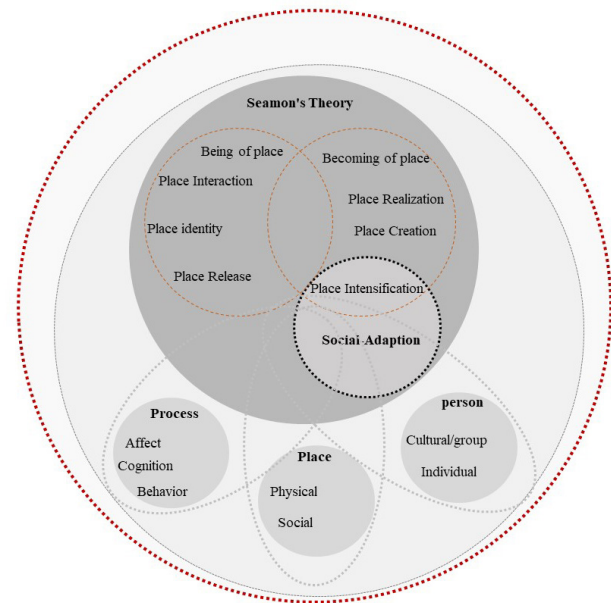


Fig. 2. Relationship Between Place-attachment and Social Adaptability. Source: Authors.

Table 2. Place-attachment Factors According to Seamon's Theory. Source: Authors.

	Main Factor	Statement	Driver of concern
Being of place	Place interaction	Routine actions and behaviours between people in a place that support strong social bonds	Sociability
	Place identity	Taking up the dominant culture and values of a place to reflect personal identity and self-worth	Belonging
	Place realisation	Place character that reflects its history and cultural context. Nostalgia based on past experiences that support "situatedness"	Sense of place
Becoming of place	Place release	Deep feelings or a surprise from place encounters that trigger a decision for change	Nostalgia
	Place creation	Physical determinism by human action to design or shape a place to improve its performance and prosperity	Physical determinism
	Place intensification	Independent power to use policy or projects to revive, reconfigure, and strengthen place prosperity	Spatial strengthening

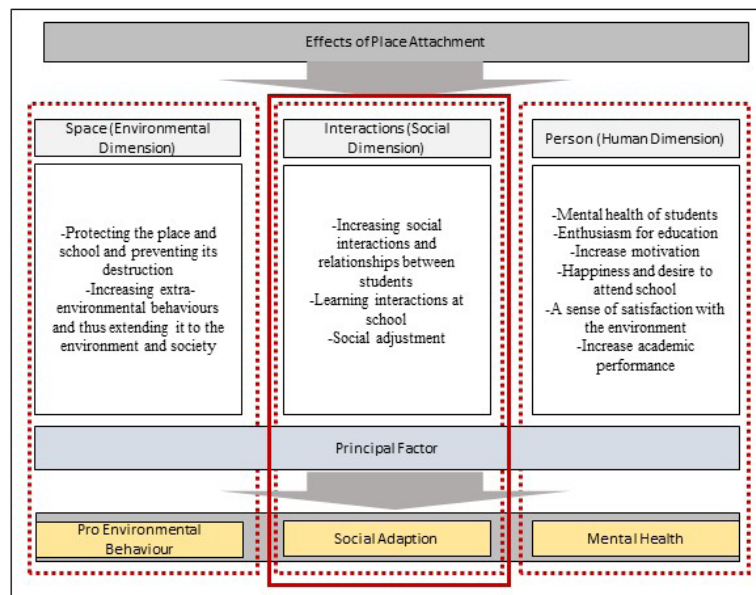


Fig. 3. Examining Influential Factors on Environmental Attachment. Source: Authors.

asked to initiate a group-participatory activity involving all class members. The teachers then observed the results and identified two classes with the highest level of conflict and discrepancies in their activities and interactions. In a survey conducted among teachers, two seventh-grade classes were identified. These classes had not only failed to achieve the desired outcome in the group activity but had also caused the most environmental damage during the term, including the destruction of desks and chairs, conflicts among students, and verbal altercations with teachers. These two groups of students were selected as the observation and control groups. Using the place intensification factor, activities were conducted to strengthen place attachment. Generally, two steps were taken to achieve the objectives. In the first step, a descriptive-analytical research method was used in a survey setting, where library resources and Seamon's theory were studied, and the influential components were formulated as a theoretical framework. In the next step, a semi-experimental design with a pre-test, post-test, and three-month follow-up with the observation group was conducted. The sample included 90 middle school students selected through purposive sampling and randomly divided into two groups (45 students in the control group and 45 in the observation group). To determine the homogeneity of the participants, a researcher-made environmental adaptability questionnaire was used, indicating the homogeneity and consistency of the data. Subsequently, the experimental group received 12 sessions of 30-minute group training and collective

activities over three months, while the control group received no training on social adaptability and interactions during this period. The activities and training were divided into theoretical and practical aspects. In the theoretical part, the class was initially divided into groups for various activities. Each group made presentations on the importance and preservation of the environment, such as waste recycling and the impacts of plastic on the environment, energy conservation, and the effects of green spaces. The entire class was then cleaned in one session, followed by students being asked to bring flower pots for the next session. In class, students engaged in environmental arts, such as making geometric crafts, designing acrylic on glass and walls, etc. The results initially showed that students even prevented other students from entering their classroom, indicating place attachment. After the sessions, a post-test and a three-month follow-up were conducted. Follow-up was done through a researcher-made questionnaire containing closed-ended questions on a five-point Likert scale, ranging from strongly agree to strongly disagree. The questionnaire was then reviewed by experts to determine the importance of each criterion and indicator based on the options provided in the questionnaire. After collecting the questionnaire responses, the data for each criterion and indicator were quantitatively entered into Excel software. Based on the Likert scale and the formula provided in the entropy theory, the weight of the criteria and indicators was calculated. Finally, the criteria and indicators were prioritized based on the obtained weights. In

this study, with a Cronbach’s alpha coefficient of 0.81, the reliability of the questionnaire was confirmed and for data analysis, covariance analysis tests were employed.

Discussion

In this study, data was collected from two groups of students, each consisting of 45 participants: one group was designated as the observation group, and the other as the control group. Initially, the researcher-made social adaptability questionnaire was distributed among the students of both groups. This questionnaire included questions about group work, interactions with teachers, and interactions among students. Each question had five Likert scale options, scored from 1 to 5. Two groups were used in this study: the control group and the observation group. The descriptive results are presented in Table 3. The corresponding histogram is shown in Fig. 4.

To examine the relationship between students’ opinions, mean comparison tests were used, and the results are presented in the following sections. However, before selecting the appropriate test, the normality of the data was assessed using the Kolmogorov-Smirnov test, the results of which are shown in Table 4.

Given the significance level is greater than 0.05, the data is confirmed to be normally distributed at the 95% confidence

level. To assess the homogeneity of the pre-test means between the control and observation groups, a paired t-test was used, and the results are displayed in Table 5.

Given the significance level is greater than 0.05, it can be concluded that there is no significant difference between the pre-test means of the control and observation groups, indicating that all students were at the same level at the beginning of the study. To evaluate the impact of the researcher’s intervention in the observation group, the pre-test and post-test means were compared, with the results in Table 6.

Given the significance level is less than 0.05, it can be concluded that there is a significant difference between the pre-test and post-test means of the observation group, indicating that the mean score of the observation group

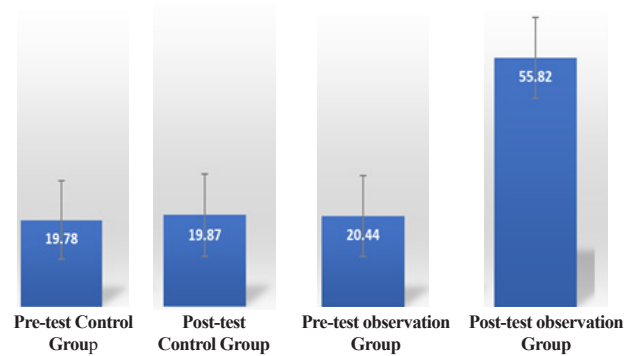


Fig. 4. Histogram of Pre-test and Post-test Results for Control and Observation Groups. Source: Authors.

Table 3. Descriptive Results of Pre-test and Post-test. Source: Authors.

	No.	Min.	Max.	Average	Standard Deviation
Pre-Test					
Control Group	45	18	33	19.78	3.029
Experimental Group	45	18	29	19.87	1.949
Total	90	18	33	19.82	2.533
Post-Test					
Control Group	45	18	43	20.44	5.687
Experimental Group	45	30	86	55.82	15.038
Total	90	18	86	38.13	21.076

Table 4. Kolmogorov-Smirnov Test Results. Source: Authors.

	Statistic	Degree of freedom	Significance
Pre-test	0.236	90	0.218
Post-test	0.216	90	0.106

Table 5. Comparison of Pre-test Means in Control and Observation Groups. Source: Authors.

G.	No.	Average	Standard deviation	Statistical mean error
Control	45	19.78	3.029	0.452
Experimental	45	19.87	1.949	0.291
T	Degree of freedom		Statistical significance	
-0.166	88		0.869	

increased significantly after the intervention. For a more detailed examination, the pre-test and post-test of the control group were analyzed, and the results are shown in Table 7. The results in this table indicate that there is no significant difference between the pre-test and post-test means of the control group, given the significance level greater than 0.05. Hence, the mean scores of the control group did not change significantly in the post-test. The post-test means of the two groups were compared using an independent t-test, and the results are displayed in Table 8.

Given the significance level is less than 0.05, it can be concluded that the post-test mean of the observation group is significantly higher than that of the control group.

Conclusion

One of the primary goals of education is to provide favorable conditions for the growth of talents, most of which develop in school. Schools play a crucial role in enhancing personal behavior, making them the most important environment for future generations. Therefore, they must have a healthy and dynamic environment. Schools are places that contain essential information, values, and attitudes for life, which can be corrected and enhanced. Adolescents in school, as the first formal community, need to have sufficient adaptability to achieve these goals. This adaptability includes adjustment to the environment and social adaptability with individuals. Adaptability in school encompasses a wide range of adjustments, including social-emotional

progress, academic achievement, school satisfaction, school engagement, social behaviors, altruism, expanding friendship circles among students, increasing attachment to school and its environment, pro-environmental behaviors, and more. This study aimed to examine the effectiveness of place-attachment on social adaptability in the educational space of middle schools. Using the place intensification factor, the research findings and multivariate covariance analysis showed that place-attachment education, facilitated by place intensification, is effective on students' social adaptability. These educational activities can increase students' adaptability, enabling them to be more adaptable in society in the future. To date, no research has specifically examined the effectiveness of place-attachment using the place intensification factor to enhance social adaptability. However, the findings of this research align with the studies of Rashid Kalvir et al. (2019), Pivastegar et al. (2015) and Rahimi et al. (2020). The findings suggest that some students may experience social relationship and school environment interaction issues due to a lack of mastery and understanding of the place, an inability to connect with the place and individuals, and reduced control over the educational space, indicating a lack of place attachment. This study, with minimal changes to the physical environment through place intensification, increased the sense of place attachment, and its effects on individuals' relationships were discussed and evaluated. Research on place-attachment theory has long been of interest to researchers,

Table 6. Comparison of Pre-test and Post-test Means in the Observation Group. Source: Authors.

G.	No.	Average	Standard deviation	Statistical mean error
Control	45	19.87	1.949	0.291
Experimental	45	55.82	15.038	2.242
T	Degree of freedom		Statistical significance	
-15.725	44		0.001	

Table 7. Comparison of Pre-test and Post-test Means in the Control Group. Source: Authors.

G.	No.	Average	Standard deviation	Statistical mean error
Control	45	19.78	3.029	0.452
Experimental	45	20.44	5.687	0.848
T	Degree of freedom		Statistical significance	
-1.134	44		0.263	

Table 8. Comparison of Post-test Means in Control and Observation Groups. Source: Authors.

G.	No.	Average	Standard deviation	Statistical mean error
Control	45	20.44	5.687	0.848
Experimental	45	55.82	15.038	2.242
T	Degree of freedom		Statistical significance	
-14.761	88		0.001	

highlighting significant human, environmental, and social impacts. Over the past two decades, the relationship between place-attachment and social adaptability has garnered extensive attention from researchers worldwide in response to individuals' challenges. However, variance in individual studies has led to contradictory findings regarding the effectiveness of place-attachment and its relationship with social adaptability. Therefore, to provide informative and generalizable results, a meta-analysis was conducted in this study through pre-test and post-test to explore the relationship between place-attachment and social adaptability among students. The research findings indicate that the normality assumption test, homogeneity of variance for the two variables, is significant, showing the positive impact of theoretical and practical social adaptability education in the classroom environment for the observation group. The results demonstrate that the pre-test means of the control and observation groups are very close, and statistically, there is no significant difference, indicating that both groups were homogeneous at the beginning of the study. Thus, the intervention alone can explain the obtained results. The control group, which received no intervention from the researcher, showed a post-test mean slightly higher than the pre-test mean, but this difference is not statistically significant, indicating no significant change in the control group's results at the end of the study compared to the beginning. In contrast, the post-test mean of the observation group increased significantly, indicating that the researcher's intervention significantly increased the observation group's results compared to the beginning of the study and the control group. Some interventions to enhance place-attachment and, consequently, social adaptability include increasing student interactions in class and school through group activities such as choir and class performances, planting plants and creating green spaces in the school, making paper crafts like origami, weaving with straws and yarn, creating sunshades on windows with colored acrylics, cleaning the classroom and school on special days, and organizing yard trips at school. All these interventions aimed at strengthening place-attachment significantly increased students' social adaptability at the end of the experiment. Place intensification training to increase place-attachment during a semester can enhance social adaptability and, consequently, increase interactive

behaviors, indicating a positive and significant relationship between place intensification, place attachment, and social adaptability among middle school students. Generally, it can be said that continuous place intensification exercises positively impact students' personalities, making them more adaptable. Therefore, schools should focus on activities that strengthen place-attachment to increase interaction and a greater sense of belonging, ultimately enhancing social adaptability. In other words, increasing attention to place intensification in the physical environment and creating a sense of place-attachment in schools enhances students' social adaptability. It is also suggested that future research explore the relationship between various factors of Seamon's theory and their relationship with the physical environment.

Research and Practical Recommendations

- Increase Group Activities: Schools should seriously consider implementing group activities that strengthen the sense of place attachment. These activities can include choir and drama groups, team sports, and group excursions.
- Enhance the Physical School Environment: Decorating and improving the physical environment of the school with student participation can increase their sense of belonging. For example, projects such as painting benches, planting plants, and creating artistic crafts can help achieve this goal.
- Organize Diverse Programs: Organizing a variety of cultural, artistic, and sports programs can help increase social interactions and adaptability among students. These programs can include art exhibitions, sports competitions, and cultural festivals.
- Continuous Evaluation and Follow-Up: Continuous follow-up and evaluation of the impact of place intensification activities on students' behavior and social adaptability are crucial. Schools can measure and improve these impacts using periodic questionnaires and counseling sessions.

Conflict of Interest

The authors claim no conflict of interest in this research.

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