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The relationship between secure workplace attachment and environmental satisfaction: a longitudinal study

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Abstract
The construct of place attachment is crucial in the relationship between people and their satisfaction with their work environment, but there are still few studies on it. This study aims to verify through a longitudinal design with a sample of healthcare workers in an Italian hospital ($N = 110$ at Time 2) whether secure workplace attachment is a predictor of environmental satisfaction. A self-report questionnaire, including measures such as Workplace Attachment Style Scale and the Satisfaction with the Work Environment Scale, was administered to participants, and the collected data were then analyzed by using structural equation modeling. Specifically, three models were tested for hypothesis verification, i.e.the first one where secure job attachment is a predictor of environmental satisfaction, the second one concerning the inverse model, and finally the third being a reciprocal model. Results show that only the first model is statistically significant, evidencing that a secure workplace attachment style enhances environmental satisfaction over time. This finding witnesses the pivotal role of positive emotional bonds for feeling good in the workplace, and provides actionable insights for targeted design and management interventions to boost healthcare workers' well-being.

Keywords Place attachment · Workplace attachment · Environmental satisfaction · Longitudinal design · Hospital

Introduction

Over the past three decades, scholars from different fields, including psychology, sociology, geography, and architecture, have extensively studied the construct of place attachment (Lewicka, 2010). There is currently no universally accepted definition of place attachment, even though it is widely acknowledged that it taps the affective bond that an individual establishes with a place that is meaningful to him or her (Manzo & Devine-Wright, 2021). Research on place attachment has been focusing on how this emotional bond can be developed with various types of places, ranging from natural environments (e.g., Colley & Craig, 2019; Landon et al., 2021) to built environments, such as domestic or residential settings (e.g., Fornara et al., 2019; Meagher & Cheadle, 2020; Strandberg, 2023). However, much remains to be explored regarding the antecedents (e.g., Van Riper et al., 2019) and consequences (e.g., Scannell & Gifford, 2017) of place attachment. In this regard, paradoxically, one issue that remains insufficiently clarified in the literature concerns the relationship between a given place's characteristics and the development of an emotional bond with it. Essentially, a clear answer is still needed to the following question: are we attached to places because we are satisfied with their environmental and aesthetic qualities, or do we perceive them positively precisely because we are already attached to them?

Regarding its definition, place attachment includes cognitive and behavioral aspects alongside the emotional component (e.g., Fornara et al., 2021; Scannell & Gifford, 2010). This construct stems from theories of interpersonal attachment, such as that of Ainsworth (1979) and Bowlby (1969). According to these scholars, people are biologically oriented to establish and maintain an emotional bond with primary attachment figures (usually the mother figure in early development). Bowlby (1969) argues that closeness-seeking is a

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survival mechanism that provides a secure base by which people experience feelings of safety and stability.

Attachment to place is analogous to this process in those individuals, for their purposes and drawing on their own experiences, are inclined to seek environments that are familiar and safe to them, capable of alleviating uncertainty and providing emotional comfort (Korpela, 2002).

Hernández and colleagues (2020) point out that three main perspectives can be found in the study of place attachment. Regarding the first one, (e.g., Giuliani, 2003; Rollero & De Piccoli, 2010), place attachment is a one-dimensional construct, based mostly on emotional attachment to a place, that should be distinguished from other similar patterns, such as place identity and place dependence.

The second perspective (e.g., Williams & Vaske, 2003) defines place attachment as a higher-order multidimensional construct, encompassing the concepts of place identity and place dependence. Finally, the third perspective, within the Person-Process-Place (PPP) framework (Scannell & Gifford, 2010), considers place attachment as the interaction (i.e., process) between the individual and the environment. Recently, some scholars have tried to make a bridge between the classical interpersonal attachment perspective and the place attachment construct, assuming that the "place" can be an object of attachment (e.g., Scrima et al., 2015, 2017; Stancu et al., 2020).

In this sense, Scannell and Gifford (2014) point out that individuals form distinct patterns of place attachment, with the quality of the (person-place) relationship depending on the specific attributes of the places. This approach has been used for the conceptualization of workplace attachment styles (Scrima, 2020; Scrima et al., 2017), which include two basic dimensions: self-perception and workplace perception. The interactions between these two dimensions and their positive or negative valence identify distinct types of workplace attachment: secure (positive self/positive place), worried (negative self/positive place), and avoidant (positive self/negative place).

The present research focuses on secure workplace attachment and its relationship with environmental satisfaction in the workplace. In particular, through a longitudinal research design, we tried to clarify what is the direction of this relationship, including the verification of a mutual influence.

In the following lines, we report the mixed evidence that emerged from studies addressing this point.

The relationship between environmental satisfaction and workplace attachment

Individuals have always sought and interacted with environments that were assumed to give them comfort, support, and protection. In accordance with the Person-Environment (P-E) adaptation theory, individuals seek places that align with their needs and have attributes that can maintain harmony with their surroundings (Caplan, 1987). If this is not the case, individuals may experience dis-stress, anxiety, and frustration, prompting them to promote subjective change or change in their environment (Bäcklander & Richter, 2022), aimed at restoring this alignment.

As reported by Shin (2016), the assessment of environmental features has been addressed through constructs such as comfort and environmental satisfaction.

As regards comfort, it has been particularly studied in environmental design research to explore physical and physiological sensations, along with the perception of particular environmental stimuli from the surroundings. Comfort reflects the physical and psychological well-being, experienced in the environment, that allows individuals to focus on their activities.

Comfort assessment may involve the objective measurement of environmental factors, typically carried out by expert evaluators (Bonnes & Bonaiuto, 1995), and the "subjective" environmental assessment (Gifford, 2002), concerning individuals' judgments based on their direct experience of the environment. The focus on the latter kind of assessment has promoted the development of perceived environmental quality indices for an array of places, such as urban neighborhoods (e.g., Perceived Residential Environment Quality Indicators, PREQIs; Bonaiuto et al., 1999, 2003, 2006; Fornara et al., 2010), hospitals (e.g., Perceived Hospital Environment Quality Indicators, PHEQIs; Andrade et al., 2012; Fornara et al., 2006) and remote workplaces (e.g., Perceived Remote Working Environment Quality Indicators, PRWEQI; Mura et al., 2023a). These indices allow the measurement of specific aspects of perceived environmental quality for the various kinds of places.

In the present study, we focused on the environmental satisfaction construct, which taps the subjective assessment of how well a specific environment meets an individual's expectations and needs (Bonaiuto & Alves, 2012; Elder et al., 2003) and, in line with the distinction provided by Shin (2016), encompasses a broader level than comfort. An array of correlational studies conducted in work settings have highlighted that place attachment is a major predictor of environmental satisfaction toward workplaces. For instance, a study with a sample of office workers showed that the relationship between workplace attachment and emotional exhaustion is mediated by satisfaction with one's

office (Scrima et al., 2021). Similar results emerged in relation to job stress (Rebillon et al., 2023) and, in the hospital context, work engagement (Mura et al., 2023b).

Considering these findings, it was hypothesized that:

H_1: Secure workplace attachment predicts Environmental satisfaction.

In contrast, other studies found that place satisfaction is a significant predictor of place attachment. For example, Ramkissoon and Mavondo (2015) showed how, through the activation of future intention to visit a national park, visitors' environmental satisfaction positively influenced place attachment. Also, other studies focusing on residential places have shown that environmental satisfaction is a predictor of attachment to one's neighborhood (e.g., Bonaiuto et al., 1999; Chen et al., 2018). Regarding work environments, another study found that a workplace design that meets workers' needs contributes to their attachment to both the workplace and the organization (Inalhan & Finch, 2004; Mura et al., 2024).

On the basis of these empirical outcomes, a directional hypothesis that is exactly the opposite of H1 was formulated, i.e.:

H_2: Environmental satisfaction predicts Secure workplace attachment

As argued so far, the scientific literature has provided conflicting evidence on the direction of the relationship between place attachment and environmental satisfaction.

Indeed, while some studies suggest that place attachment is a precursor of environmental satisfaction (e.g., Scrima et al., 2017; Rebillon et al., 2023; Mura et al., 2023b), other researchers have postulated the opposite effect, namely that environmental satisfaction acts as a precursor of place attachment (Bonaiuto et al., 1999; Chen et al., 2018). This node can be untied only through experimental and/or longitudinal research designs. A proper longitudinal design can also allow to test the hypothesis of circular relationship, that is the presence of a mutual influence, between constructs.

It is reasonable to hypothesize that the more an employee is attached to the workplace, the more he/she will be emotionally engaged with that place, and this emotional bond will influence his/her perception of the place, thus affecting his/her satisfaction with it.

Conversely, a place that is able to meet the worker's needs should enhance the worker's satisfaction, which in turn should strengthen the emotional bond between the worker and the workplace.

It was thus hypothesized that:

H_3: Secure workplace attachment and Environmental satisfaction have a reciprocal impact.

Method

Participants and procedure

This study employs a two-wave longitudinal design. Participants were selected through a convenience sampling method, as they were all healthcare workers, from various units of an Italian hospital, who accepted to participate to the research on a voluntary basis, after having signed the informed consent. No financial compensation was provided, and only those having worked at the same hospital unit for at least one year were included in the sample.

A self-report questionnairein a paper-and-pencil format, was administered to participants during employees' lunch breaks at the workplace. At T_1, the sample consisted of 148 participants, while at T_2, which took place 90 days later, the response rate was 74.32% of those who had responded at T_1.

Consequently, the final sample comprised 110 workers, 39.3% male and 60.7% female, aged between 21 and 66 years (M=45.52; SD=12.20). Among them, 25.5% were physicians, 33% nurses, 17% nursing assistants, 11.3% administrative staff, and 13.2% fell into the "other" category.

The average tenure was 12.57 years, ranging from a minimum of 1 year to a maximum of 41 years (SD=10.95).

Tools

The questionnaire included the following measures.

Secure workplace attachment It is a subscale of the Workplace Attachment Style Questionnaire (Scrima, 2020) and comprises 5 items with a 7-point Likert scale response, ranging from "*Totally Disagree*" to "*Totally Agree*". This subscale aimed to identify a secure attachment style to the workplace (e.g., "I enjoy the time I spend at my workplace").

Before responding to the items, employees were instructed to first think about their workplace, its rooms and corridors, the color of its walls, its sounds, noises, and smells, and the people with whom they usually share it (Bruny et al., 2023). In the current study, the unifactorial structure of the scale was tested through confirmatory factor analysis (CFA). The analysis yielded satisfactory fit indices at both T_1 (χ^2/df=1.31, CFI=0.99, NNFI=0.98, SRMR=0.03) and T_2 (χ^2/df=0.43, CFI=1.00, NNFI=1.00, SRMR=0.01). Additionally, we verified the internal consistency through the McDonald's omega index, which was good at both T_1 (ω=0.84) and T_2 (ω=0.85).

Environmental satisfaction It is a subscale of the Satisfaction with the Work Environment Scale (Fleury-Bahi & Marcouyeux, 2017). This subscale comprises 7 items that assess environmental satisfaction toward spatial-physical features of the work setting (e.g., satisfaction with air circulation, temperature, brightness). Participants were asked to respond on a 5-point Likert scale, ranging from "*Completely Dissatisfied*" to "*Completely Satisfied*". The unifactorial structure showed satisfactory fit indices at both T_1 (χ^2/df = 2.05, CFI = 0.97, NNFI = 0.96, SRMR = 0.04) and T_2 (χ^2/df = 1.94, CFI = 0.98, NNFI = 0.96, SRMR = 0.03). Moreover, Environmental satisfaction subscale exhibited an adequate internal consistency index at both T_1 (ω = 0.90) and T_2 (ω = 0.92).

Data analysis

The data were analyzed through structural equation modeling with the assistance of AMOS 5.0 software (Arbuckle, 1997). Design variables at T_1 and T_2 were included in the model as latent factors. Subsequently, the following four models were compared. Model 1– Stability Model: Initially, a model was specified without structural relationships between latent variables but with synchronous temporal covariances. Temporal stabilities were defined as covariances between constructs for each possible pair of variables (T_1 and T_2). This model estimates the total stability coefficient between the first and second administrations (Pitts et al., 1996).

Model 2– Causality Model, testing H1: this model is equal to Model 1, but also includes structural parameters between Workplace attachment at T_1 and Environmental satisfaction at T_2.

Model 3– Reverse Causality Model, testing H2: this model is equal to Model 1, but includes the structural parameter between Environmental satisfaction at T_1 and Workplace attachment at T_2. Model 4– Reciprocal Model, testing H3: this model includes reciprocal structural parameters between Workplace attachment and Environmental satisfaction, thus it encompasses all structural links of Model 2 and Model 3. Nested models were compared using the chi-square difference test (χ^2). Model fit was assessed using the following indices: χ^2/df, CFI, NNFI, SRMR. In this study, a model was considered valid if all structural parameters were significant at $p < .01$, the ratio χ^2/df was below 3, CFI and NNFI were above 0.90, and SRMR was below 0.08 (Schermelleh-Engel et al., 2003). The research hypotheses were accepted if the Chi-square test for comparing the nested models were significant at least for $p < .05$.

Ethical issues

The study was conducted according to the guidelines of the Declaration of Helsinki and was authorized by the Ethics Committee of the University of XXX [blinded for peer review] (No. 0032513, 6.02.2023 - Classif. II/9) in compliance with the Code of Ethics of the American Psychological Association (APA) and the Italian Psychological Association (AIP).

Prior informed consent was collected, in accordance with the Italian privacy law, and the anonymity of participants was consistently guaranteed.

Results

Table 1 presents the descriptive statistics (including the correlations) of the variables under study.

The skewness and kurtosis indices range between −1.14 and 0.71, indicating no large violations of univariate normality. Regarding socio-demographic variables (age, gender, and tenure), none shows a significant correlation with secure workplace attachment at T_1 and T_2, and with environmental satisfaction at T_1 and T_2. Secure workplace attachment at T_1 is positively correlated with environmental satisfaction at T_1 ($r = .553$, $p < .001$) and at T_2 ($r = .613$, $p < .001$). Finally, environmental satisfaction at T_2 is positively correlated with secure workplace attachment ($r = .622$, $p < .001$).

Table 2 displays the fit indices of the four nested models computed.

Table 1 Descriptive statistics and correlations of the variables under study

	M	SD	S	K	1	2	3	4	5	6	7
1. Age	45.52	12.20	−0.11	−1.14	1						
2. Sex (1 = M; 2 = F)	—	—	—	—	—	1					
3. Tenure	12.57	10.95	0.71	−0.50	0.73***	0.07	1				
4. SWA T_1	4.11	1.45	−0.14	−0.61	0.01	−0.05	0.08	1			
5. EnvSat T_1	3.60	1.51	0.18	−0.68	−0.04	0.12	−05	0.55***	1		
6. SWA T_2	4.18	1.51	−0.24	−0.88	0.03	−0.07	0.11	0.93***	0.49***	1	
7. EnvSat T_2	3.92	1.55	0.10	−0.82	−0.09	0.06	−04	0.61***	0.88*	0.62***	1

N = 110; *M* Mean; *SD* Standard deviation; *S* Skewness; *K* Kurtosis; *** = $p < .001$; *SWA* Secure workplace attachment; *EnvSat* Environmental satisfaction

Table 2 Fit indices and comparison between nested models

	χ^2	df	*p*	χ^2/df	CFI	NNFI	SRMR	$\Delta\chi^2$	Δ df	*p*
Model 1	500.310	237	<0.001	2.111	0.915	0.901	0.073	–	–	–
Model 2	495.275	236	<0.001	2.099	0.916	0.902	0.066	5.035	1	0.024
Model 3	499.954	236	<0.001	2.118	0.914	0.900	0.074	0.356	1	0.551
Model 4	493.682	235	<0.001	2.101	0.916	0.902	0.066	6.628	2	0.036

CFI comparative fit index; *NNFI* (Non) Normed Fit Index; *SRMR* (Standardized) Root Mean Square Residual

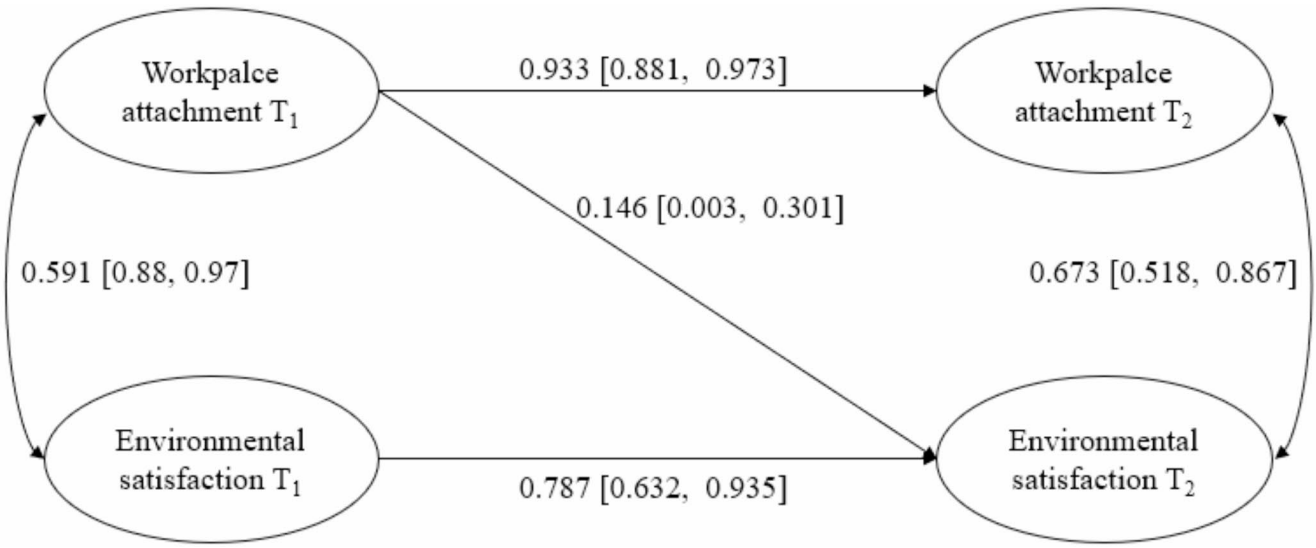

Fig. 1 Model 2: estimated parameters of the causal semi-longitudinal model (see Supplementary Materials for the estimated parameters of Model 2)

The fit indices of the models are satisfactory. However, Model 2. is the only one that exhibits all structural parameters significant at least at $p < .05$ (Fig. 1). Indeed, in Models 3, the causality parameter from Environmental satisfaction at T_1 to Secure workplace attachment at T_2 is not significant ($\gamma = -0.073$) [C. I. = −0.197, 0.010]. Furthermore, the $\Delta\chi^2$ test indicates a significant improvement ($p = .024$) compared to the stability model.

Model 2 also accounts for 87% of the variance in Secure workplace attachment at T_2 and 78% of the variance of Environmental satisfaction at T_2.

Discussion

Affective bonding is a crucial element in the attachment between an individual and his or her physical environment. Numerous studies highlight the psychological benefits of place attachment (e.g., Scannell & Gifford, 2017) and its impact on behaviors (e.g., Takahashi & Selfa, 2015), but the relationship between the physical environment and the corresponding attachment bond is still understudied, and in line with Shin's (2016) theoretical framework, there is a need to better define the nature and directionality of the individual's affective bond with his or her work environment.

This relationship in the literature has been addressed through the constructs of "perceived comfort," which refers to the perception (physical and physiological) of environmental stimuli, and "environmental satisfaction," which concerns the psychological evaluation of these.

Our study, through a longitudinal research design conducted in a hospital setting, aimed to analyze the relationship between secure attachment to the workplace and environmental satisfaction toward the work setting.

When discussing the workplace, hospitals or care facilities are not immediately top-of-mind. This is not solely attributable to the fact that, due to the intrinsic characteristics of their work, healthcare personnel do not have a well-defined and stable workstation, with the entire department serving as their workplace, but also, and above all, to the symbolic significance attributed to healthcare facilities. In fact, in most cases the image evoked by care facilities is negative, closely associated with suffering, illness, and death. Such negative associations have been linked with adverse outcomes for healthcare workers, including increased burnout (Cao et al., 2022), higher turnover (Hebles & Ortega, 2022), and greater job dissatisfaction (Galanis et al., 2023). This pervasive negative image has even led some scholars to describe healthcare settings as typically "inhuman" (e.g., see Manca et al., 2023; Nagasawa, 2000). Consequently, working in the healthcare

sector inherently involves continual exposure to negative emotions, persistent encounters with others' suffering, and oppressive work shifts (Bae, 2024). These intrinsic challenges have underscored the necessity for interventions targeting the physical–spatial context of work, guided by principles of user-centered design (Gifford, 2007) and, more specifically, by approaches to healthcare design humanization (Del Nord et al., 2015). In this context, creating hospital settings that are more compassionate (Nagasawa, 2000) involves designing spaces with physical characteristics that not only support the overall health and well-being of patients and healthcare professionals, but also help to lower their stress levels.

This is particularly important considering that both groups routinely face challenges such as illness, suffering, and sometimes even death. Numerous studies have demonstrated that the physical design of hospital environments, as well as various indicators of perceived environmental quality, significantly influences the well-being of healthcare professionals (Ackley et al., 2024).

These interventions do not necessarily require a complete renovation of hospital buildings or departments; rather, they can involve targeted modifications of specific environmental elements aimed at creating a more humanized setting. For example, a recent quasi-experimental study by Scrima et al. (2023) investigated the impact of permanently installing an art gallery within a hospital department. It was found that enhancing the aesthetic quality of the work environment positively influenced its restorativeness, as well as the affective commitment and work engagement of healthcare personnel, thereby inverting (i.e., shifting from negative to positive) the overall meaning of the space.

Given their transient nature and predominantly negative connotation, only a limited number of studies have investigated the relationship between hospital environments and place attachment (e.g., Jorgensen & Geropanta, 2021; Mura et al., 2023b; Nonnis et al., 2022; Rudzinski et al., 2023b). Furthermore, the limited number of experimental and correlational studies has made it difficult to clearly understand and confirm how the physical hospital environment (i.e., environmental satisfaction or comfort) is linked to place attachment.

To address this gap in the scientific literature, three research hypotheses based on a causal model were tested for the study: the first one with secure workplace attachment as a predictor, the second one concerning an inverse causal model, and the third one focusing on a reciprocal model. Of these three hypotheses, only H1 was fully confirmed: in the 90 days between T_1 and T_2, there was in fact an increase in environmental satisfaction with one's workplace. This result is consistent with previous similar research conducted in outdoor natural environments (e.g., Ramkissoon et al., 2013) and in occupational settings (e.g., Scrima et al., 2021). On the contrary, study outcomes do not provide support for both H2 and H3. In sum, from the model comparison, it can be concluded that secure workplace attachment style is a predictor of environmental satisfaction.

The confirmation of H1 and the non-significance of H2 contribute to the distinction between the concepts of comfort and environmental satisfaction. While comfort pertains to the perception of quality related to specific environmental features, environmental satisfaction refers to the more general subjective assessment of how well a given environment meets an individual's expectations. This implies that once an emotional bond with the workplace is established (i.e., secure workplace attachment), individuals will tend to evaluate it positively, as they perceive, through their relationship with the place, that it supports them in achieving their personal and professional goals.

The results of previous research that are not in line with those of our study (e.g., Ariccio et al., 2021; Chen et al., 2018) could be explained in the light of a confusing use of terms such as "comfort" and "environmental satisfaction" (Shin, 2016). Indeed, if it is plausible to hypothesize that individuals' evaluation of environmental stimuli can predict their attachment to the place (in accordance with the PPP model; see Scannell & Gifford, 2010), findings of this study suggest that, over time, the subjective evaluation of how well a specific work environment meets the expectations and requirements which are important for an individual (i.e., his or her environmental satisfaction) is influenced by his/her attachment to the workplace, and it is thus a consequence of it.

Limitations and future direction

Despite the promising findings emerged, this research has several limitations. First, the sample of the studyconsisted only of a specific group of workers (hospital workers and staff) from a single hospital facility. Thus, the results cannot be generalized to a larger population.

Although no significant correlations emerged between socio-demographic variables and the study's main constructs, individual factors may still have influenced the relationship between workplace attachment style and environmental satisfaction. Future research should place greater emphasis on potential differences related to gender, age, and organizational tenure among healthcare workers.

Additionally, considering the inherent characteristics of healthcare professions and the specific patient populations they serve, factors such as work schedules, emotional and workload demands (e.g., number of emergency cases), and department type may play a significant role in shaping these relationships. Moreover, the hospital setting is a unique

work environment with characteristics that distinguish it from typical workplaces (e.g., offices). Future research should replicate the study in work environments other than hospitals. In addition, data collection took place at only two points in time. Although as far as we know there were no significant changes in the environmental and organizational structure of the hospital, some confounding factors may have influenced the T_2 responses.

Future studies should aim to replicate the research over a longer time frame and include additional data collection points. In addition, all responses were self-reported, making them susceptible to response bias. Futhermore, the interpretation of the results was based on the distinction between comfort and environmental satisfaction, confirming secure place attachment as a predictor of environmental satisfaction. However, the study did not include a specific measure of perceived comfort, in order to verify its relationship with place attachment.

In any case, information regarding the physical-spatial environment was solely based on participants' subjective perceptions. In fact, the study did not incorporate objective environmental quality indicators to compare against these self-reported evaluations. Thus, future research should address this limitation by integrating objective assessments of the workplace environment, which would help clarify the causal relationship between secure workplace attachment and environmental satisfaction.

Finally, this study focused exclusively on the Italian healthcare context. In the medical field, cultural factors play a crucial role. Different healthcare models (e.g., public vs. private systems), varying levels of investment in healthcare services, and, more specifically, in healthcare facilities, differ significantly across cultural contexts. Future research should adopt a cross-cultural perspective, examining the relationship between hospital environments and place attachment in different national and cultural settings. Additionally, further studies should explore how diverse healthcare approaches influence this relationship, providing a broader and more comprehensive understanding of its underlying mechanisms.

Practical implications

With a more practical perspective, this study highlights how a thoughtful approach to workplace design can significantly impact employees' well-being and job satisfaction, particularly in high-pressure environments such as hospitals. Creating more "humanized" spaces (Nagasawa, 2000), where lighting, colors, materials, and even artwork are carefully selected to foster a sense of comfort and belonging, should enhance workplace attachment and, consequently, improve overall work-life quality.

Similarly, monitoring environmental quality through specific indicators allows for an objective assessment of spatial modifications, enabling targeted interventions that reduce psychophysical discomfort and promote a healthier and more functional work environment.

Implementing a user-centered design approach (Fornara & Andrade, 2012; Gifford, 2007), which considers the perceptions and needs of healthcare professionals, is essential for developing spaces where employees not only perform their tasks efficiently but also feel supported and valued. This, in turn, can help mitigate burnout and turnover, two critical challenges in the healthcare sector. However, the positive impact of workplace attachment strategies is not limited to hospitals, since other professional settings may also benefit from these interventions, fostering psychologically and productively sustainable work environments.

Finally, to ensure the long-term effectiveness of these measures, investing in training programs for employees and facility managers is crucial. Promoting an organizational culture that acknowledges the relationship between physical space and well-being can facilitate the continuous improvement of work environments, ultimately making workplace design a key element in enhancing sustainability and professional quality of life.

Conclusions

This research represents an advance in the study of the relationship between place attachment and environmental satisfaction in the context of the literature on person-environment adaptation, particularly in relation to hospital environments and healthcare staff.

We have found that secure workplace attachment has a longitudinal impact that is able to increase individuals' environmental satisfaction. A secure attachment to the workplace, characterized by a positive evaluation of oneself and the environment, enables workers to perceive more positively an environment that is often instead associated with negative experiences such as those of suffering and illness. Attachment to the workplace and, consequently, environmental satisfaction with one's workplace, can thus contribute to a more "humanized" environment (Andrade et al., 2012; Fornara et al., 2006) that supports the activities of healthcare workers.

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Data availability The data that support the findings of this research are available from the corresponding author on reasonable request.

Declarations

Ethical approval The research was conducted in full compliance with the Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association (APA) and in accordance with the Declaration of Helsinki.

Informed consent Informed consent was obtained from all individual participants included in this study

Conflict of interest The authors state that there is no conflict of interest

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