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Environmental psychology, urban youth behaviour, and the rising risk of noise-induced hearing loss (NIHL) among college-going students in India

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Abstract
This study examines familiarity with, and attitudes toward, environmental psychology among 300 college-going students (150 male, 150 female) drawn in equal proportion from four Indian metropolitan citiesPune, Mumbai, Hyderabad, and Chennaiand situates these findings within a growing concern about Noise-Induced Hearing Loss (NIHL) linked to habitual personal audio device use. Using a structured cross-sectional survey, the study explores respondents' familiarity with the field across city, gender, and academic specialization; their perception of the extent to which behaviour is shaped by the external environment; the perceived importance of theoretical frameworks; prior participation in environmental psychology studies; and confidence in experimental research methods. A chi-square test of city-wise familiarity produced a statistically significant association ($\chi^2 = 2.563$, df = 12, p = 0.03), indicating that geographic location meaningfully shapes awareness of the field. The study further reports that 88.3% of respondents use personal audio devices regularly, with 26.67% listening at volumes above 70% and 16.67% doing so for more than five hours a daypatterns that, read through the lenses of Geographical Determinism and Ecological Biology, are interpreted as environmentally conditioned behavioural adaptations with direct implications for auditory health. The findings point to the need for city-specific awareness campaigns, curriculum integration of environmental psychology across disciplines, and preventive hearing-health interventions tailored to youth listening behaviour.

Keywords: Environmental psychology, noise-induced hearing loss, headphone use, college students, geographical determinism, ecological biology, urban youth behaviour

Introduction

Environmental psychology examines the reciprocal relationship between individuals and their physical and social surroundings, and its relevance to contemporary urban life is expanding rapidly as cities grapple with noise pollution, dense living conditions, and pervasive digital and auditory stimulation. Among college-going youth, this relevance is particularly visible in the domain of personal audio device use, where the near-universal adoption of headphones and earphones for music, video, online learning, and gaming has created sustained exposure to environmental and self-generated noise. This study was designed to understand two interlinked dimensions of this phenomenon: first, how familiar and engaged young people are with environmental psychology as a field of study, and second, how their everyday auditory behavioursfrequency of loud-event attendance, device usage duration, volume preference, and listening contextposition them at risk of Noise-Induced Hearing Loss (NIHL). Data were collected from 300 students, drawn equally from Pune, Mumbai, Hyderabad, and Chennai, with equal representation across gender, allowing city-wise, gender-wise, and specialization-wise comparisons throughout.

Theoretical Framework

The rising prevalence of NIHL among college-going youth, particularly in the context of prolonged mobile-headset use, is not merely a physiological concern but one embedded within broader human-environment interactions. This study draws on two complementary theoretical lenses to interpret the empirical findings.

1. Theory of Geographical Determinism

Geographical Determinism holds that behavioural patterns are substantially shaped by the characteristics of the physical and institutional environments people inhabit. Within this study, the proliferation of noise in crowded campuses and hostel settings, combined with intensive digital engagement, is understood as creating environmental pressures that promote compensatory behavioursmost notably prolonged headphone usethrough which students attempt to gain personal control over auditory stimuli. This view aligns with the broader proposition that physical geography and anthropogenic modification of space exert measurable influence on psychological and physiological outcomes (Wong, 2021) [54].

2. Theory of Ecological Biology

The Theory of Ecological Biology offers a complementary, dynamic lens for interpreting the reciprocal relationship between individuals and their sensory environments. The human auditory system is treated as an ecologically sensitive biological mechanism, continuously shaped by cumulative environmental exposure. Because hearing damage from prolonged headphone use often develops gradually and without acute symptoms, this framework underscores that biological systems are not merely reactive but adaptive and vulnerable over time, reinforcing the need for longitudinal, ecologically grounded research designs (Csutora *et al*., 2021) [13].

Together, these frameworks support the case for integrative experimental designs that control for environmental variables, incorporate diverse and representative samples, and apply extended timeframes to capture the cumulative

effects of anthropogenic environmental exposure on youth populations (Deng, 2024) [15]. The convergence between respondents' generally favourable perception of experimental methods and these theoretical positions suggests a meaningful alignment between lived experience, theoretical reasoning, and empirical trust in structured scientific inquiry (Pahl *et al*., 2017; Landau *et al*., 2015; Kalchev, 2024) [24, 28, 41].

Methodology

The study adopted a cross-sectional survey design administered to 300 college-going students, with equal representation of 75 respondents from each of four cities i.e. Pune, Mumbai, Hyderabad, and Chennai which was been equal gender split of 150 male and 150 female respondents. Respondents were further distributed across academic specializations: Arts (n = 50), Commerce (n = 50), Science (n = 70), Engineering & Technology (n = 40), Medical & Pharmacy (n = 20), Management (n = 20), and Law (n = 10). The structured questionnaire captured familiarity with environmental psychology, perceived environmental influence on behaviour, attitudes toward theoretical frameworks and experimental methods, prior academic participation in the field, and detailed personal-audio-device usage behaviour (frequency, duration, volume, and activity context). Cross-tabulations were generated by city, gender, and specialization, and a chi-square test of independence was used to assess the association between city and familiarity with environmental psychology.

Results and Discussion

1. Familiarity with Environmental Psychology

Table 1: City-wise Familiarity with Environmental Psychology (N = 300)

City	Not at all	Somewhat	Moderately	Very	Extremely	Total
Pune	12 (16.0%)	23 (30.67%)	20 (26.67%)	13 (17.33%)	7 (9.33%)	75
Mumbai	10 (13.33%)	24 (32.0%)	22 (29.33%)	13 (17.33%)	6 (8.0%)	75
Hyderabad	12 (16.0%)	24 (32.0%)	21 (28.0%)	12 (16.0%)	6 (8.0%)	75
Chennai	11 (14.67%)	24 (32.0%)	22 (29.33%)	12 (16.0%)	6 (8.0%)	75
Total	45 (15.0%)	95 (31.67%)	85 (28.33%)	50 (16.67%)	25 (8.33%)	300

"Somewhat familiar" was the modal response in every city, accounting for roughly 30–32% of respondents, pointing to a moderate, broadly consistent baseline of awareness regardless of location. Mumbai and Chennai showed marginally higher shares in the "Moderately familiar" category (29.33%) than Pune (26.67%), while the share reporting "Not at all familiar" stayed within a narrow band of 13.33%–16% across cities, suggesting a comparable minority with little foundational exposure everywhere. "Very familiar" and "Extremely familiar" responses were similarly evenly spread, indicating that deep engagement with the field remains limited but present across all four urban samples.

Table 2: Chi-Square Test of City-wise Familiarity with Environmental Psychology

Statistic	Result
Chi-square value (χ^2)	2.563
Degrees of freedom (df)	12
p-value	0.03
Significance level (α)	0.05
Result	Statistically significant

The chi-square test yielded a statistically significant association between city of residence and familiarity with environmental psychology ($\chi^2 = 2.563$, df = 12, $p = 0.03 < 0.05$), leading to rejection of the null hypothesis. This suggests that exposure to the field is not uniform across urban centres, plausibly reflecting differences in regional curricula, institutional emphasis on environmental studies, and local environmental initiatives. Cities such as Pune and Chennai, with established traditions of academic engagement and activism around environmental issues, may afford students more opportunities to engage with the psychological dimensions of environmental behaviour (Wilf & Wray-Lake, 2024) [53], underscoring the case for geographically tailored curriculum enhancement and awareness strategies (Antoninis *et al*., 2023) [4].

Table 3: Familiarity with Environmental Psychology by Gender (N = 300)

Response	Male (N=150)	Female (N=150)	Total
Not at all familiar	25 (16.67%)	20 (13.33%)	45 (15.0%)
Somewhat familiar	50 (33.33%)	45 (30.0%)	95 (31.67%)
Moderately familiar	40 (26.67%)	45 (30.0%)	85 (28.33%)
Very familiar	25 (16.67%)	25 (16.67%)	50 (16.67%)
Extremely familiar	10 (6.67%)	15 (10.0%)	25 (8.33%)
Total	150 (50%)	150 (50%)	300 (100%)

Male and female respondents followed broadly similar patterns, with minor variations. Slightly more males (33.33%) than females (30%) reported being "somewhat familiar," while more females (30%) than males (26.67%) reported being "moderately familiar." "Very familiar" responses were identical across genders (16.67%), and a small majority of both groups clustered in the lower-to-mid familiarity range. Notably, 16.67% of males and 13.33% of females reported no familiarity at all, and only 6.67% of males against 10% of females were "extremely familiar," indicating that genuine expertise remains rare for both genders. These patterns are consistent with earlier observations that environmental psychology has limited mainstream visibility despite its growing relevance to sustainability and urban planning (Gifford, 2014; Clayton & Myers, 2015) [9, 19].

Table 4: Familiarity with Environmental Psychology by Academic Specialization (N = 300)

Specialization (N)	Not at all	Somewhat	Moderately	Very	Extremely
Arts (50)	12 (12.0%)	17 (17.0%)	11 (11.0%)	7 (7.0%)	3 (3.0%)
Commerce (50)	11 (11.0%)	16 (16.0%)	11 (11.0%)	7 (7.0%)	5 (5.0%)
Science (70)	19 (13.57%)	26 (18.57%)	15 (10.71%)	7 (5.0%)	3 (2.14%)
Engineering & Tech (40)	10 (12.5%)	13 (16.25%)	8 (10.0%)	6 (7.5%)	3 (3.75%)

Medical & Pharmacy (20)	5 (12.5%)	9 (22.5%)	6 (15.0%)	3 (7.5%)	2 (5.0%)
Management (20)	7 (17.5%)	7 (17.5%)	4 (10.0%)	2 (5.0%)	0 (0.0%)
Law (10)	2 (10.0%)	3 (15.0%)	2 (10.0%)	2 (10.0%)	1 (5.0%)

Familiarity varied meaningfully by discipline. Science students showed the most balanced spread, with strong representation in "Somewhat familiar" (18.57%) and "Moderately familiar" (10.71%), consistent with curricula that emphasize ecological systems and sustainability (Clayton, 2020). Medical & Pharmacy students similarly clustered in the "Somewhat" (22.5%) and "Moderately" (15%) categories, reflecting exposure to environmental determinants of health. Engineering & Technology students reported comparatively lower familiarity, with a larger share "Not at all familiar" (12.5%), suggesting that while sustainability content may appear in technical curricula, its psychological dimensions receive less emphasis. Commerce students showed the highest "Extremely familiar" share (5%) among the larger disciplines, plausibly linked to industry discussion of sustainability, consumer behaviour, and green marketing. Law and Management students reported the lowest overall familiarity, consistent with a traditional focus on governance and policy rather than behavioural science (Kunj, 2024) [27].

2. Perceived Environmental Influence on Behaviour

Table 5: Perceived Influence of External Environment on Behaviour, by Gender (N = 300)

Response	Male (n=150)	Female (n=150)	Total
Not at all	10 (6.67%)	10 (6.67%)	20 (6.67%)
Slightly	25 (16.67%)	25 (16.67%)	50 (16.67%)
Moderately	50 (33.33%)	50 (33.33%)	100 (33.33%)
Very much	40 (26.67%)	40 (26.67%)	80 (26.67%)
Completely	25 (16.67%)	25 (16.67%)	50 (16.67%)

A third of respondents (33.33%) believed behaviour is "moderately" shaped by the environment, consistent with established theory on environmental influence on human behaviour (Bandura, 1986; Bronfenbrenner, 1979) [5, 7]. A further 26.67% selected "very much" and 16.67% "completely," meaning more than three-quarters of respondents acknowledge a strong environmental role in behaviour, while only 6.67% saw no influence at all. Gender differences were negligible, suggesting a shared perception across male and female respondents that is consistent with social learning and ecological-systems accounts of behavioural development (Eccles, 2015; Bronfenbrenner, 1986; Bandura, 2001) [6, 8, 16].

Table 6: Perceived Environmental Influence on Behaviour by City (N = 300)

City	Not at all	Slightly	Moderately	Very much	Completely
Pune	6 (8.0%)	12 (16.0%)	25 (33.33%)	20 (26.67%)	12 (16.0%)
Mumbai	5 (6.67%)	14 (18.67%)	24 (32.0%)	21 (28.0%)	11 (14.67%)
Hyderabad	5 (6.67%)	11 (14.67%)	27 (36.0%)	19 (25.33%)	13 (17.33%)
Chennai	4 (5.33%)	13 (17.33%)	24 (32.0%)	20 (26.67%)	14 (18.67%)
Total	20 (6.67%)	50 (16.67%)	100 (33.33%)	80 (26.67%)	50 (16.67%)

Hyderabad recorded the highest share of "moderately" responses (36%), while Chennai reported the strongest belief in total environmental influence ("completely," 18.67%). Pune showed the highest "not at all" share (8%), though this remained a small minority overall. No meaningful gender differences emerged within cities, and the overall pattern is consistent with social-cognitive and ecological accounts of environmental influence across cultural and geographic contexts (Constantino, 2021) [12], with metropolitan dynamism potentially reinforcing stronger perceptions of environmental influence in cities like Mumbai and Chennai (Jayaram, 2015) [23].

3. Perceived Importance of Theoretical Frameworks

Table 7: Importance of Theoretical Frameworks by City (N = 300)

Response	Pune	Mumbai	Hyderabad	Chennai	Total
Not important	4 (5.33%)	3 (4.0%)	5 (6.67%)	3 (4.0%)	15 (5.0%)
Somewhat important	12 (16.0%)	11 (14.67%)	10 (13.33%)	12 (16.0%)	45 (15.0%)
Important	26 (34.67%)	27 (36.0%)	26 (34.67%)	26 (34.67%)	105 (35.0%)
Very important	21 (28.0%)	22 (29.33%)	21 (28.0%)	21 (28.0%)	85 (28.33%)
Extremely important	12 (16.0%)	12 (16.0%)	13 (17.33%)	13 (17.33%)	50 (16.67%)

Across all four cities, "Important" was the dominant response (35% overall), and combined with "very important" (28.33%) and "extremely important" (16.67%), a substantial majority of respondents recognize theoretical frameworks as central to understanding environmental psychology (Demarque & Girandola, 2016; Stokols, 1992) [50]. Distribution was remarkably consistent across cities, indicating that urban context does little to shape this particular perception (Sen & Guchhait, 2021) [45], and reinforcing the relevance of established models such as Bronfenbrenner's Ecological Systems Theory and Lewin's Field Theory (Bronfenbrenner, 1986; Lewin, 1951) [8, 33].

Table 8: Importance of Theoretical Frameworks by Specialization (N = 300)

Specialization	Not Important	Somewhat	Important	Very Important	Extremely Important
Arts	3 (6.0%)	8 (16.0%)	18 (36.0%)	14 (28.0%)	7 (14.0%)
Commerce	2 (4.0%)	9 (18.0%)	17 (34.0%)	14 (28.0%)	8 (16.0%)
Science	3 (4.29%)	10 (14.29%)	26 (37.14%)	19 (27.14%)	12 (17.14%)
Engineering & Tech	2 (5.0%)	7 (17.5%)	13 (32.5%)	12 (30.0%)	6 (15.0%)

Medical & Pharmacy	1 (5.0%)	3 (15.0%)	7 (35.0%)	6 (30.0%)	3 (15.0%)
Management	1 (5.0%)	3 (15.0%)	7 (35.0%)	5 (25.0%)	4 (20.0%)
Law	1 (10.0%)	2 (20.0%)	4 (40.0%)	2 (20.0%)	1 (10.0%)

Science (37.14%) and Law (40%) students were most likely to rate frameworks as "Important," plausibly reflecting the structured, empirical methodologies characteristic of both disciplines (Lin & Evans, 2012) [34], while Engineering & Technology and Medical & Pharmacy students showed comparable trends, indicating that applied disciplines also value theoretical grounding (Clayton *et al*., 2016) [11]. Law simultaneously recorded the highest share rating frameworks "Not Important" (10%), possibly reflecting a disciplinary emphasis on precedent and case-based reasoning over abstract theory (Proshansky, 1978) [43], whereas Management and Science respondents were most likely to rate frameworks "Extremely Important" (20% and 17.14% respectively), suggesting that fields oriented toward strategic decision-making and empirical analysis place particular value on theoretical constructs (Gill *et al*., 2015) [20].

4. Prior Participation in Environmental Psychology Studies

Of the 300 respondents, 120 (40%) reported prior participation in environmental psychology studies, against 180 (60%) who had not. Among bachelor's degree students (56.67% of the sample), participation peaked in the second year (25 students, 8.33%) and declined steadily thereafter, falling to just 10 students (3.33%) by the fourth year suggesting that early interest is not sustained, plausibly due to rising academic workload, internships, or competing commitments as students advance. Master's degree students (26.67% of the sample) showed steadier engagement, with 25 students (8.33%) participating in each of the two years, likely reflecting greater research exposure and a postgraduate curriculum with more emphasis on experimental study (Huang, 2021) [22]. Overall, participation is moderate but tends to decline across the undergraduate trajectory, pointing to a need for sustained curricular engagement with the field rather than front-loaded exposure alone.

5. Perceived Effectiveness of Experimental Methods

A clear majority of respondents view experimental methods favourably: combining "somewhat effective" and "very effective" responses, roughly 60% of the sample endorsed the empirical rigor and applicability of experimental approaches in environmental psychology, while a further 25% remained neutral potentially reflecting limited exposure to experimental designs or an awareness of the methodological challenges involved in replicating environmental settings under controlled conditions. Only 15% viewed such methods as ineffective, a minority perspective likely tied to concerns about ecological validity.

Table 9: Perceived Effectiveness of Experimental Methods by Gender (N = 300)

Category	Male (n=150)	Female (n=150)	Total
Very ineffective	15 (10.0%)	12 (8.0%)	27 (9.0%)
Somewhat ineffective	10 (6.7%)	8 (5.3%)	18 (6.0%)
Neutral	30 (20.0%)	30 (20.0%)	60 (20.0%)
Very effective	40 (26.7%)	50 (33.3%)	90 (30.0%)
Somewhat effective	55 (36.7%)	50 (33.3%)	105 (35.0%)

63.4% of male and 66.6% of female respondents rated experimental methods as "very" or "somewhat" effective, reflecting broad endorsement of empirical inquiry across genders, with females showing a marginally stronger positive lean. Negative ratings were somewhat more common among males (16.7%) than females (13.3%), a gap that may reflect disciplinary background or differing views on the ecological validity of controlled experimental settings.

Table 10: Perceived Effectiveness of Experimental Methods by City (N = 300)

City	Very Ineffective	Somewhat Ineffective	Neutral	Very Effective	Somewhat Effective
Pune	5 (6.67%)	5 (6.67%)	15 (20.0%)	22 (29.33%)	28 (37.33%)
Mumbai	7 (9.33%)	4 (5.33%)	14 (18.67%)	23 (30.67%)	27 (36.0%)
Hyderabad	6 (8.0%)	5 (6.67%)	16 (21.33%)	21 (28.0%)	27 (36.0%)
Chennai	9 (12.0%)	4 (5.33%)	15 (20.0%)	24 (32.0%)	23 (30.67%)

Chennai stands out with the highest share of "very effective" ratings (32%), possibly reflecting stronger curriculum integration or field-based research exposure (Alexandar *et al*., 2014) [2], even as it also reports the highest "very ineffective" share (12%)a pattern suggesting a more polarized, rather than uniformly positive, student view. Pune and Mumbai lead in "somewhat effective" ratings (37.33% and 36% respectively), consistent with the ecological theory of behaviour setting, whereby city-specific academic ecosystems shape perception (Singh *et al*., 2022; Abdallah, 2025) [1, 46].

6. Headphone Use, Listening Behaviour, and NIHL Risk

The remaining findings turn from attitudes toward the field to the behavioural exposures most directly relevant to NIHL. Regarding frequency of attending loud events (concerts, parties, festivals), "Occasionally" was the most common response overall (36.67%), with females showing a stronger lean toward occasional attendance (40%) than males, who were more evenly split between occasional and rarer attendance (Su *et al*., 2024).

Table 11: Regular Use of Personal Audio Devices, by Gender and City (N = 300)

Group	Yes	No	Total
Male (N=150)	130 (86.7%)	20 (13.3%)	150
Female (N=150)	135 (90.0%)	15 (10.0%)	150
Pune	66 (88.0%)	9 (12.0%)	75
Mumbai	68 (90.7%)	7 (9.3%)	75
Hyderabad	65 (86.7%)	10 (13.3%)	75
Chennai	66 (88.0%)	9 (12.0%)	75
Overall	265 (88.3%)	35 (11.7%)	300

An overwhelming 88.3% of respondents use personal audio devices regularly, with usage slightly higher among females (90%) than males (86.7%), and Mumbai reporting the highest city-wise prevalence (90.7%) against Hyderabad's comparatively lower, though still high, 86.7%. This near-universal usage reflects the growing role of headphones not only in entertainment but also in academic contexts such as online learning and video lectures (Nicolaou *et al*., 2021) [39], and, from an environmental psychology perspective, represents a significant and pervasive exposure pathway for NIHL (Natarajan *et al*., 2023) [37], particularly when combined with frequent attendance at loud external events (Dehankar *et al*., 2022) [14].

Table 12: Activities While Using Headphones, by Gender and City (N = 300)

Activity	Male	Female	Pune	Mumbai	Hyderabad	Chennai	Total
Listening to Music	85 (56.67%)	75 (50.0%)	42 (56.0%)	41 (54.67%)	39 (52.0%)	38 (50.67%)	160 (53.33%)
Watching Videos	32 (21.33%)	38 (25.33%)	17 (22.67%)	18 (24.0%)	17 (22.67%)	18 (24.0%)	70 (23.33%)
Attending Online Classes	22 (14.67%)	28 (18.67%)	11 (14.67%)	12 (16.0%)	14 (18.67%)	13 (17.33%)	50 (16.67%)
Gaming	11 (7.33%)	9 (6.0%)	5 (6.67%)	4 (5.33%)	5 (6.67%)	6 (8.0%)	20 (6.67%)

Listening to music was the dominant activity (53.33% overall), higher among males (56.67%) than females (50%), consistent with evidence that young adults frequently use personal listening devices for extended periods, often at unsafe volumes (Filova *et al*., 2020; Levey *et al*., 2012) [32]. Watching videos (23.33%) and attending online classes (16.67%) were somewhat more common among females, reflecting the post-pandemic normalization of digital streaming and virtual classrooms (Soyoof *et al*, 2025) [47]. Gaming remained the least common activity (6.67%) but is nonetheless associated with elevated sound exposure due to immersive audio settings and prolonged sessions (Keppler *et al*., 2015) [25]. Pune recorded the highest share of music listening (56%), while Chennai showed the highest gaming uptake (8%), pointing to city-specific patterns of exposure relevant to targeted NIHL prevention strategies.

Table 13: Preferred Volume Level, by Gender and City (N = 300)

Group	Low (<50%)	Medium (50–70%)	High (>70%)	Total
Male (N=150)	45 (30.0%)	55 (36.67%)	50 (33.33%)	150
Female (N=150)	50 (33.33%)	70 (46.67%)	30 (20.0%)	150
Pune	28 (37.33%)	30 (40.0%)	17 (22.67%)	75
Mumbai	25 (33.33%)	32 (42.67%)	18 (24.0%)	75
Hyderabad	22 (29.33%)	28 (37.33%)	25 (33.33%)	75
Chennai	20 (26.67%)	35 (46.67%)	20 (26.67%)	75
Overall	95 (31.67%)	125 (41.67%)	80 (26.67%)	300

Medium-volume listening (50–70%) was most common overall (41.67%), and considerably more so among females (46.67%) than males (36.67%), consistent with evidence that women tend toward more cautious listening behaviour (Fligor, 2014; WHO, 2024; Levey *et al*., 2012) [32, 52]. A concerning 26.67% of respondents listen above 70% volume, disproportionately males (33.33% versus 20% of females)a pattern consistent with research linking male listeners to greater risk-taking around noise exposure (Le Prell *et al*., 2020) [30] and with the well-documented risk that sustained high-volume exposure carries for irreversible hearing loss and tinnitus (Keppler *et al*., 2015; Neitzel & Fligor, 2019) [25, 38]. City-wise, Hyderabad recorded the highest share of high-volume listeners (33.33%), a red flag for elevated NIHL risk, while Pune showed the most cautious profile, with the highest share of low-volume listeners (37.33%) and the lowest share of high-volume listeners (22.67%).

Table 14: Headphone Usage Duration, by Gender and City (N = 300)

Group	<1 hr/day	1–3 hrs/day	3–5 hrs/day	>5 hrs/day	Total
Male (N=150)	25 (16.67%)	55 (36.67%)	40 (26.67%)	30 (20.0%)	150
Female (N=150)	30 (20.0%)	65 (43.33%)	35 (23.33%)	20 (13.33%)	150
Pune	12 (16.0%)	30 (40.0%)	20 (26.67%)	13 (17.33%)	75
Mumbai	15 (20.0%)	28 (37.33%)	18 (24.0%)	14 (18.67%)	75
Hyderabad	14 (18.67%)	32 (42.67%)	20 (26.67%)	9 (12.0%)	75
Chennai	14 (18.67%)	30 (40.0%)	17 (22.67%)	14 (18.67%)	75
Overall	55 (18.33%)	120 (40.0%)	75 (25.0%)	50 (16.67%)	300

The most common usage duration was 1–3 hours per day (40% overall), more common among females (43.33%) than males (36.67%), consistent with moderate use for learning, entertainment, and communication (Fligor, 2009; Levey *et al*., 2012) [32]. More than five hours of daily use the highest-risk category for NIHL was reported by 16.67% of respondents overall, more commonly by males (20%) than females (13.33%), and was most prevalent in Chennai and Mumbai (18.67% each), pointing to potential overexposure in these cities. Extended durations of three to five hours were fairly evenly distributed across cities, peaking in Hyderabad and Pune (26.67% each). Taken together with the volume-preference data, these figures suggest that a meaningful minority of students, particularly males and those in Chennai and Mumbai, combine long listening durations with elevated volume combination directly implicated in noise-induced hearing damage (Neitzel & Fligor, 2019; Le Prell *et al*., 2012) [29, 38].

Participant's attitudes toward environmental psychology and everyday listening behaviour reinforce one another.

Students broadly recognize that behaviour is shaped by environment and place real value on theoretical and experimental approaches to studying it, yet this awareness has not translated into markedly cautious listening habits: nearly nine in ten students use personal audio devices regularly, more than a quarter listen at potentially unsafe volumes, and roughly one in six do so for over five hours daily. Interpreted through Geographical Determinism, these behaviours can be read as adaptive responses to noisy, digitally saturated urban and institutional environments; interpreted through Ecological Biology, they represent a slow, cumulative biological exposure whose consequences may not be apparent until damage has already occurred. City-wise variation in Hyderabad's elevated high-volume listening, Chennai and Mumbai's longer daily durations, Pune's comparatively cautious profile suggests that any intervention should be locally calibrated rather than uniform (Kitayama & Salvador, 2024).

Conclusion and Recommendations

This study finds that familiarity with environmental psychology among Indian college students is moderate, unevenly distributed across cities and academic disciplines, and statistically associated with geographic location. At the same time, near-universal and often risky personal audio device use among the same population signals a pressing, practical application for the field: understanding and mitigating environmentally driven auditory behaviour among youth. Based on these findings, the study recommends: (1) integrating environmental psychology content into non-science and applied disciplines such as Law, Management, and Engineering, where familiarity is currently lowest; (2) designing city-specific hearing-health awareness campaigns that account for local listening patterns, particularly in Hyderabad (high-volume use), Chennai, and Mumbai (long-duration use); (3) promoting the 60/60 rule (60% volume for no more than 60 minutes at a stretch), regular hearing check-ups, and noise-attenuating headphone technology through campus wellness programs (Lenzi *et al*., 2024; WHO, 2024) [31, 52]; and (4) sustaining, rather than front-loading, curricular engagement with environmental psychology across the undergraduate years, given the observed decline in participation from first to fourth year. Future longitudinal research should track how early listening behaviours translate into measurable hearing outcomes over time, and should evaluate the effectiveness of targeted educational interventions in shifting both awareness and behaviour.

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Conflict of Interest

No conflict of interest

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