



A survey of the community impact of pickleball noise: A pilot study


Kathleen Romito, MD and Jamie Banks, PhD

Quiet Communities, Inc., Lincoln, Massachusetts

Kathleen@romitoresearch.org

quiet.
COMMUNITIES

Introduction

Pickleball noise consists of repetitive impulse sounds, exposing residents living near busy courts to thousands of sharp “pops” each day, introducing a new and distinctive source of unwanted noise in residential environments. Pickleball is a racquet sport like tennis but played on smaller courts with hard paddles and plastic balls that produces a loud “pop.” The noise is loud, impulsive (rat-a-tat), and can be constant throughout the day. An audio sample of the noise from 4 pickleball courts can be heard at <https://doi.org/10.5281/zenodo.15566001>. 

In 2024, 18,455 new courts were built in 4000 new locations(1), As new courts are built, pickleball noise is disrupting residential areas, leading to conflicts and complaints. One Google Map identifies more than 500 pickleball noise hotspots across North America(2). The issue has been covered in hundreds of news reports, generated countless social media posts, and led to an estimated 200 legal claims in the United States (3).

Local decision makers considering appropriate court locations are usually well informed about the health and social benefits of pickleball recreation. However, the potential adverse impacts from chronic exposure to pickleball noise have not been well studied. A recent study evaluating the community impact of aviation noise found that mental and physical health effects of aviation noise are directly related to numbers of flights, not just the average decibel level (4). A content analysis evaluating self reported health concerns related to pickleball noise identified significant issues, including trauma-like symptoms, perceptions of phantom pickleball pops, and other stress-related effects.(5)

Objective

This pilot study aims to better understand the impacts pickleball noise is having on the daily activities and health of community members who live near pickleball courts and experience the noise and to inform guidelines for court locations and strategies to mitigate noise.

Methodology

An eighteen-question online questionnaire was developed using Survey Monkey. The survey questions were drafted based on literature on the effects of noise and impacts reported by affected community members. The draft survey underwent face validation with a focus group, was revised accordingly, and submitted to an ethics committee for approval. Four community organizers and two acoustic firms, all experienced with pickleball noise, were invited to distribute the survey to contacts. The survey was also posted on two Facebook groups, Pickleball Noise Relief and Pickleball Sound Mitigation.

Respondents were instructed to submit one survey only. Duplicate responses from the same device were not allowed and IP addresses were scanned for multiple responses. Participants were able to skip questions and open-ended comments were solicited. Responses were requested from individuals currently living within 1,000 feet of pickleball courts, those who had previously lived within that distance, or those expecting courts to be built nearby. To best assess overall community response, additional submissions from those living >1000 feet from courts were included in the results.

Results

440 responses were received from community members. 386 responses were received from people who had lived experience with pickleball noise near their homes, either present or past. 33 participants reported that courts were planned nearby, 11 reported they had never lived near existing or planned courts, and 10 people declined to state whether they had ever lived near courts.

Responses were received from 264 communities. Of these, 229 zip codes were from the United States, with four zip codes showing two distinct sites of conflict. Responses were evenly distributed across the North, South, East, and West. An additional 29 postal codes came from Canada, one from Australia, and one from New Zealand.

The analysis of the physical characteristics of courts (Tables 1–2), amount of exposure (Table 3), acoustic and non-acoustic factors affecting the experience of the sound (Table 4), interference with daily activities (Figures 1–2), consideration of moving (Figure 3), and health concerns (Figure 4), concerns for community and other concerns (Table 5, Figure 5) includes responses from those with the lived experience. The remainder of the questions were analyzed using all community responses.

Acknowledgements

The authors gratefully acknowledge the pioneers addressing the new issue of pickleball noise. Without the community organization of Rob Mastroianni and Nalini Lasiewicz, this survey would not have been possible. Lance Willis, from Spenderian and Willis, and Pickleball Sound Mitigation have most of the sound assessments for communities addressing the issue of pickleball noise and their willingness to contribute to the effort is appreciated.

Table 1. Characteristics of pickleball courts

Type of courts	# of courts	Setback distance	Geography
Public	220 (60.3%)	1 23 (6.0%)	<100 ft 167 (43.4%)
HOA*	92 (24.9%)	2-4 229 (59.8%)	100-300 ft 119 (30.9%)
Private/Club	33 (9.0%)	4-8 92 (24.0%)	300-500 ft 46 (11.9%)
Neighbor	21 (5.8%)	>8 39 (10.2%)	500-1000 ft 38 (9.9%)
			>1000 ft 15 (3.9%)
			None

*Homeowner Association

Table 2. Existing noise mitigation in place

Thick vinyl sound barriers	57 (15.2%)	Mesh netting	70 (18.7%)
Limited hours, recommended	66 (17.7%)	Limited hours, enforced	31 (8.3%)
Quiet paddles, recommended	54 (14.4%)	Quiet paddles, enforced	5 (1.3%)
Quiet balls, recommended	45 (12.0%)	Quiet balls, enforced	6 (1.6%)
No mitigation in place	172 (46.0%)		

Q. Duration of exposure to pickleball noise? While some courts are used only occasionally, many public courts—due to pickleball’s popularity—are in near-constant use from daybreak to sunset. The addition of lights, in some situations, can extend the hours of play into the late-night hours. Pickleball is a relatively new sport and most respondents have less than 5 years of exposure to the noise.

Table 3. Weekly Hours and Years of Exposure

Hours per week, courts open	Years of exposure
<30 hours per week	32 (8.4%)
30-50 hours per week	50 (13.2%)
50-70 hours per week	76 (20.1%)
>70 hours per week	221 (58.3%)
	< 1 year 41(10.9%)
	1-3 years 162 (43.1%)
	3-5 years 119 (31.6%)
	>5 years 54 (14.4%)

Q. Which of the following describe your experience with pickleball noise? While 2/3 of respondents described the noise as loud, while almost 90% described the noise as repetitive pops or clicks. Almost 3/4 of participants reported being able to hear the noise inside their home or office and almost 2/3 reported being exposed to nighttime noise. Almost half of all residents noted experience with being harassed by pickleball players.

Table 4: Acoustic and Non-Acoustic Factors Affecting How Residents Experience the Sound

Acoustic Factors-How Residents Describe the Sound	Non Acoustic Factors-How Residents Experience the Sound
Chronic	286 (66.8%)
Intermittent	189 (44.2%)
Unpredictable	254 (59.4%)
Repetitive (e.g. pops, clicks)	377 (88.1%)
Loud	282 (65.9%)
	Being ignored by decision makers 280 (65.4%)
	Harassment from pickleball players 203 (47.4%)
	Noise heard inside home or office 316 (73.6%)
	Courts visible from home 275 (64.3%)
	Noise during the night, 6 pm-8 am 274 (64.0%)

Q. How often does pickleball noise interfere with your ability to do the following? Most respondents reported that pickleball noise either often or constantly interferes with the ability to be mindful-rest, relax, feel calm or think. A similar proportion reported that the noise either often or constantly interferes with their ability to enjoy being indoors or outdoors at their own home.

Figure 1. How often does noise interfere with your ability to enjoy your home?

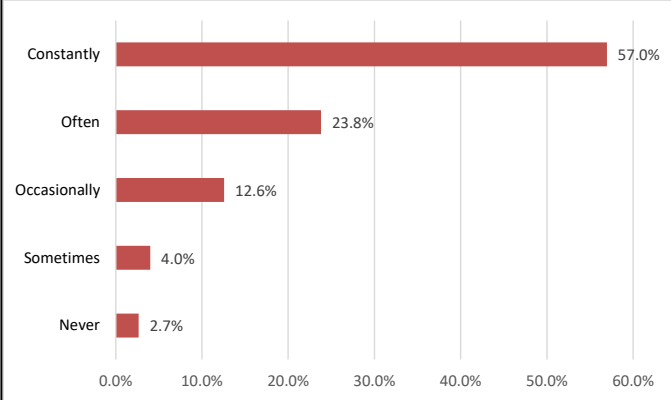
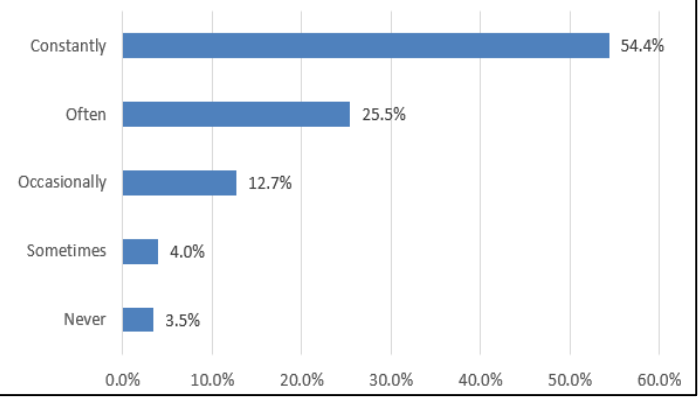


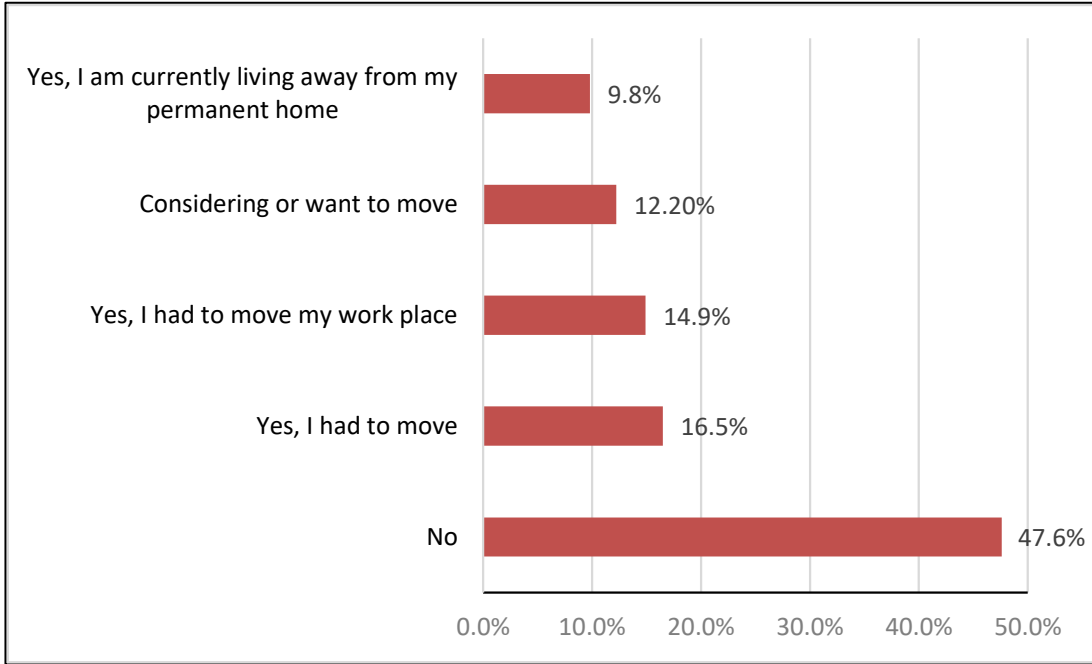
Figure 2. How often does the noise interfere with your ability to be mindful, rest, or be calm?



Q. Have you had to significantly modify your life because of pickleball noise?

226 of 386 participants responded to given response options. Of the remaining 160 (41.5%), 31 provided open ended comments that expressed a desire to move with some unable to and others considering or preparing to move. These responses are included in the results below. When these comments are combined with the given response options, more than half of the respondents reported either having to move or wanting to move. (See Figure 3)

Figure 3. Proportion who moved or are considering moving due to pickleball noise



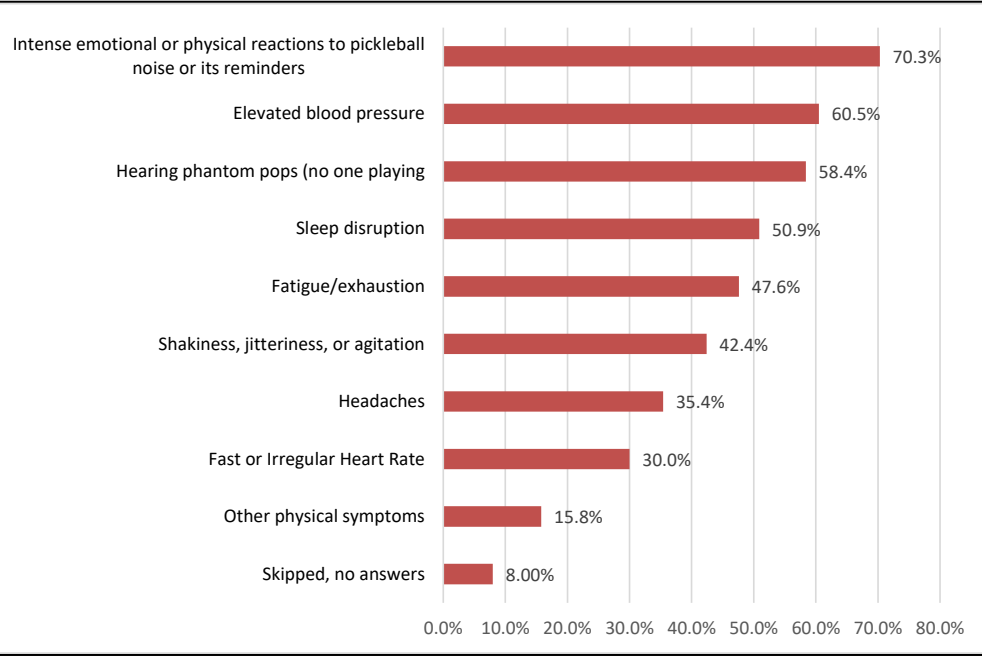
Q. How concerned are you about the impacts of pickleball noise on your community? More than half of the community reported being extremely concerned about the impact on each of the following: children or infants, seniors, veterans or others with PTSD, and people with learning disorders, neurologic disorders, or other disabilities.

Table 5. Level of concern for other community members

Answer choices	Not concerned	Not very concerned	Moderately concerned	Very concerned	Extremely concerned
Children or infants	42 (11.7%)	25 (7.0%)	56 (15.6%)	50 (13.9%)	186 (51.8%)
Low income and/or minority populations	87 (26.1%)	36 (10.8%)	61 (18.3%)	38 (11.4%)	111 (33.3%)
The environment	29 (7.9%)	20 (5.4%)	59 (16.1%)	69 (18.9%)	189 (51.6%)
Impact on seniors, especially those with pre-existing conditions	20 (5.4%)	9 (2.4%)	36 (9.7%)	66 (17.7%)	242 (64.9%)
Impact on veterans or others with PTSD	22 (6.2%)	15 (4.3%)	36 (10.2%)	47 (13.3%)	233 (66.0%)
Children and adults with learning or neurological disorders, e.g., autism, sensory deficit disorders	27 (7.7%)	18 (5.1%)	43 (12.2%)	56 (15.9%)	208 (59.1%)
Children and adults living with disabilities	34 (9.6%)	16 (4.5%)	52 (14.7%)	53 (15.0%)	198 (56.1%)

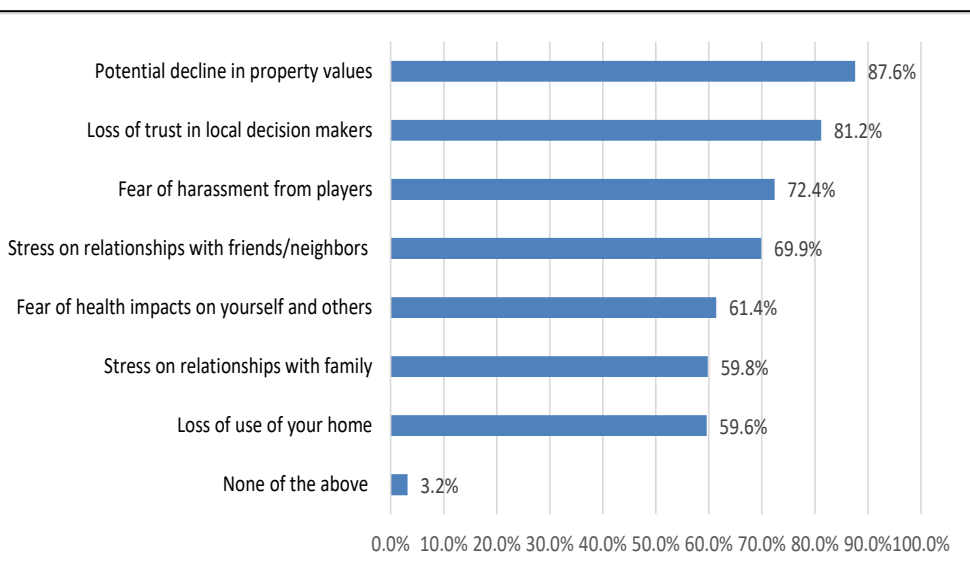
Q. What concerns do you have about the possible effects of pickleball noise on your health or that of your family members? More than 90% of all respondents reported at least one health concern. More than 2/3 of respondents reported intense emotional or physical reactions to pickleball noise or its reminders.

Figure 4. Concerns about health



Q. What other impacts of pickleball noise concern you? Property values, fear of harassment and health impacts and stress on relationships both with family members and within the community all were areas of significant concern to the respondents, with more than half of respondents indicating a concern for each issue.

Figure 5. Other impacts of concern from pickleball noise



Discussion

The results of this pilot survey show that pickleball noise has a substantial impact on the health and well-being of people in the nearby community.

A. Impacts on Daily Life

For many respondents, the noise has severely disrupted daily life. Most (80.0%) report being impacted constantly or very often. People report being unable to enjoy their homes, gardens, or outdoor spaces, and many have altered routines or even relocated to avoid the noise. Comments frequently describe an ongoing sense of intrusion—, “*I cannot think, I cannot concentrate, I can’t do anything in my house*”—and a feeling that they are being driven indoors or away from home.

Some report major life decisions such as delaying retirement or giving up hobbies, because of the noise. Over half of respondents have either already moved, want to move, or have moved part time from their home, due to the noise. These experiences clearly meet common definitions of an environmental nuisance: interference with the comfortable enjoyment of life or property.

B. Health Concerns and Physiologic Stress Responses The high level of concern over the impact of pickleball noise on health and the reports of specific impacts, e.g., elevated blood pressure, sleep disturbance, anxiety and jitteriness, are consistent with extensive scientific evidence on the ability of noise to trigger the body’s stress response. Noise stimulates the amygdala and activates the autonomic nervous system leading to inflammation and oxidative stress, resulting in damage to the vascular endothelium (6). Chronic activation of the stress response increases the risk of cardiovascular, cerebrovascular, and metabolic harms as well as of mental health disturbances like anxiety and depression (7,8). In addition to these non-auditory impacts, the reported concern by respondents over “phantom pickleball pops,” i.e., hearing sound in the absence of play, may represent a trauma-related reactivity or a form of noise-induced tinnitus. It is reported that these phantom sounds may cause sleep disruption and report well over half of hearing the phantom pops even weeks or months after moving away (4).

C. Moving Beyond Decibels Characteristics other than decibel levels can affect human response to noise; for example, pattern, tonality and duration. Pickleball courts can generate several thousand pops per day, at approximately 1,200 Hz—a frequency to which the human brain is particularly sensitive. Non-acoustic factors unrelated to the physical, measurable characteristics of a sound, such as social context, have been found to explain up to 1/3 of the variance in noise annoyance (9). For example, most (73.6%) respondents report being able to hear the noise inside their homes and nearly half (47.5%) report harassment from pickleball players. These results underscore the importance of considering factors other than decibels when evaluating the human response to pickleball noise.

D. Community-Level Impacts Beyond individual effects, respondents describe broader community disruption. Relationships with neighbors, HOAs, and local officials have deteriorated, and many express concerns about property values, neighborhood cohesion, and the well-being of vulnerable residents (e.g. seniors, children, and those with health issues or disabilities)

E. Role of Mitigation Most respondents in this survey (74.3%) live within 300 feet of courts which might suggest that the impacts are greater closer to courts. However, preliminary patterns suggest that while proximity may increase the percentage of people affected, meaningful impacts persist for residents living at even greater distances.

Distance between homes and courts is the most effective sound control method. Guidance, based on expert opinion, has previously suggested that relief is highly unlikely within 100 feet of active courts, and that significant multi-faceted mitigation is needed within 400 feet (4). The current recommended setback distances may need to be increased. Further research is needed to evaluate the multifactorial components of the impact of pickleball noise and determine the most effective mitigation tools.

Survey responses from 264 communities show that pickleball noise has a substantial impact on nearby residents. Residents describe both loss of enjoyment of home and property from chronic noise exposure and significant health concerns consistent with a physiologic and psychological noise-induced stress response.

References

- 2024 USA Pickleball annual facts & highlights, USA<https://usapickleball.org/about-us/organizational-docs/pickleball-annual-growth-report/>.
- Google Map of Pickleball Noise Hot Spots, created by N.Lasiewicz. Google Maps, https://www.google.com/maps/d/viewer?entry=g&ll=40.4300909,464309,44%2C79.90188363766478&mid=1obF3UNvq5bADZn7ki_OeZrWwQCKCtX8&zoom=14.
- “I was stunned to find out there are over 200 lawsuits that I’ve been able to find throughout the nation, all pertaining to HOA’s and local municipalities concerning pickleball courts.” Hillsborough County Commission, Josh Wostal 1:49:36 <https://www.youtube.com/watch?v=xQZ7sRVMt8g>
- Banks, J., O’Rourke, P.J. The community impact of aviation noise: A pilot study. J Exposure Sc. & Environ. Epidemiology(2025) <https://doi.org/10.1038/s41370-024-00737-z>
- Romito, K., Fink, D. Pickleball noise: The physiological and psychological effects on nearby residents. Proc. Mtgs. Acoust. 56, 050001 (2025) <https://doi.org/10.1121/2.0002030>
- Münzel T, Sørensen M, Schmidt F, et al., The Adverse Effects of Environmental Noise Exposure on Oxidative Stress and Cardiovascular Risk. Antioxid Redox Signal. 2018 Mar 20;28(9):873-908. [doi: 10.1089/ars.2017.7118](https://doi.org/10.1089/ars.2017.7118)
- Hahad O, Bayo Jimenez MT, Kuntic M., et al. Cerebral consequences of environmental noise exposure. Environ Int. 2022;165:107306. <https://doi.org/10.1016/j.envint.2022.107306>.
- Basner M, Babish W, Davis A., et al. (2014). Auditory and non-auditory effects of noise on health. The Lancet. 2014;383(9925):1325 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3988259>
- ISO/TS 16755-1. “Acoustics — Non-acoustic factors influencing the perception, interpretation and response to environmental sounds — Part 1: Definition and conceptual framework” (ISO, Geneva, Switzerland, 2025).