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THE THERAPY DOG IN ARTS HIGHER EDUCATION

AN INSTITUTIONAL PRACTICE AND A SURVEY OF STUDENT EXPERIENCES

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Abstract

Arts higher education, and classical ballet in particular, is among the most demanding pedagogical environments because of constant performance pressure and physical-emotional strain. This study presents an institutional practice: the presence of a therapy dog (Lego) in the movement biology (anatomy-physiology) classes of the Hungarian Dance University (HDU). For the first time, student perception of this practice was examined through a quantitative, descriptive questionnaire survey. The study is descriptive and pilot: a single-group, uncontrolled, one-time, retrospective self-report capturing the direction and strength of student perception rather than causal effect. The questionnaire was sent to the entire cohort taught with Lego (96 students); 83 valid responses were received (86.5%). Perceptions were uniformly positive: 98.8% retrospectively considered the dog's presence beneficial, 78.3% felt closer to the instructor, and no allergic or discomfort complaints were reported (0/83). Likert-item means exceeded the neutral midpoint across all dimensions, reported as a standardized deviation. Perception was most favorable for mood, group atmosphere, and willingness to attend, while perceived direct learning remained neutral. This represents the first internationally documented case of such practice in arts higher education.

Keywords: animal-assisted education (AAE), therapy dog, stress management, dance higher education, questionnaire survey, pilot study, motion biology

1 INTRODUCTION

Dance pedagogy occupies a special place in the system of arts education. Dance training, and classical ballet in particular, imposes extraordinary physical and psychological demands. Students confront their physical limits and the pressure to perform on a daily basis, while the continuously evaluated work in front of the mirror places a considerable psychological burden on them. Such an environment is highly conducive to chronic stress, self-esteem problems, and burnout (Buckroyd, 2000; Hamilton, 1997).

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The author of this study holds both medical and dancer-and-coach qualifications. This dual medical and pedagogical perspective provides a particular observational position: the author can simultaneously interpret the physiological and psychological load of the dance environment and document the mechanisms of a practice with medical training. The practice was established at the Hungarian Dance University (HDU) through the presence of two dogs. A personal assistance dog has been present in the author's teaching work since January 2022. Lego, the dog intended for therapeutic work, visited the motion biology classes as a puppy from May 2023, then regularly took part in the teaching process as a therapy dog in training from September 2023 and as a certified therapy dog from spring 2025 (his training and examination were carried out by an accredited assistance dog training association in accordance with Decree 27/2009 (XII. 3.) SZMM on the training of assistance dogs). The present quantitative survey concerns exclusively the cohort of students taught with Lego.

To the best of the author's knowledge, no documented report has yet recorded the regular institutional presence of a therapy dog in higher arts education. The literature on animal-assisted education (AAE) concentrates almost exclusively on the primary and special primary school context, as confirmed by Morgan's (2024) systematic review; higher education, and arts higher education in particular, remains completely unexplored in this field. The aim of the study is twofold. First, it places the mechanisms of animal-assisted interventions and their role in dance pedagogy in a scientific framework; second, it examines for the first time, with quantitative questionnaire data, how students perceive the presence of the dog.

2 THEORETICAL BACKGROUND

2.1 Distinguishing AAA, AAT, and AAE

Three main types of animal-assisted intervention are distinguished (Fine, 2010). The primary aim of animal-assisted activity (AAA) is to improve quality of life and to provide a positive experience; animal-assisted therapy (AAT) is tied to defined, documented developmental goals and requires the involvement of a professional; while animal-assisted education (AAE) is linked to the pedagogical context, where the dog is present in the teaching process as a motivational resource (Fine, 2010; Levinson, 1969). At the HDU, Lego's presence touches on all three levels: his stress-reducing effect reflects the AAA approach, some of his targeted interactions the AAT approach, and his integration into the teaching process the AAE approach. In the Hungarian literature, Mittly (2025) also stresses that, in practice, the boundary between AAA and AAT is often blurred, which makes the interpretation of results difficult; the precise identification of the type of intervention is therefore essential.

2.2 Historical background

The history of deliberate animal-assisted interventions is associated with Boris Levinson, who in the 1960s was the first to document that the presence of his dog triggered spontaneous contact in children who had previously been unable

to communicate (Levinson, 1969). Since then, randomised controlled trials have confirmed the effectiveness of AAT in addressing anxiety, depression, chronic pain, and social isolation (Kamioka et al., 2014). In the field of educational applications, Morgan's (2024) systematic review, which evaluated eight high-quality studies covering 534 participants between 2000 and 2023, found evidence that the presence of a therapy dog can have favourable effects on social skills and the overall educational experience. The same review clearly indicates the complete absence of research in the higher education context, particularly in regard to the arts.

2.3 Neurobiological mechanisms

The therapeutic effect of animal-assisted interventions is not limited to subjective impressions but is associated with measurable physiological processes. Mutual eye contact and touch between dog and human trigger the release of oxytocin in both parties (Nagasawa et al., 2015). Oxytocin reduces fear and increases trust, thereby promoting social connection (Beetz et al., 2012; Odendaal & Meintjes, 2003). The presence of a dog also measurably lowers cortisol levels, slows heart rate, and normalises blood pressure (Allen et al., 2002). The review by Meixner and Kotrschal (2022), covering 18 controlled studies, confirmed that physical contact with a dog is inversely related to salivary cortisol levels and that this effect extends to teachers as well (Hutter, 2015).

The randomised controlled trial by Gee et al. (2025), in which the control group was visited by the same handler but without the dog (a so-called handler-only control), showed that the presence of the dog itself adds value beyond human presence alone. An important caveat is that the trial was conducted with hospitalised older adults, consequently the result can only be cautiously extrapolated to the dance pedagogy context of young adults. Chronic stress generally causes increased muscle tone, altered breathing patterns, and deteriorating coordination (Hamilton, 1997; McEwen, 2008), and all three can directly impair a dancer's performance.

2.4 Specific features of the dance pedagogy context

Classical ballet training is one of the most intense performance environments in higher education. Buckroyd (2000) showed that the prevalence of anxiety and depressive symptoms is significantly higher among ballet students than in the general higher education population. Rehearsal processes generate strong group-dynamic tensions; according to Sherif's (1961) realistic conflict theory, intergroup tensions can be resolved through superordinate goals. In the author's experience, Lego's presence functions as a natural superordinate goal: students' group identity is strengthened around the dog and competitive dynamics recede. The non-judgemental presence creates a secure attachment space (Bowlby, 1969), and positive emotions, according to Fredrickson's (2001) *broaden-and-build* theory, widen the focus of attention and build resources. This cohesive role has also been confirmed in clinical settings by Mittly's (2025) randomised controlled trial: the therapy dog acted as a social catalyst, and the group cohesion that developed during the sessions proved lasting.

3 METHOD

3.1 Research context and timeline of the dogs

A personal assistance dog has been present in the author's teaching work at the HDU since January 2022. Lego visited the classes as a puppy from May 2023, and from September 2023 he took part regularly in the Motion Biology (anatomy and physiology) classes as a therapy dog in training. The present questionnaire survey and all of the quantitative data exclusively concern the students taught with Lego. During the period studied, Lego was present in approximately 230 Motion Biology classes. This provides a rich observational (qualitative) base; it should be stressed, however, that the 230 classes are not part of the quantitative data set; the questionnaire survey below is a one-off, retrospective measurement, so in this sense the study is not longitudinal.

3.1.1 The course and the teaching framework

The dog's presence is tied to the classes of the Motion Biology course (also called Applied Health Studies, which focuses primarily on anatomy and physiology). The course is taught by the author to first-year students in two class hours per week in the full-time programme and one class hour per week in the part-time programme. It is a 2-credit course assessed by examination. Lego is present in these classes. The participants are first-year students of the *Dancer and Coach* bachelor's (BA) programme, studying in one of four specialisations: commercial dance, theatre dance, classical ballet, and modern dance. The surveyed population is therefore heterogeneous by specialisation but shares the high physical and psychological load of professional dance training.

Motion Biology (anatomy and physiology) is one of the foundation courses of dance training and is therefore included in the first year of the BA programme. Dancers work with their own body as their primary instrument, so knowledge of the anatomical structures that produce movement and of the basic processes of circulation, respiration, nutrition, and exercise physiology is a precondition for conscious, safe, and sustainable movement practice. The knowledge acquired here underpins injury prevention and the understanding of load tolerance, providing the foundation for all further practical and theoretical courses regardless of specialisation. Because of this foundational character, it is best acquired at the very beginning of training, so that students carry the increasing physical load of the following years equipped with adequate body awareness and physiological knowledge.

The course has two main aims. The first is that by the end of the course students can state which anatomical structures work to execute a given basic movement and, on this basis, recognise the injuries that arise during movement. The second is that students become familiar with the basic physiological processes of the human body, primarily circulation, respiration, nutrition, and the fundamentals of exercise physiology. On completing the course, students can assign the main participating anatomical structures to the basic movements, recognise the typical injuries that occur during movement, and know and interpret the basic processes of circulation, respiration, nutrition, and exercise physiology. The classes are largely theoretical, with

some practical elements. The physiological topics are covered mainly in lecture form. In the anatomy section, numerous specific movements are analysed jointly, clarifying which muscles and joints are involved in the execution of each movement. The dog is present throughout the classes as a natural part of the room.

3.1.2 Nature of the intervention (description of the dog's presence)

The essence of the intervention is the non-directive, free presence of the therapy dog throughout the Motion Biology (anatomy and physiology) classes, rather than a pre-defined, manualised sequence of exercises. The dog was never forced to interact or perform: contact between student and dog was in every case governed by mutual voluntariness under the continuous supervision of the handler (who is also the lecturer). The non-manualised nature of the study limits exact reproducibility; to compensate, the dog's typical forms of presence are described in detail below according to the typical progression of a class, divided into three phases.

When the students arrived, the dog was available for free contact. They could pet and greet him before taking their seats. The students chose how they wished to interact with the dog: some sat on the floor and hugged the him, while others fed him treats, asked him to perform tricks, or threw his toy for him. Since the handler typically arrives earlier and the students also gather gradually, about 10 to 15 minutes per class were available for this informal settling-in. These few minutes of interaction eased tension on arrival and fostered a positive group atmosphere even before the class begins.

During teacher-led theoretical explanations, the dog stayed calmly at a designated point in the room, providing a quiet, predictable presence. It could be observed that the dog spontaneously moved towards students who were having a harder day, laying down beside them and staying there for several minutes with his head resting in their lap. During more demanding practical activities or those requiring heightened attention, the dog stayed close to the students and could be stroked, which offered a continuous opportunity for self-regulation (self-soothing) during more stressful moments. The specific activities included palpation exercises in anatomy, pair work, group work, and movement demonstrations, during which the dog wandered freely between the groups.

In particularly stressful situations, such as before and during tests, oral examination, or assessment, the dog's presence provided a targeted, stress-reducing role: students could interact with him before or after the test, call him over, and even have him sit on their lap. The handler, watching the students, directed the dog to individual students for interaction with a subtle gesture. At the end of the class, students were once again free to interact with the dog, providing a positive emotional conclusion to the session.

Throughout the process, the handler supervised the interactions, regulated their intensity, and ensured that the dog had adequate rest periods and opportunities to withdraw. This served the well-being of both the students and the animal in line with the Five Domains model of animal welfare, which incorporates human-animal interaction into welfare assessment (Mellor et al., 2020). The dog had the medical documentation required by law (Decree 27/2009 (XII. 3.) SZMM), valid vaccinations, regular treatment against external and internal parasites, and was bathed regularly.

Students could only give the dog designated treats, fresh water was provided at all times, and the dog was able to withdraw and rest during designated periods of the class.

3.2 Population and data collection

The target population of the survey consisted of the 96 students taught by the author with Lego during the study period; the questionnaire was sent to all 96 students. A total of 83 valid responses were received, representing 86.5% of the whole population. Thus, the respondents are not a sample drawn from a larger population but constitute the vast majority of the target population). All respondents were first-year students from the Dancer and Coach bachelor's programme and were between 19 and 23 years of age, based on the known age range of the cohorts taught. To protect anonymity, the questionnaire did not collect individual-level demographic data on gender or age. Given the small number of male students, reporting gender would in practice have made some respondents identifiable. This high response rate is notable for a questionnaire survey and reduces the risk of non-response bias. Participation was anonymous and voluntary, and the questionnaire was administered at the end of the academic year.

3.3 Instrument

The questionnaire was developed specifically for the present study, since to the author's knowledge no validated instrument tailored to the higher education AAE context is available. Participation was voluntary and anonymous; no personally identifiable data were collected. The questionnaire did not request names or Neptun codes, and the survey system did not log any potentially identifying information (e.g., IP or e-mail addresses). Before completion, students were informed about the purpose of the survey and gave their informed consent by completing it. The survey was an anonymous, retrospective student evaluation of routine teaching activities, involving no intervention of any kind, and therefore did not require formal research ethics committee approval. Data were processed in accordance with the General Data Protection Regulation (GDPR) exclusively in anonymised, aggregated form.

The item dimensions were developed on the basis of the theoretical framework presented in Section 2, including neurobiological stress reduction mechanisms as well as considerations related to group dynamics and attachment theory. The online questionnaire contained 16 substantive questions. Nine items assessed the students' perceptions of the dog's presence on a five-point Likert scale (1 = not at all / negative, 5 = to a great extent / positive). The nine Likert items covered the following dimensions: liking the dogs' presence, perceiving the dog as an integral part of the classes, mood, relief from daily stress, motivation for the course, relationships with fellow students, relaxedness of the group atmosphere, willingness to attend class, and acquisition of course content. A further seven items elicited categorical responses, including initial and end-of-year attitudes, the perceived effect of the dog on attention, student perceptions of the lecturer, experiences of disruption or discomfort, allergy complaints, and overall evaluation. The nine Likert items was demonstrated good internal consistency (Cronbach's $\alpha = 0.85$).

3.4 Statistical analysis

The means of the Likert items were compared with the neutral midpoint of the scale (3), and the standardised deviation from the midpoint is reported (according to the formula for the standardised mean difference, with a 95% confidence interval). Deviation from the midpoint was tested with a one-sample *t*-test and the Wilcoxon signed-rank test. The two tests led to the same conclusion for every item, so *Table 1* reports the non-parametric Wilcoxon *p*-value. This standardised deviation corresponds to the one-sample Cohen's *d* effect size, expressing how many standard deviation units the mean lies from the midpoint of the scale. Since the study is single-group and uncontrolled, this value characterises the strength of perception rather than the magnitude of the causal effect of the intervention. For the Wilcoxon test, the effect size, $r = Z/\sqrt{N}$, is also reported according to Cohen's convention (0.1 small, 0.3 medium, 0.5 large effect). Due to the ceiling effect, responses were concentrated near the upper end of the scale, so differences among scores should be interpreted with caution.

For the categorical items, proportions and Wilson 95% confidence intervals were calculated, while the relationships between items were examined using Spearman rank correlations; the ϱ coefficient is itself an effect size, interpreted according to Cohen's convention (0.1 small, 0.3 medium, 0.5 large effect). Attitudes at the beginning and end of the academic year are reported purely descriptively as frequencies.

3.5 Treatment of retrospective attitude change

One item from the questionnaire measured initial feelings towards the dogs, and another retrospective item assessed how this feeling had changed by the end of the academic year (in a positive direction or unchanged). This is not two independent measurement points but a single retrospective self-report on their initial state and perceived change. Attitude change is therefore reported exclusively as descriptive frequencies; no paired significance test or paired effect size it was applied, since such analyses would be circular given the structure of the data.

4 RESULTS

4.1 Students' perceptions of the dog's presence in class

The perceptions of the dog's presence were above the neutral midpoint for every Likert dimension (*Table 1*). The means furthest from the scale midpoint were observed for liking the dogs, mood, group atmosphere, and willingness to attend class. A ceiling effect was also observable for these items, with the majority of respondents selecting the maximum value of 5. The only exception was the direct acquisition of course content, for which the mean was exactly equal to the scale midpoint (standardised deviation = 0.00, with the 95% interval containing zero).

Table 1 Descriptive statistics of the Likert items, their standardised deviation from the scale midpoint (3) and the effect size of the Wilcoxon test ($N = 83$)

Question (item)	Mean	*SD*	Med.	Std. dev. from midpoint	95% CI	*p* (Wilcoxon)	*r*
Liked their presence	4.82	0.5	5	3.66	[3.06; 4.25]	< 0.001	0.94
Perceiving the dog as an integral part of the class	4.4	0.71	5	1.96	[1.59; 2.32]	< 0.001	0.85
Mood	4.71	0.53	5	3.23	[2.69; 3.76]	< 0.001	0.91
Stress relief	4.27	0.88	4	1.43	[1.12; 1.74]	< 0.001	0.77
Motivation	4.31	0.73	4	1.8	[1.45; 2.14]	< 0.001	0.82
Relationships with fellow students	3.8	0.73	4	1.09	[0.82; 1.36]	< 0.001	0.72
Group atmosphere	4.69	0.58	5	2.89	[2.4; 3.38]	< 0.001	0.90
Acquisition of course content	3	1	3	0	[-0.22; 0.22]	0.785	0.03
Willingness to attend	4.52	0.67	5	2.27	[1.86; 2.68]	< 0.001	0.86

Note: the standardised deviation corresponds to the one-sample Cohen's d; $r = Z/\sqrt{N}$ is the effect size of the Wilcoxon test. The values show that for eight items, perceptions differed strongly from the neutral midpoint not only statistically but also in magnitude ($d > 1$, $r > 0.7$), most strongly for liking the dog's presence, mood, and group atmosphere. In contrast, the acquisition of course content, the deviation is practically zero ($d = 0.00$; $r = 0.03$). From this, it can be concluded that students experienced the dog's presence as supportive primarily on the emotional and social level, and as neutral with respect to the direct acquisition of course content.

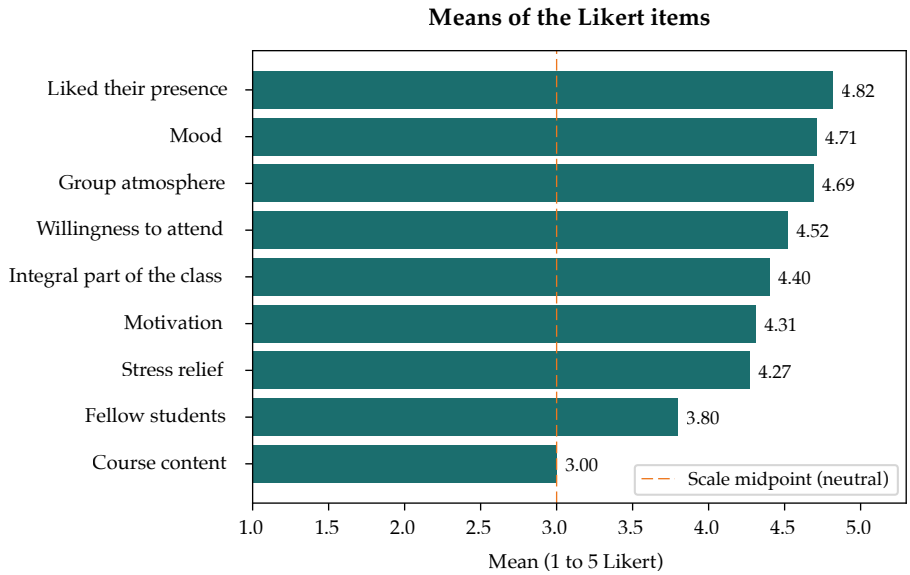

Figure 1 Means of the Likert items. The dashed line marks the neutral scale midpoint (3).

The bar chart in *Figure 1* shows that the means of eight of the nine items were clearly above the neutral midpoint (3) indicated by the dashed line. The means for liking the dogs (4.82), mood (4.71), and group atmosphere (4.69) all approached the maximum score of 5, while acquisition of course content falls exactly on the midline (3.00).

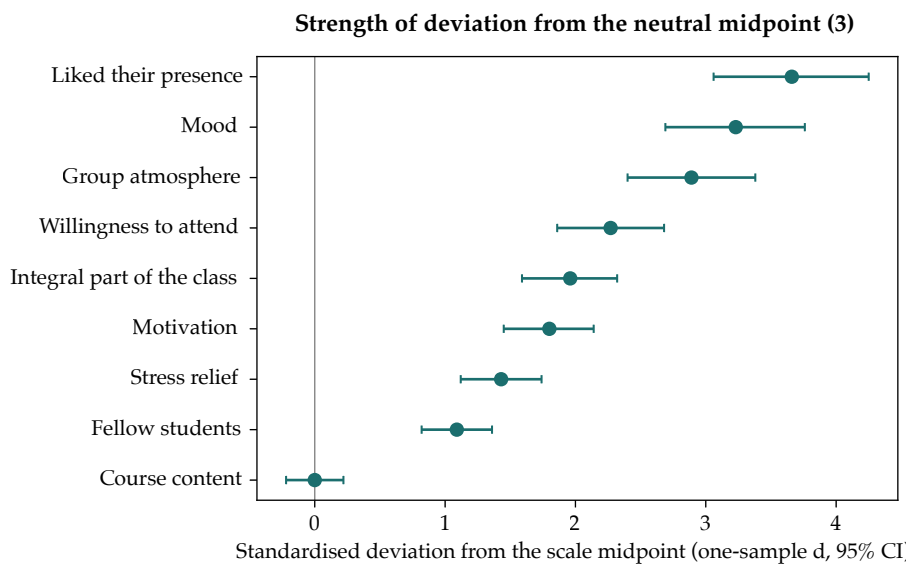

Figure 2 Standardised deviation from the scale midpoint (descriptive indicator) with 95% confidence intervals.

Figure 2 presents the same pattern as the standardised deviation from the scale midpoint, with 95% confidence intervals. The intervals for eight positive items lie entirely above zero, indicating clear deviation from the midpoint for each of them. the confidence interval for acquisition of course content, by contrast, contains zero, reflecting a neutral perception. The neutral result for the course content item is also methodologically important: it indicates that students did not indiscriminately assign high scores, which makes the high values of the other items more credible. Overall, the figures show that the perception of the dog's presence were more favourable for items concerning emotional and social aspects, such as liking the presence of the dog, mood, and group atmosphere, whereas ratings for learning performance, such as acquisition of course content, were more neutral. In students' experiences, the dog's effect was associated more strongly with the quality of the learning environment than with the acquisition of course content.

4.2 Students' initial and retrospective attitudes

Students' initial feelings towards the dogs were already predominantly positive at the beginning of the academic year: 61.4% of students felt happy about the dogs, 36.1% were curious about them, and a total of 2.4% ($n = 2$) reported an indifferent or reserved initial attitude. According to the retrospective evaluation given at the end of the academic year, attitudes moved exclusively in a positive direction or remained unchanged; not a single student reported a negative change (*Table 2).*

Table 2 Retrospective, self-reported change in attitude towards the dogs ($N = 83$)

Direction of change	***n***	**Proportion**
Changed in a positive direction	34	41.0%
Unchanged	49	59.0%
Changed in a negative direction	0	0%

Note: Attitude change was assessed using a single retrospective question rather than independent pre- and post-measures. The data show that no respondent reported that their attitude towards the dogs deteriorated during the academic year, while 41% reported that it became more positive. This points to a strengthening, rather than a fading, of the initially positive attitudes.

The 59% of respondents reporting no change may stem largely from the fact that initial attitudes were already near the upper end of the scale, leaving limited room for further improvement. The 41% reporting a more positive shift must be interpreted in light of this ceiling effect.

The two students whose initial attitudes were not clearly positive followed different trajectories. The initially indifferent student gave a distinctly positive evaluation at the end of the academic year (satisfaction: 4/5; retrospective response: "yes, definitely"),

while the initially reserved student reported no change in attitude throughout the year and have a negative retrospective response (satisfaction: 2/5; "I did not like it"). This latter case indicates that initial reservations do not dissolve through exposure alone in every case.

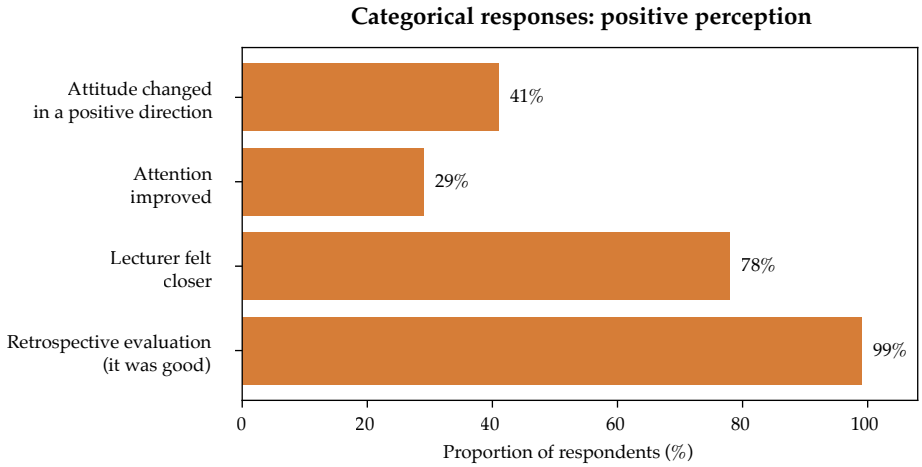

Figure 3 Positive perceptions on the categorical items (proportion of respondents)

Figure 3 summarises the proportion of positive responses to the categorical items: 98.8% of respondents accepted the dogs' presence, 78.3% reported a closer relationship with the lecturer, and none reported complaints (0/83). These findings are visually confirmed in *Tables 3* and *4*. Unlike the other items, the perceived effect on attention and concentration was assessed using three categories: 28.9% of students ($n = 24$) reported that the dogs' presence improved their attention, 60.2% ($n = 50$) reported no effect, and 10.8% ($n = 9$) reported that it impaired their attention and concentration. Thus, the lower proportion of positive responses in *Figure 3* (28.9%) does not indicate a predominantly negative effect, as most students experienced the dogs' presence as neutral, with respect to attention.

4.3 Acceptance, relationship with the lecturer, and experiences of discomfort or disruption

In retrospect, 98.8% of students judged the dogs' presence positively (*Table 3*), 78.3% reported a closer relationship with the lecturer as a result of the dog's presence (*Table 4*), and not a single student reported allergic complaints or discomfort (0/83); only 4.8% reported some type of discomfort or disruption.

Table 3 Retrospective evaluation of the dogs' presence in class at the end of the academic year ("Looking back, do you think it was good that the dogs were present in class?")

Response category	n	Proportion	95% CI
Yes, definitely	73	88%	[79.2; 93.3]%
Yes, occasionally	9	10.8%	[5.8; 19.3]%
I did not like it	1	1.2%	[0.2; 6.5]%

The high proportion of "yes, definitely" responses (88%), compared to "yes, occasionally" responses (10.8%) suggests that students' perceptions were strongly positive rather than tentative.

It is important to stress that the 4.8% ($n = 4$) reporting discomfort or disruption and the 1.2% "I did not like it" response in *Table 3* derive from responses to two different questions, and are therefore not contradictory. The former concerns a specific, possibly isolated incident, while the latter reflects the overall retrospective judgement at the end of the academic year. This is supported by cross-tabulation: of the four students reporting a disturbing situation, three nevertheless evaluated the practice positively overall, and in the end only one gave a negative retrospective response.

Because the questionnaire did not contain a free-text response field, one of the four students who reported an uncomfortable or disruptive situation later provided additional information voluntarily supplemented in a face-to-face conversation. According to this student, it was not the dogs' presence as such that was disruptive, but rather the fact that fellow students frequently sought contact with the dogs, which in the student's view sometimes led to periods of inactivity in class. An important methodological consideration is that the lecturer deliberately and by design incorporated short breaks into the classes given the demanding nature of the material. This student appears to have experienced the planned breaks as excessive, whereas the overwhelming majority of respondents reported distinctly positively evaluations.

While *Table 3* shows the acceptance of the practice as a whole, the next table illustrates how the dog's presence affected the students' relationship with the lecturer. The two indicators are to be considered together: the general acceptance of the presence of the dog and the more direct relationship with the lecturer reflect a coherent, mutually reinforcing perception.

Table 4 Perception of the lecturer

Response category	n	Proportion	95% CI
Felt closer to the lecturer	65	78.3%	[68.3; 85.8]%
Unchanged	18	21.7%	[14.2; 31.7]%

4.4 Co-variation of the perceptual dimensions: The relationship between stress relief and the learning environment

The Spearman correlations between the Likert items form a coherent pattern: stress relief, motivation, willingness to attend class, and the relationship to course content are moderately to strongly interrelated (ϱ between 0.47 and 0.56; *Table 5*, *Figure 4*). This suggests that students experienced the dog's presence as a unified positive experience affecting several domains. The mean of the composite indicator formed from the scale items is 4.28 ($SD = 0.49$) on the five-point scale.

Table 5 The eight strongest item-pair correlations (Spearman's ϱ)

Item pair	ϱ	*p*	Strength
Fellow students - course content	0.56	< 0.001	moderate-strong
Stress relief - course content	0.55	< 0.001	moderate-strong
Stress relief - motivation	0.51	< 0.001	moderate-strong
Stress relief - willingness to attend	0.51	< 0.001	moderate-strong
Course content - willingness to attend	0.51	< 0.001	moderate-strong
Integral part - course content	0.5	< 0.001	moderate-strong
Stress relief - fellow students	0.48	< 0.001	moderate
Mood - stress relief	0.47	< 0.001	moderate

The pattern emerging from the table is particularly noteworthy: acquisition of course content (the only neutrally perceived item) shows its strongest co-variation with relationships with fellow students, stress relief, and perceiving the dog as an integral part of the class. This suggests that although students did not perceive the dog as directly influencing their learning, other indirect factors from the learning environment such as social relationships and stress level are nevertheless associated with it. Since this section is inferential rather than descriptive, Spearman's ϱ is also interpreted as an effect size measure. The coefficients in *Table 5* (between 0.47 and 0.56) correspond to a medium-to-large effect according to Cohen's conventional thresholds, which indicates substantive, stable co-variation, even with a sample of 83. The weaker relationships not included in *Table 5* ($\varrho < 0.30$) qualify as small effects.

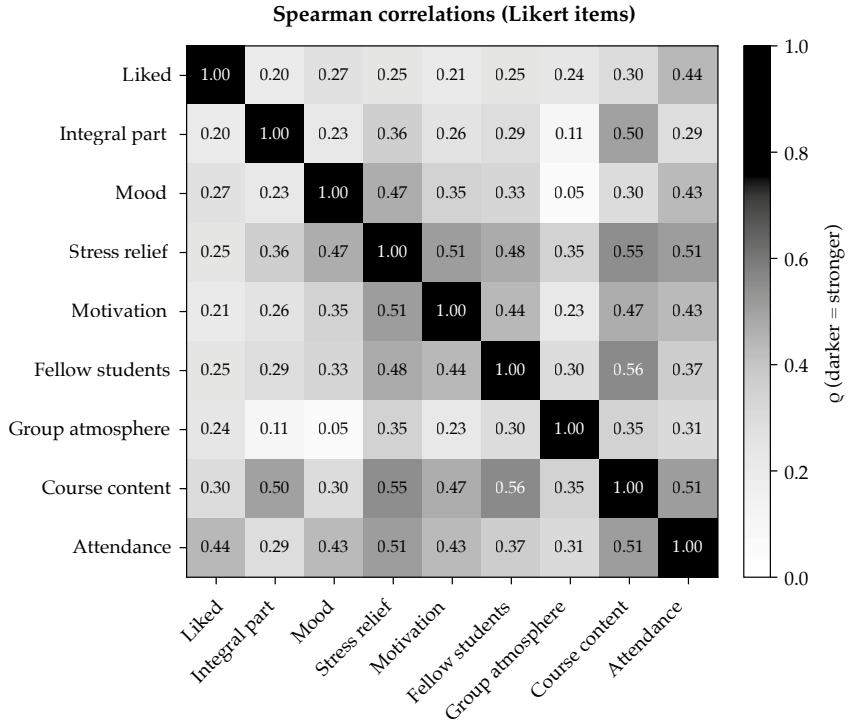

Figure 4 Spearman correlation matrix of the Likert items

In the correlation matrix shown in *Figure 4*, darker cells indicate stronger co-variation. The darker cells cluster in the lower right quadrant of the matrix, where the rows and columns of stress relief, motivation, relationships with fellow students, course content, and willingness to attend intersect. By contrast, the cells in the upper left corner, representing the associations among liking the dog's presence, perceiving the dog as an integral part of the class, and mood, are lighter, as are the cells in the row and column corresponding to group atmosphere, indicating weaker co-variation. This illustrates the moderately strong co-movement of these dimensions and supports the interpretation of a unified positive experience affecting several domains.

5 DISCUSSION

The results of the survey are consistent with the observations made during implementation of the practice at the institution. Students' perceptions of the dog's presence are positive in every dimension measured. The most favourably perceived areas are mood, group atmosphere, willingness to attend class, and general acceptance, precisely those that would be expected on the basis of the neurobiological (oxytocin, cortisol) and group-dynamic (superordinate goal) frameworks (Meixner & Kotrschal, 2022; Nagasawa et al., 2015; Sherif et al., 1961). These findings must be interpreted with the caveat that the present data allow these mechanisms only to be considered as assumptions rather than demonstrated causal relationships. The present observations

are consistent with Mittly's (2025) clinical findings that a dog-assisted intervention produced improvements in quality of life and anxiety as well as short-term benefits for psychological coping. In the Hungarian literature, however, controlled studies remain rare, lending additional relevance to the present study.

The neutral rating for perceived acquisition of course content is itself instructive. This finding is consistent with previous literature suggesting that animal-assisted education acts primarily on affective and social factors rather than directly improving cognitive performance (Meixner & Kotrschal, 2022; Morgan, 2024). Such an effect would presumably be indirect. Stress relief, greater willingness to attend class, and a more relaxed atmosphere may create more favourable conditions for learning, as also suggested by the moderate correlations between stress relief and the relationship to course content and attendance.

The finding that 78.3% of respondents felt closer to the lecturer is consistent with the proposed role of the dog as a social catalyst. It also aligns with previous observations in the literature that the presence of a dog can reduce teachers' stress (Hutter, 2015), which could in turn influence students through processes of stress transmission (Topál et al., 1997).

6 LIMITATIONS

The present study is explicitly a pilot and has several important limitations. It is a single-group design without a control group, so no causal inferences can be drawn from the data, and the reported standardised deviations express the distance from the neutral midpoint rather than the effect of the dog's presence in class. The questionnaire was administered once and relied on retrospective self-report; therefore, the initial and retrospective attitudes are not independent measurements, which is why they were reported only descriptively. The high mean values should be interpreted in light of a ceiling effect. The strongly positive initial attitudes may indicate some degree of self-selection, with dog-friendly students potentially being more willing to respond, although the 86.5% response rate reduces the likelihood of this.

A further limitation is that the instrument was developed specifically for this study and was not based on a validated scale; therefore, its psychometric properties (beyond internal consistency) have not been independently confirmed. In addition, the questionnaire did not contain open-ended items on the nature of the discomfort or disruptions that students may have faced situations, which limits a deeper, systematic understanding of their negative experiences. Individual demographic background variables (gender, exact age) were not collected in order to protect anonymity (given the small number of male students), so differences in perception along these lines could not be examined.

Finally, social desirability is a potential source of bias that cannot be entirely eliminated. The author simultaneously served as the owner of the therapy dog examined in the study, the lecturer of the students surveyed, and the principal researcher, and the students were aware of these overlapping roles. This represents a potential source of social desirability bias that must be taken into account when interpreting the results.

7 CONCLUSION AND OUTLOOK

Both the institutional experience gained at the HDU and the findings of the present questionnaire survey show that students overwhelmingly perceive the presence of a therapy dog in higher dance education as positive, with relatively few negative experiences reported complaints and favourable perceptions regarding its contribution to the learning environment. To the best of our knowledge, this is the first publication to document the regular presence of a therapy dog in higher arts education along with data on student perceptions. Given the pilot nature of the present study, these results provide a strong preliminary basis for a controlled follow-up study including cortisol measurement and a within-subject crossover design, together with measures such as the STAI, VAS, or GCQ. Such a study could demonstrate the causal effect of the dog's presence and address major gaps in the existing literature. This planned controlled study with cortisol measurement involves an intervention and biological sampling, and therefore requires institutional research ethics approval from the HDU, the obtaining of which is a precondition for launching the future study.

Conflict of interest statement

The author has no other financial or other conflict of interest in connection with the research.

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