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## CRITICAL REVIEW

**Animal-assisted activities:  
Justifying a mental health program  
at McMaster University**

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**ABSTRACT**

For many students at McMaster University, adequate mental health is an elusive luxury. This mental health crisis has called for the inception of multiple programs to ensure the well-being of the student body. Animal-assisted activities (AAA), such as “PAWSS” or “Dogs at Mac,” are such types of programs that aim to relieve student stress through wholesome interaction with animals. Given that McMaster University has finite resources dedicated to improving student mental health, it is important to evaluate whether these programs are truly beneficial. This review has found literature to support McMaster’s use of AAA. The sessions offer the potential for mental health benefits at an extremely low cost. Additionally, positive university student perceptions toward animal-assisted interventions indicate a clear public interest in AAA events. The schedule of the animals used in AAA also upholds their welfare, which helps mitigate any ethical concerns regarding animal-assisted interventions. While the true efficacy of AAA has not yet been determined due to mixed research literature around the topic, no studies have identified detrimental effects resulting from positive human-animal interactions. This paucity suggests that there is very little risk associated with using animals in a therapeutic setting when one accounts for its potential benefit.

**CONTEXTUALIZING MENTAL HEALTH AT MCMASTER**

Mental health issues often act as barriers in the lives of post-secondary students in Ontario. The Council of Ontario Universities reported that 65% of students experienced overwhelming anxiety in 2016, presenting a 7% increase from 2013.<sup>1</sup> Within this period, the Council also reported a 6% increase in depression, from 40% to 46%.<sup>1</sup> These increasing trends have spurred Ontario universities to prioritize addressing mental health issues and invest in a collection of initiatives to support student mental well-being. McMaster University has launched a number of programs to improve student mental health, including programs which use animals within a therapeutic context: Pups Advising within Social Sciences (PAWSS) and Dogs at Mac.<sup>2,3</sup> Both organizations utilize certified therapy dogs at informal, drop-in sessions around campus during which students can freely interact with the dogs.<sup>2,3</sup> These events are scheduled during exam season and other stressful periods of the school year, and aim to improve student mental health outcomes.<sup>2,3</sup> Attempts to define interventions that incorporate animals have been ongoing since the 1980s, with widely used definitions including animal-assisted therapy (AAT) and animal-assisted activities (AAA).<sup>4</sup> AAT utilizes animals to deliver individualized therapies led by a licensed

professional, while AAAs are interventions involving animals that are often not individualized for a specific client.<sup>3,4</sup> Based on these definitions, the services offered by PAWSS and Dogs at Mac fall under the AAA classification. The purpose of this paper is to determine whether AAAs are an effective use of university resources for improving student mental health. To provide a holistic evaluation of AAA services, several factors will be examined: the mental health benefits associated with AAAs, perceptions towards animals in therapeutic settings, ethical considerations, and cost-effectiveness. Overall, it can be hypothesized that AAA use at the university is justifiable.

**EVALUATING THE EFFECTIVENESS OF AAAS**

Research studies evaluating AAA-associated mental health benefits have produced mixed results. Brooks *et al.* conducted a systematic review of published and grey literature up until March 2017 and found 17 quantitative studies exploring the effects of human-animal interactions on mental health.<sup>5</sup> Some of the studies correlated animal companion interactions with reduced feelings of loneliness, depression, and anxiety.<sup>5</sup> Through actions such as petting and sharing close contact with animals, participants experienced improvements in depression and mood.<sup>5</sup> In contrast, other studies reported neutral effects; for example, depression was found to be as common in pet owners as in non-pet owners.<sup>5</sup> These mixed research findings may be due to several factors, as reported by Serpell *et al.*<sup>6</sup> Most studies that evaluated animal-assisted interventions had methodological flaws, including small sample sizes, poorly defined research questions, a lack of standardized measures, and non-randomized assignment of participants to interventions.<sup>6</sup> These methodological issues make it challenging to accurately evaluate the effectiveness of AAAs. While the findings were mixed, none of the studies included in the systematic review by Brooks *et al.* found positive human-animal interactions, such as petting, playing, and hugging, to be detrimental to mental health.<sup>5</sup> This paucity indicates there is minimal risk associated with using animals in a therapeutic setting.<sup>5</sup> However, it is important to acknowledge that the review evaluated the benefits of human-animal interactions in the context of animal ownership, and the weaker emotional bonds between students and animals would therefore likely result in diminished health benefits.<sup>5</sup> Nonetheless, the human-animal interactions during play at the McMaster AAA sessions should be similar to those between an animal and its owner, meaning that the minimal risk associated with using animals in Brook *et al.*’s therapeutic setting should also apply to these sessions.<sup>5</sup> Therefore, while findings made by Brooks *et al.* do not fully represent McMaster’s AAA services, they are promising in terms of support for the initiative.<sup>5</sup>



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## THEORETICAL BENEFITS OF AAA

Despite the uncertainties surrounding AAA effectiveness, several theories have attempted to explain why human-animal interactions may benefit mental health. Numerous theories focus on how this interaction operates, including those which examine the relationship through a symbolic interactionist perspective or through the perspective of therapy animals.<sup>7,8</sup> However, this paper examines biopsychosocial theories that focus more on the mental health benefits associated with AAA.

One theory is the "social catalyst effect," where the presence of animals may indirectly stimulate positive social interactions and relationships with other humans.<sup>6,9</sup> Experiments by Guéguen and Ciccotti demonstrated that dogs may help facilitate social interactions as people tended to act more friendly to those who had dogs compared to those who did not ( $p < 0.005$ ).<sup>10</sup> In the case of the AAA sessions at McMaster, the therapy animals may help facilitate positive social interactions between students attending the event. A second theory takes a more biological approach, as Beetz *et al.* have tried to explain the psychophysiological benefits of AAA by outlining how human-animal interactions release oxytocin.<sup>9</sup> This hormone is able to reduce epinephrine and norepinephrine levels while also decreasing depressive mood.<sup>9</sup> A third theory claims that animals can act as a distraction from negative mental states.<sup>8</sup> Koller *et al.* found that distracting images, sounds, and activities can be used to reduce anxiety and other forms of emotional distress.<sup>11</sup> Several preliminary studies have also suggested that animals may be intrinsically effective at attracting and holding human attention.<sup>8</sup> Most notably, human infants have been found to have a significant preference for images of animals compared to images of motor vehicles, toys, or other objects.<sup>8,11</sup> While all three theories provide reasonable explanations to justify the benefits of AAA for mental health, they have yet to be validated in clinical research studies.

## JUSTIFICATIONS FOR AAA USE AT MCMASTER UNIVERSITY

As no definitive conclusions can currently be drawn about the effectiveness of

AAA, and no strongly substantiated theories support the mental health benefits of AAA, it may be difficult to justify utilizing these services at McMaster University. However, the AAA sessions offered by organizations such as PAWSS and Dogs at Mac have a high potential for benefit and are extremely cost-effective. A paper by Pritchard described a "Take a Paws" therapy dog event that was introduced at a University of Guelph library to relieve exam stress.<sup>12</sup> The library partnered with the St. John Ambulance Therapy Dog program which limited costs of executing the event to those of parking, bottled water, and a package of puppy pads.<sup>12</sup> Health and safety services were provided by unpaid student volunteers from the University of Guelph's First Response team.<sup>12</sup> The therapy animal sessions run by McMaster University closely mirror the events hosted at the University of Guelph. For example, partnerships with local organizations such as the Hamilton-Burlington Society for the Prevention of Cruelty to Animals (SPCA) allow for inexpensive access to therapy dogs. Furthermore, McMaster's Emergency First Response Team (EFRT) is comprised of volunteers who are on campus to ensure the health and safety of students during AAA sessions. Therefore, the cost-efficient nature of running events by PAWSS and Dogs at Mac would counteract the uncertainty concerning the benefits and effectiveness of AAA.

There is also evidence that students generally accept the use of animals to improve mental health in an academic setting. A study by Zents *et al.* evaluated the efficacy of therapy animals in improving mental well-being within a school setting.<sup>13</sup> The study collected data regarding the perceptions of 196 students and 105 faculty members to determine attitudes towards four therapy dogs.<sup>13</sup> It was found that students strongly supported the use of therapy animals in schools.<sup>13</sup> However, the majority of the study participants were in the sixth to eighth and eleventh to twelfth grades. This major limitation prevents study conclusions about student perceptions from being completely applicable to McMaster's demographic. A study by Schoenfeld-Tacher *et al.* used online surveys to collect data regarding perceptions of assistance animals held by individuals ranging from ages 18 to 45.<sup>14</sup> This demographic more closely simulates

the population at McMaster University. The study concluded that 56.3% of respondents agreed that therapy animals should be used if they had the potential to be helpful.<sup>14</sup> In the absence of research literature evaluating university student perceptions of AAA, the papers by Zents *et al.* and Schoenfeld-Tacher *et al.* provide insight into the positive perceptions of students and adults towards animal usage within therapeutic settings. It is not unreasonable to assume that these perceptions will be reflected in the university student population.

### ETHICAL CONSIDERATIONS

The final consideration for AAA use is whether McMaster University's current use of animals in AAA sessions can be ethically justified. A paper by Glenk reviewed current literature that followed therapy animals' welfare during animal-assisted interventions.<sup>15</sup> The review concluded that implementing animals into therapeutic environments was considered not particularly stressful for participating animals.<sup>15</sup> However, some isolated cases of teasing and mistreatment of visiting therapy animals were reported.<sup>15</sup> To avoid situations that would cause work-related strain and decrease animals' quality of life, guidelines for animal use in therapeutic settings should be followed.<sup>15</sup> Current recommendations include monitoring for signs of fatigue, giving animals ample opportunities to rest, limiting the duration of therapy sessions to 60 minutes, and limiting the number of visits to 3 sessions per week.<sup>15</sup> It appears that the services offered by PAWSS and Dogs at Mac follow these guidelines as AAA sessions tend to be less than 60 minutes and only run a handful of times during the school year. Therefore, the welfare of the animals used in AAA is being upheld.

### CONCLUSION

Several considerations help justify AAA use at McMaster University. AAA sessions are extremely cost-effective as they offer the potential for mental health benefits at a very low cost. Additionally, the positive university student perceptions toward animal-assisted interventions suggest a clear demand for AAA events. By following a schedule which upholds the welfare of animals used in AAA, the use of these interventions can be deemed ethical and therefore morally acceptable. Finally, no studies have identified detrimental effects resulting from positive human-animal interactions, suggesting that there is very little risk associated with using animals in a therapeutic setting. While the factors outlined above support the use of AAA at McMaster, the true efficacy of AAA has not yet been determined, as demonstrated by mixed findings in the existing literature. To attain a more definitive conclusion on whether McMaster's AAA sessions are justified, additional studies utilizing stronger research methodologies are needed. Until then, these wonderful animals will continue to ease the stress of McMaster students.

### REVIEWED BY: DR. MARK NORMAN

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