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Effects of Equine Assisted Activities and Therapies on Equine Stress and Welfare

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Equine assisted activities and therapies (EAATs) are becoming an increasingly popular approach for therapy, therapeutic recreation, and learning for a broad range of human clients and participants. In the EAAT field, most research has been human-centric, focusing primarily on benefits of EAATs for participants and clients. Relatively little research has been conducted on the effects of EAATs on equine stress and welfare for equines engaged in EAAT sessions.

The effects of equine assisted activities and therapies on equine stress and welfare were studied by way of exploring current EAAT professionals' experiences and views related to equine stress and welfare in equines engaged in EAATs. Data collection took place in the format of both surveys and interviews. 59 completed surveys and 8 interviews were used to evaluate industry professionals' opinions on current topics related to equine welfare in EAATs. Both the surveys and the interviews explored indviduals' credentials in the field, knowledge of equine behavior and opinion related to other EAAT-involved individuals' levels of equine behavior knowledge, personal experience related to equine welfare during sessions, experience measuring stress in equines in EAATs, and opinion related to EAAT regulations and welfare concerns.

Results of both areas of the study ranged extensively. Further research and analyzation is warranted in order for the EAAT field to take informed action to increase awareness and thus improve equine welfare for equines engaged in EAATs.

Keywords
equine, horse, animal, welfare, therapeutic, stress

Subject Categories
Other Animal Sciences

Effects of Equine Assisted Activities and Therapies on Equine Stress and Welfare

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Equine assisted activities and therapies (EAATs) are becoming an increasingly popular approach for therapy, therapeutic recreation, and learning for a broad range of human clients and participants. In the EAAT field, most research has been human-centric, focusing primarily on benefits of EAATs for participants and clients. Relatively little research has been conducted on the effects of EAATs on equine stress and welfare for equines engaged in EAAT sessions.

The effects of equine assisted activities and therapies on equine stress and welfare were studied by way of exploring current EAAT professionals' experiences and views related to equine stress and welfare in equines engaged in EAATs. Data collection took place in the format of both surveys and interviews. 59 completed surveys and 8 interviews were used to evaluate industry professionals' opinions on current topics related to equine welfare in EAATs. Both the surveys and the interviews explored credentials in the field, knowledge of equine behavior, beliefs regarding other EAAT-involved individuals' knowledge of equine behavior, personal experience related to equine welfare during sessions, experience measuring stress in equines in EAATs, and opinion related to EAAT regulations and welfare concerns.

Results of both areas of the study ranged extensively. Further research is warranted in order for the EAAT field to take informed action to increase awareness and thus improve equine welfare for equines engaged in EAATs.

Introduction

As a result of the increasing popularity of animal assisted activities and therapies (AAATs) as a whole, the presence of equine assisted activities and therapies (EAATs) is growing rapidly (Berg and LaFond 2015). The field of EAATs is comprised of therapeutic

riding, therapeutic driving, hippotherapy, interactive vaulting, equine facilitated psychotherapy, and equine assisted learning (PATH Intl. 2016).

In field-specific research, the primary focus has been to provide evidence for the positive effects of AAATs and EAATs on human participants and clients (Hatch 2007). Compared to the human-centric research in the AAAT field, far less attention has been paid to how AAATs affect the involved animal in any manner (Hatch 2007). As the field has evolved, an increasing level of focus has been placed on animal welfare and animal stress on animals involved in these settings. The growing awareness and prioritization of animal welfare has been illustrated by animal-focused field-specific research and the development of various organizations which serve to improve the animal assisted activities and therapies field through education, certification, and the creation of best practices.

Organizations which serve to educate and oversee equine assisted activities and therapies specifically include but certainly are not limited to (in no specific order) the Professional Association of Therapeutic Horsemanship International (PATH Intl.), the American Hippotherapy Association (AHA), the Equine Assisted Growth and Learning Association (EAGALA), the Certification Board for Equine Interaction Professionals (CBEIP), the Equine Experiential Education Association (E3A), the Canadian Therapeutic Riding Association (CanTRA), and Horse Spirit Connections Facilitated Equine Experiential Learning (FEEL), among others. Such organizations offer varying levels of support and regulation for sectors or the entirety of the EAAT industry.

At this time, there is no single organization which oversees all AAATs or EAATs. Due to the variety and lack of a single organizational structure, the field of AAATs, and, specifically, EAATs, is not consistent in terms of methods of practice, credentials and certifications required

for professional practice, standards for practice, or language related to practice. This lack of cohesiveness makes it difficult to study animal stress and welfare in animals involved in AAATs. At this time, there is no consensus regarding the level of stress which AAAT animals endure as a result of their involvement in sessions (Kaiser et al 2006).

Due to the branching of ideologies, methodologies, and resulting organizations over the development of the industry, there is a wide range of opinions held by professionals involved in the EAAT field regarding equine involvement in sessions. Experienced professionals have been exposed to differing conditions from recently certified or educated individuals in EAATs. Different organizations promote a variety of schools of thought. Like with the rest of the equine industry, there are infinite differing definitions of equine welfare and the role of the equine in a given discipline; furthermore, levels of prioritization and awareness vary on equine well-being in EAAT work. The diversity in the industry was explored in this work.

In this study, current certified equine assisted activities and therapies professionals were invited to participate in one of two formats of data collection. A comprehensive survey was open to all currently certified or in-training PATH Intl. Equine Specialists in Mental Health and Learning. The interview portion was conducted by invitation, and it was targeted at experienced Subject Matter Experts in the field of equine stress and welfare in EAATs. The purpose of this study was to explore current EAAT professionals' experiences and views related to equine stress and welfare in equines engaged in EAATs.

Methods

This study was approved by the University of New Hampshire Institutional Research Board, and the University of New Hampshire is the legal owner of the collected data.

Survey

The purpose of the survey was to gather qualitative, current data from equine assisted activities and therapies professionals about the welfare of equines involved in equine assisted activities and therapies.

The survey portion of the research was conducted on the Qualtrics Management Platform under the license of the University of New Hampshire. The estimated survey duration was eight minutes, and most survey responses were completed in ten minutes or less. All figures and accompanying tables were created using the Qualtrics Management Platform.

The survey began with an overview, a validation consent question (Q2), and a qualification validation question regarding status as either a certified PATH Intl. Equine Specialist in Mental Health and Learning (ESMHL) or an ESMHL in-training (Q4). An ESMHL In-Training was defined as an individual who had completed the ESMHL workshop through PATH Intl. and had started on the portfolio component of their certification. Following the validation questions, the survey consisted of the following sections: "Demographics," "Knowledge of Equine Behavior," "Personal Experiences," "Equine Well-Being in EAAT Sessions," "Measuring Stress in Equines," "EAAT Regulations and Welfare Concerns," and "Optional Additional Input." Beyond the two forced response qualification questions (consent and Equine Specialist certification), all questions were optional. The survey question structure included single-answer multiple choice "yes/no" questions, single-answer multiple choice questions regarding ranges of time, multiple-answer select box questions, single-answer multiple choice questions regarding frequencies ("always" to "never"), single-answer multiple choice questions regarding opinions "extremely" to "not at all," etc.), and an end open-response textbox question allowing for additional comments. In this document, all questions will be referred to by

question number in the survey in the following format: "Q#," with the "#" indicating the question number.

The survey was open for anonymous responses from February 12, 2017, until March 14, 2017. The survey was shared primarily through social media. In accordance with Institutional Research Board guidelines, individuals were not contacted for an invitation to complete the survey portion of the research.

The projected goal for this survey was 50 participants. Four surveys were omitted due to a lack of completion or due to invalid credentials as currently certified or in-training Equine Specialists in Mental Health in Learning. The final completed survey count consisted of 59 participants. According to the most recent Fact Sheet released by PATH Intl., which was released in 2015, there were 612 certified Equine Specialists in Mental Health and Learning (PATH Intl. 2015). Though this number has undoubtedly grown since the last release of statistics, according to the most recent cited numbers, the survey completion rate represents almost 10% of the eligible population (9.64%).

Interviews

Ten individuals, out of a list of individuals deemed as Subject Matter Experts, volunteered to participate in the interview portion of data collection. Interview subjects were instructed to refrain from participating in the survey portion, and individuals which participated in the survey portion were not eligible to participate in the interview process. Nine interviews were conducted, as one individual was unable to participate in the interview process after signing an informed consent. Eight interviews were used in final data analysis; one interview was omitted due to a lack of minimal credentials required to be identified as a Subject Matter Expert.

All eight final interviewees possessed at least two or more of the following credentials: current Professional Association of Therapeutic Horsemanship certification; current faculty or volunteer status directly with PATH Intl.; involvement as a founding member or board member of the Equine Facilitated Mental Health Association; current and/or past involvement in professional or academic research directly related to equine welfare in equine assisted activities and therapies; additional credentials in animal assisted activities and therapies from organizations including but not limited to the Certification Board for Equine Interaction Professionals, the Certified Horsemanship Association, and the Equine Assisted Growth and Learning Association. Interview subjects also possessed noteworthy credentials including but not limited to: Bachelor of Science degrees in Animal Science, Equine Studies, or a closely related field; professional licenses in mental health; past or present Program Director status at an equine assisted activities and therapies center; university faculty lecturer/researcher credentials at a program with studies in EAATs; and publications related to EAATs.

Interviews were conducted over telephone calls or in-person. All interviews were audiorecorded and transcribed. Interviews were more organically structured than the format of the survey. Interviewees were informed that the survey was intended to be open-ended to allow for the individual to provide as little or as much detail as desired. Interviews lasted between approximately 20 minutes and approximately 90 minutes.

Results

Results are primarily focused on survey data due to the unexpected complexity and extensive nature of the survey responses. This focus is in consideration of the expected depth and scope of undergraduate thesis work. Interview results will be analyzed in more depth in future studies. This work does analyze data from every individual question included in the survey on a

question-by-question basis. Further depth of survey analyzation will also be conducted in future studies.

Question numbers not included below were subsection headers, text instructions, or other format structures. “Q” indicates “question,” and the following number indicates the corresponding question number from the survey. All tables and figures are organized in numerical order in correspondence with the given question number. Figures and tables are cited as follows: (Q#F) indicates the question has an attached figure, (Q#T) indicates the question has an attached table, and (Q#FT) indicates the question has an attached figure and corresponding table. If there is no mention of a question figure/table, there is intentionally no included figure and/or table for the question.

Demographics

The “Demographics” section of the survey, which was presented immediately after the two qualifying questions, asked various background questions.

Q6 stated, “What year did you obtain your Equine Specialist in Mental Health and Learning certification? (If unknown, please make an educated guess or write unknown) (if in progress, please write “in-progress”). Responses of currently certified Equine Specialists ranged from 2004-2017. There were 4 individuals who reported themselves as ESMHLs In-Training. One respondent reported “unknown.” It is unknown when the official Equine Specialist in Mental Health and Learning certification was started.

Q7 asked, “How many years have you been involved in the EAAT field in any capacity?” Response categories included “less than 1 year – 2 years; 3-5 years; 6-10 years; 11-15 years; 16-20 years; more than 20 years.” Out of 59 responses, 5 individuals reported less than 1 year – 2

years; 13 individuals reported 3-5 years; 13 individuals reported 6-10 years; 14 individuals reported 11-15 years; 5 individuals reported 16-20 years; 9 individuals reported more than 20 years of involvement in the field (Q7FT).

Q8 stated, "Please select your EAAT-related professional certifications/licenses." This question was formatted as a multi-selection box and included an "other" box in which individuals were able to type additional certifications or licenses which were not included in the list. 58 individuals responded to this question, so it is assumed that the one individual who did not respond is an ESMHL-In Training candidate who has not yet obtained the certification and who has no other listed credentials. Out of 58 responses, 46 reported PATH Intl. Therapeutic Riding Instructor certifications (Registered, Advanced, and Master Instructor statuses were grouped for the purpose of this survey), 2 individuals reported having PATH Intl. Interactive Vaulting Instructor certifications, 4 individuals reported credentials as mental health professionals, 1 individual reported a license as a physical therapist/occupational therapist/speech and language pathologist (these licenses were grouped for the purpose of the research), 1 individual reported status as an American Hippotherapy Association HPCS/AHCB Certified Therapist/Member Therapist, 12 individuals reported credentials as educators, and 14 individuals reported "other" credentials. The "other" input credentials were as following: "College Professor of Equine Science (1); EAGALA Equine Specialist (3); Certified Equine Interaction Professional in Education (1); PATH Intl. Mentor (4); Instructor Certified Equine Services for VSM (1); Reiki Master (1); natural horsemanship clinician (1); art teacher (1); CanTRA Therapeutic Riding Instructor (1); Horse Spirit Connections Facilitated Equine Experiential Learning Facilitator (1); Equine Experiential Education Association Certified Corporate Trainer (1)."

Q9 stated, “The following describes the nature of the EAAT sessions which I conduct and with which I have experience.” Out of 59 responses, 3 individuals selected “always unmounted,” 13 individuals selected “primarily unmounted,” 32 individuals selected “equally unmounted and mounted,” and 11 individuals selected “primarily mounted.” No respondents chose “always mounted” (Q9FT).

Knowledge of Equine Behavior

The section titled “Knowledge of Equine Behavior” included questions 11-14. This section explored opinions on both the individual participant’s knowledge and the knowledge of other facilitators, other professionals in the field, and knowledge of participants/clients.

Q11 read, “As an Equine Specialist, how comfortable do you feel working in a session with an OT/PT/SLP, mental health professional, educator, etc. present who is not versed in equines?” All 59 participants responded to this question. Out of the 59 responses, 31 stated they were extremely comfortable, 11 stated they were somewhat comfortable, 6 stated they were neither comfortable nor uncomfortable, 10 stated they were somewhat uncomfortable, and 1 stated they were extremely uncomfortable (Q11FT).

Q12 stated, “I feel that continuing my own education in equine behavior and equine welfare is:” included the following choices: “extremely important; very important; moderately important; slightly important; not at all important.” Out of 59 responses, 47 individuals responded with “extremely important,” 9 individuals responded “very important,” and 3 individuals responded with “moderately important.” No individuals chose “slightly important” or “not at all important” (Q12T).

Q13 stated, “I feel that informing participants/clients about equine behavior and welfare prior to working with an equine is:” “extremely important; very important; moderately important; slightly important; not at all important.” Out of 59 responses, 37 stated “extremely important;” 13 stated “very important;” 7 stated “moderately important;” 2 stated “slightly important.” No participants selected “not at all important” (Q13FT).

Q14 states, “All professionals practicing in the field of EAAT are knowledgeable enough about equines to ensure safety and well-being of the equines.” Out of 59 responses, 5 stated “strongly agree;” 15 stated “somewhat agree;” 6 stated “neither agree nor disagree,” 23 stated “somewhat disagree,” and 10 stated “strongly disagree” (Q14FT).

Personal Experience

Q16 asked, “Have you ever chosen to remove an equine from a session in progress due to concerns about the safety and/or well-being of the equine?” Out of 59 responses, 49 individuals reported they have removed an equine during a session, and 10 reported they have never removed an equine from a session due to welfare concerns.

Q17 stated, “I have experienced (conducted or observed) a session in which an equine engaged in EAATs has been used as a tool or a prop.” Possible choices included “strongly agree; somewhat agree; neither agree nor disagree; somewhat disagree; strongly disagree.” Out of 59 responses, 13 answered “strongly agree,” 22 answered “somewhat agree,” 11 answered “neither agree nor disagree,” 7 answered “somewhat disagree,” and 6 answered “strongly disagree” (Q17FT).

Q18 stated, “I have experienced a participant trying to manipulate, scare, or tease an equine in an EAAT session which I've facilitated or observed.” Out of 59 responses, 7 individuals responded “strongly agree,” 24 responded “somewhat agree,” 8 responded “neither agree nor disagree,” 7 responded “somewhat disagree,” and 13 responded “strongly disagree” (Q18FT).

Q19, which was a multi-select box, stated, “I have observed/experienced the following equine behaviors in an EAAT session,” and the selections included the following behaviors: tossing/raising the head; nipping/biting; head shaking; kicking out; pinning ears back; bucking; rearing. 55 of 59 respondents clicked at least one box for this question, so 4 respondents did not report any observation/experience with the behaviors in EAAT sessions. 51 respondents reported tossing/raising the head, 40 reported nipping biting, 34 reported head shaking, 16 reported kicking out, 48 reported pinning ears back, 14 reported bucking, and 8 reported rearing (Q19FT).

Q20 was a multi-selection box question which asked participants to respond to the following statement: “I have been involved in a session in which I have been concerned about the following factors related to the well-being of an equine.” Choices included “lack of rest; lack of recovery time; lack of opportunity for recreation (ie. turnout, etc.); lack of structure in a daily schedule; unintentional maltreatment by another professional; unintentional maltreatment by a participant/client.” 47 respondents checked at least one box, so 12 respondents have assumingly not been involved with a session in which they were concerned about any of the listed factors. Out of the 47 respondents, 5 reported concerns about lack of rest, 15 reported concerns about lack of recovery time, 22 reported concerns about lack of opportunity for recreation (ie. turnout, etc.), 9 reported concerns about lack of structure in a daily schedule, 16 reported concerns with

unintentional maltreatment by another professional, and 23 reported concerns with unintentional maltreatment by a participant/client (Q20F).

In addition to survey responses, two individuals expressed in the optional end comment box that they have never personally experienced equine stress in an EAAT session.

Equine Well-Being in Sessions

Q22 stated, "I think equines enjoy being involved in EAATs," and answer choices included "always; most of the time; about half of the time; sometimes; never." Out of 59 responses, 1 individual stated "always," 36 respondents stated "most of the time," 13 respondents stated "about half f the time," 9 stated "sometimes," and there were not any individuals who stated "never" (Q22FT).

Q23 questioned, "How often do you think that EAAT sessions are mutually beneficial for the equine(s)?" Possible answer selections included "always; most of the time; about half the time; sometimes; never." Out of 59 responses, 28 responded "most of the time," 14 responded "about half the time," and 17 responded "sometimes." No respondents chose "always" or "never" (Q23FT).

Q24 stated, "In some situations, EAATs may be detrimental to the well-being of an equine." Out of 58 responses, 18 individuals strongly agreed, 28 individuals somewhat agreed, 7 individuals neither agreed nor disagreed, and 5 individuals somewhat disagreed. No individuals strongly disagreed (Q24FT).

Measuring Stress in Equines

The survey included one portion regarding the use of equine heart rate monitors to monitor equine stress during EAAT sessions.

Q27 stated, "I have used an equine heart rate monitor or other device to measure the stress level of a horse during an EAAT session." Out of 59 respondents, 6 reported using a heart rate monitor, and 53 reported never using a heart rate monitor.

Q28 stated, "I would consider using an equine heart rate monitor or other device to measure the stress level of a horse during an EAAT session." Out of 59 respondents, 37 reported 'yes,' 18 responded 'maybe,' and 4 responded 'no' (Q28T).

Equine Assisted Activities and Therapies Regulations and Welfare Concerns

Questions 30-33 addressed guidelines, standards, rules, regulations, codes of ethics, and terminology in the field at present.

Q30 stated, "The amount of guidelines and regulations in the EAAT industry has increased over time." Out of 59 responses, 16 strongly agreed, 31 somewhat agreed, 9 neither agreed nor disagreed, and 3 somewhat disagreed. No respondents chose "strongly disagree" (Q30FT).

Q31 stated, "There are currently enough rules, guidelines, and regulations to ensure the well-being of the equine involved an in EAAT session." Out of 59 responses, 2 strongly agreed, 26 somewhat agreed, 15 neither agreed nor disagreed, 13 somewhat disagreed, and 3 strongly disagreed (Q31FT).

Q32 stated, "Standards, training, terminology, and codes of ethics related to equine welfare in EAATs are currently universal across all organizations and areas in the field." Out of

59 responses, 1 strongly agreed, 6 somewhat agreed, 12 neither agreed nor disagreed, 20 somewhat disagreed, and 20 strongly disagreed (Q32FT).

Q33 stated, "Concerns related to equine welfare in EAATs are being appropriately considered and addressed." Out of 59 responses, 3 individuals strongly agreed, 24 somewhat agreed, 16 neither agreed nor disagreed, 12 somewhat disagreed, and 4 strongly disagreed (Q33FT).

Optional Additional Input

Out of 59 complete survey responses, 26 respondents chose to write additional comments at the end of the survey. Common reoccurring themes in the comment section not addressed in the discussion portion of this document addressed the importance of research in the field, criticism related to current certifications through PATH Intl. and other EAAT organizations, reflection that experience over time has led to increased personal awareness and advocacy of equine welfare in EAAT sessions, personal anecdotes regarding increased awareness of equine welfare in sessions, and reflection that EAAT professionals often prioritize the participant and "often times neglect the welfare of the horses."

There were three end comments which did not fit into a theme or category, but are worthy of mention: "I think that there is a broad misconception that I *[sic]* mounted activities aren't as stressful to the horse."

"Activities that focus on listening to the horse and responding accordingly and Focusing on person ability to insure *[sic]* safety and comfort of the horse work best for the equines ex: EAL/EFP as the intent is to listen to the horse."

"My experience is that staff too quickly attribute reactions in EAAT equines as behavioral, burnout etc. when for the most part it can be attributed to injury, pain, illness and specific actions by riders and even more so horse leaders/side walkers or environment."

Discussion

Demographics

Q7 addressed number of years of experience in the EAAT industry, and the answer range in this question was spread – the survey successfully captured a range of years of experience (Q7FT). Q8 addressed additional professional licenses and certifications relevant to work in the EAAT industry, and, as listed in the results section, there were a number of non-PATH Intl. affiliated EAAT-specific certifications reported, including certifications in EAGALA, CEIP, CanTRA, FEEL, and E3A. This research was not meant to be PATH Intl.-centric and it was not affiliated with PATH Intl., which was reiterated particularly in the interviews, but the listed credentials prove the data is representative of individuals with a more diverse background and more diverse credentials than the required PATH Intl. certification to be able to participate in the survey.

One survey response stated, "While the survey asks for ESMHL, it also asks about EAAT overall, so I answered based on all of my EAAT experience, not just based on my experience *[as]* an ESMHL." The survey was intended to be comprehensive so that respondents included all EAAT experience, but it may have been interpreted as being more focused on unmounted activities and therapies than mounted activities and therapies. A lack of clarity in the wording of the survey may have caused this potential imbalance. That said, the response to survey Q9, which states, "The following describes the nature of the EAAT sessions which I conduct and with which I have experience: always unmounted; primarily unmounted; equally unmounted and

mounted; primarily mounted; always mounted," suggests the survey data is representative of both unmounted and mounted EAAT settings (Q9FT).

Knowledge of Equine Behavior

In Q11, which stated, "As an Equine Specialist, how comfortable do you feel working in a session with an OT/PT/SLP, mental health professional, educator, etc. present who is not versed in equines?", the responses were relatively well-spread (Q11FT). One individual stated they were extremely uncomfortable in this situation. The individual who stated they were extremely uncomfortable further wrote in the optional end commentary, "I would not allow a 'professional' (OT/PT/SLP, MH, Educator) *[to]* work with our therapy horses if they had limited knowledge of equines and their behavior at my center. The question(s) relating to this were answered accordingly." This concern regarding non-equine professionals involved in EAL/EFP sessions was a common theme seen throughout the optional additional comment section.

As mentioned in the discussion section, in Q13, which states, "I feel that informing participants/clients about equine behavior and welfare prior to working with an equine is:" with potential choices "extremely important; very important; moderately important; slightly important; not at all important," the vast majority of individuals (37 individuals, or 62.71%) responded that this pre-session information was "extremely important," which is undoubtedly noteworthy (Q13FT).

Q14, which stated, "All professionals practicing in the field of EAAT are knowledgeable enough about equines to ensure safety and well-being of the equines," resulted in a variety of answers (Q14FT). Concerns and questions regarding the level of knowledge of the average/entry

level certified professional in the EAAT field were commonly seen in the optional end commentary section of the survey.

Personal Experiences and Equine Well-Being in EAAT Sessions: Language and Semantics

Q17 states, "I have experienced (conducted or observed) a session in which an equine engaged in EAATs has been used as a tool or a prop." Q18 states, "I have experienced a participant trying to manipulate, scare, or tease an equine in an EAAT session which I've facilitated or observed." The specific language in both of these questions were extracted from the Beliefs section of the Equine Facilitated Mental Health Association founding documents, in which the passage reads, "EFMHA believes that equines are NOT to be manipulated, scared or teased or used as a tool or props" (EFMHA 1996).

Q19, which was a multi-select box, stated, "I have observed/experienced the following equine behaviors in an EAAT session," and the selections included the following behaviors: tossing/raising the head; nipping/biting; head shaking; kicking out; pinning ears back; bucking; rearing. These behaviors were chosen from ethograms created and used by multiple major research publications regarding equine stress in EAATs (Kaiser et al 2006; Berg and LaFond 2015; Suthers-McCabe and Albano 2004). One individual expressed the following related to their response to Q19: "I would like to qualify one of my answers. I marked that I have seen bucking, ears pinned, etc. during sessions. Most of the time it is directed at other horses during a high energy portion of a session. As the clients calm down the behavior usually deescalates to a minimal level."

Questions 22-24, which were under the section "Equine Well-Being in Sessions," also focused primarily on semantics and language related to equine involvement in EAAT sessions.

In relation to Q22, which stated, "I think equines enjoy being involved in EAATs," one individual reflected, "Use of the word 'enjoy' related to how horses react to the work is misleading and smacks of anthropomorphism. Do they appear to tolerate the work with minimal or no signs of stress might be a better way to think of it." The word "enjoy" was used intentionally, as there is a wide spectrum regarding language in the EAAT industry, and use the word "enjoy" is of major debate in the field, mainly for reasons identified by the individual quoted above. *The Handbook on Animal Assisted Therapy* states, "People working within the animal assisted activities/animal assisted therapies field may have a personal and biased perception that animals enjoy the interactions as much as the human participants…However, the subjective assessment of owners is anthropomorphism, and objective criteria are necessary to understand the effects of human animal interactions on animals" (Ng et al 2015). This question was also asked in interviews in an open-ended format, and the answers and opinions on whether equines "enjoy" EAATs ranged widely.

Q23 asked, "How often do you think that EAAT sessions are mutually beneficial for the equine(s)?" The term "mutually beneficial" is derived from the Beliefs section of one of the founding documents from the Equine Facilitated Mental Health Association. The term is used as following: "Equines function as partners in EFMH sessions and as such all sessions must be conducted to be mutually beneficial for all participants (includes equine)" (EFMHA 1996).

Q24 states, "In some situations, EAATs may be detrimental to the well-being of an equine." The languge "may be detrimental to their well-being" was derived from language used in a study conducted by Hatch in 2007 titled, "A View From All Fours: A Look at an Animal-Assisted Activity Program from the Animals' Perspective." It is important to note that no individuals strongly disagreed with this statement (Q24FT).

Equine Assisted Activities and Therapies Regulations and Welfare Concerns

There is quite a range in opinion regarding the current regulation and standardization in the EAAT industry in relation to equine welfare, as illustrated in Q30-Q33 responses. Multiple end comments addressed personal concerns directly related to whether the field is considering and addressing equine welfare in EAATs. In the optional commentary section, one individual further expressed, "I believe in a stronger by laws ans *[sic]* or standards". Another individual stated, "I believe you can have as many standards in place, but they either are not followed or there are barns that say they are therapeutic and that they are qualified, but are not."

Q30, which stated, "The amount of guidelines and regulations in the EAAT industry has increased over time," resulted in an array of responses, but no individual strongly disagreed, which is indicative of some degree of progress (Q30FT).

In the optional additional comment section, one individual stated, "Although I am gratified that steps are being taken to protect equines, we have a long way to go."

Measuring Stress in Equines Engaged in Equine Assisted Activities and Therapies

Q27 and Q28 both focused on the potential use of heart rate monitors to measure equine stress during EAAT sessions. Though the majority of participants were open to considering the use of a heart rate monitor during a session (out of 59 respondents, 37 reported 'yes,' 18 responded 'maybe,' and 4 responded 'no' (Q28T)), one participant commented about the reality of the potential use of heart rate monitors: "Heart rate monitors, would be awesome, but many programs function on small budgets." This is an unfortunate reality. As reflected in the literature review, although no studies were found which use heart rate to measure equine stress in EAATs,

heart rate has been proven as a valid quantitative measurement of the equine stress response, and heart rate is commonly, and often primarily, used to measure equine stress in non-EAAT studies (Stewart et al 2003). It is unknown why heart rate has not been used in published research to study EAAT equine stress. No measurement of stress is perfect, as discussed in the literature review, but this could be a potential way for programs to become more aware of equine well-being during sessions, assuming they could obtain the technology to do so.

There are many difficulties involved in studying equine stress and welfare in equines engaged in equine assisted activities and therapies. A comprehensive discussion regarding issues related to research in this field is present in the literature review, but multiple themes resurfaced specifically in the data. Two survey responses broadly summarized this phenomenon: "There is an extremely wide and diverse range of programs and practices in this field – the good, the bad and the ugly all exist." Another stated, "I don't think it's possible to determine if a horse is happily participating in an EAAT session all or part of the time. There are far too many variables to take into consideration. What a horse finds comfortable in one session may be different in another, similar session."

Interviewees and survey participants recognized that there are an unlimited number of factors which can affect an equine's overall welfare, and that the equine's overall welfare affects their stress level in EAAT work. Categories of factors which exist outside of the EAAT session, including but not limited to housing conditions, turnout time, consistency and daily routine, nutrition, veterinary care, and holistic care all affect an equine's quality of life. Horse husbandry practices vary so widely that it is extremely difficult to conduct or compare studies on equine stress.

Q20 was a multi-selection statement which focused on some of the potential outside factors which may affect a horse's stress in an EAAT session: "I have been involved in a session in which I have been concerned about the following factors related to the well-being of an equine," and potential choices, which were representative of a list of primary concerns identified in Burrows et al. 2008 related to welfare of service dogs working with children with autism, included "lack of rest; lack of recovery time; lack of opportunity for recreation (ie. turnout, etc.); lack of structure in a daily schedule; unintentional maltreatment by another professional; unintentional maltreatment by a participant/client."

Furthermore, it must be kept in mind that equines are living creatures, and, like humans, they must be seen as individuals with individualized responses to situations. Studying living organisms, and particularly highly developed organisms, is difficult for this reason, even with ethograms in place.

As highlighted in the literature review, in addition to responses from professionals involved with this thesis research, there is an immense amount of proper research to be conducted on the subject of equine welfare and equine stress in equines involved in equine assisted activities and therapies. An excerpt from the optional additional comment section of a survey response states, "Scientific, evidence based studies and findings on equine behavior that are current, not 'training/behavior theory' based on opinion and 'horse-lore', is greatly needed in the world of EAAT."

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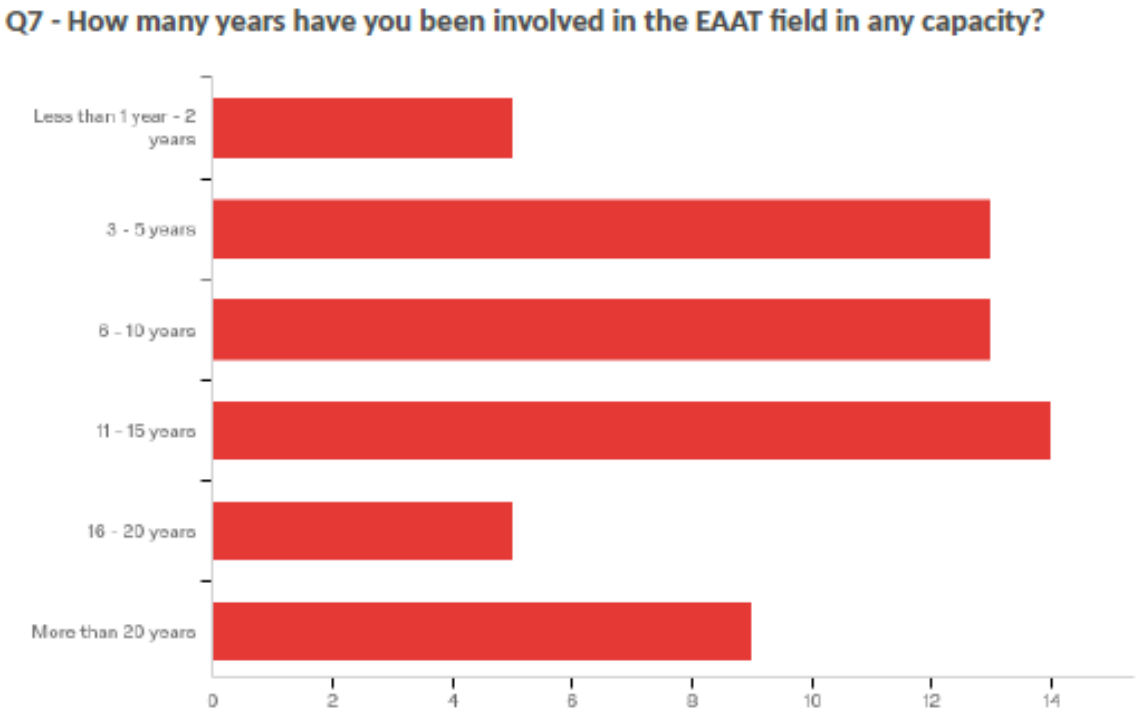
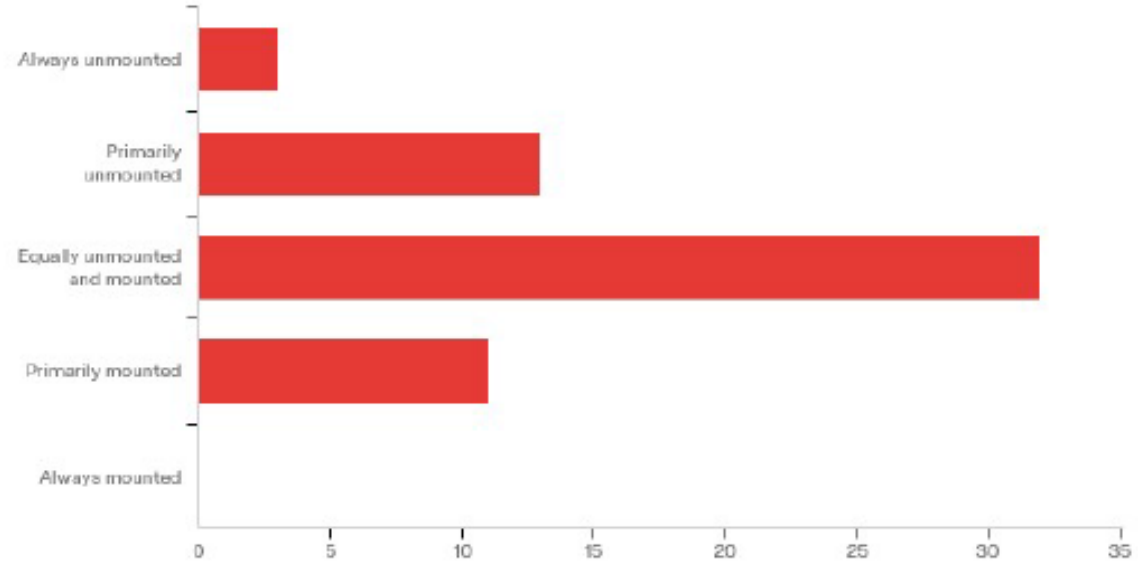
Tables, Figures, and Figures with Accompanying Tables



#	Answer	%	Count
1	Less than 1 year - 2 years	8.47%	5
2	3 - 5 years	22.03%	13
3	6 - 10 years	22.03%	13
4	11 - 15 years	23.73%	14
5	16 - 20 years	8.47%	5
6	More than 20 years	15.25%	9
	Total	100%	59

Q7FT

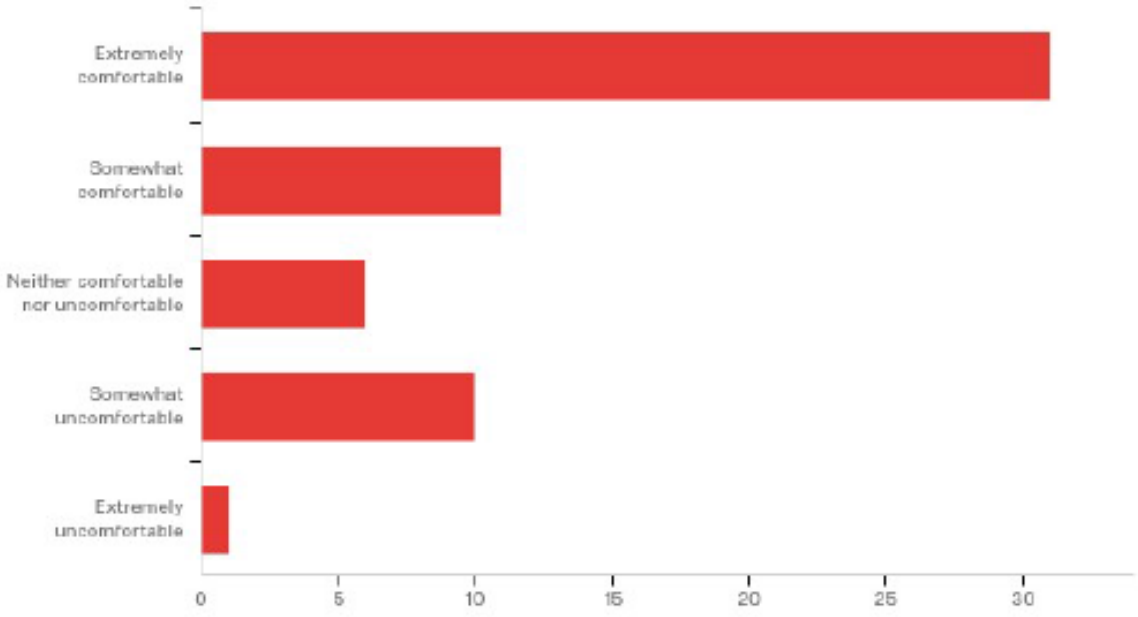
Q9 - The following describes the nature of the EAAT sessions which I conduct and with which I have experience:



#	Answer	%	Count
1	Always unmounted	5.08%	3
2	Primarily unmounted	22.03%	13
3	Equally unmounted and mounted	54.24%	32
4	Primarily mounted	18.64%	11
5	Always mounted	0.00%	0
	Total	100%	59

Q9FT

Q11 - As an Equine Specialist, how comfortable do you feel working in a session with an OT/PT/SLP, mental health professional, educator, etc. present who is not versed in equines?



#	Answer	%	Count
1	Extremely comfortable	52.54%	31
2	Somewhat comfortable	18.64%	11
3	Neither comfortable nor uncomfortable	10.17%	6
4	Somewhat uncomfortable	16.95%	10
5	Extremely uncomfortable	1.69%	1
	Total	100%	59

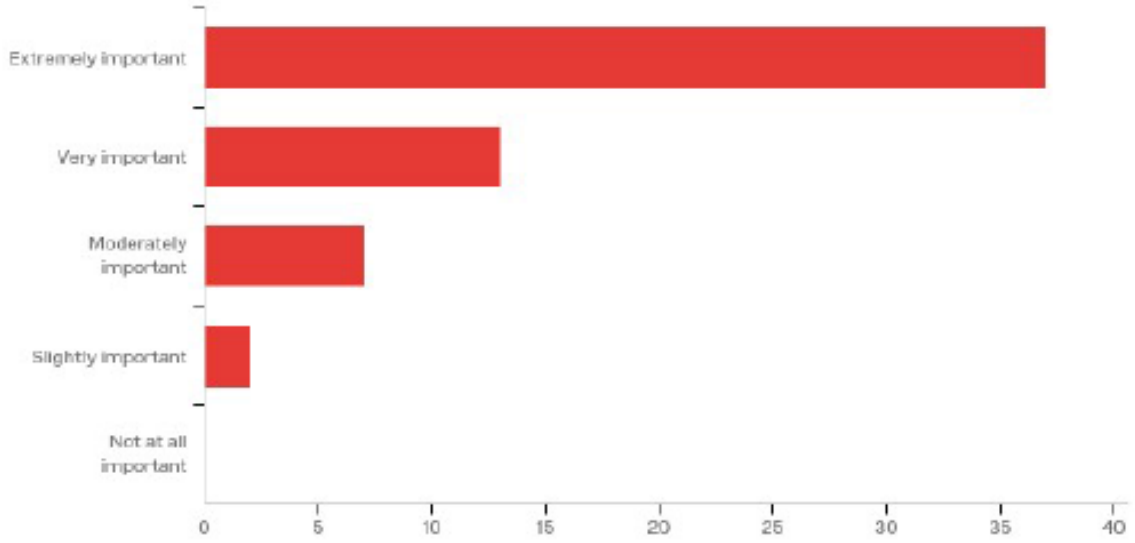
Q11FT

Q12 - “I feel that continuing my own education in equine behavior and equine welfare is:”

#	Field	Choice Count	
1	Extremely important	79.66%	47
2	Very important	15.25%	9
3	Moderately important	5.08%	3
4	Slightly important	0.00%	0
5	Not at all important	0.00%	0
			59

Q12T

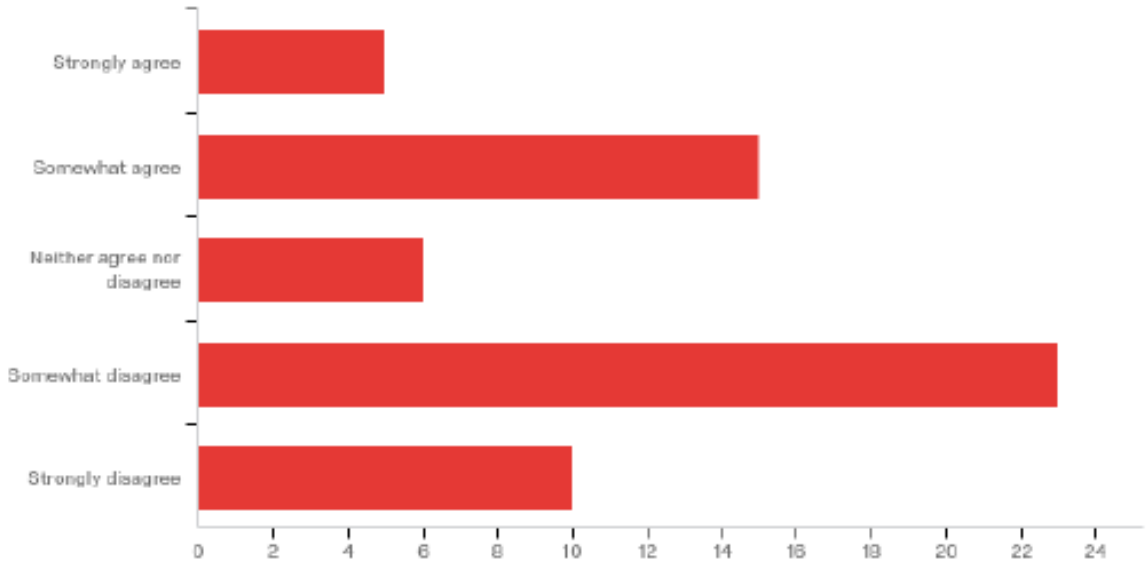
Q13 - I feel that informing participants/clients about equine behavior and welfare prior to working with an equine is:



#	Answer	%	Count
1	Extremely important	62.71%	37
2	Very important	22.03%	13
3	Moderately important	11.86%	7
4	Slightly important	3.39%	2
5	Not at all important	0.00%	0
	Total	100%	59

Q13FT

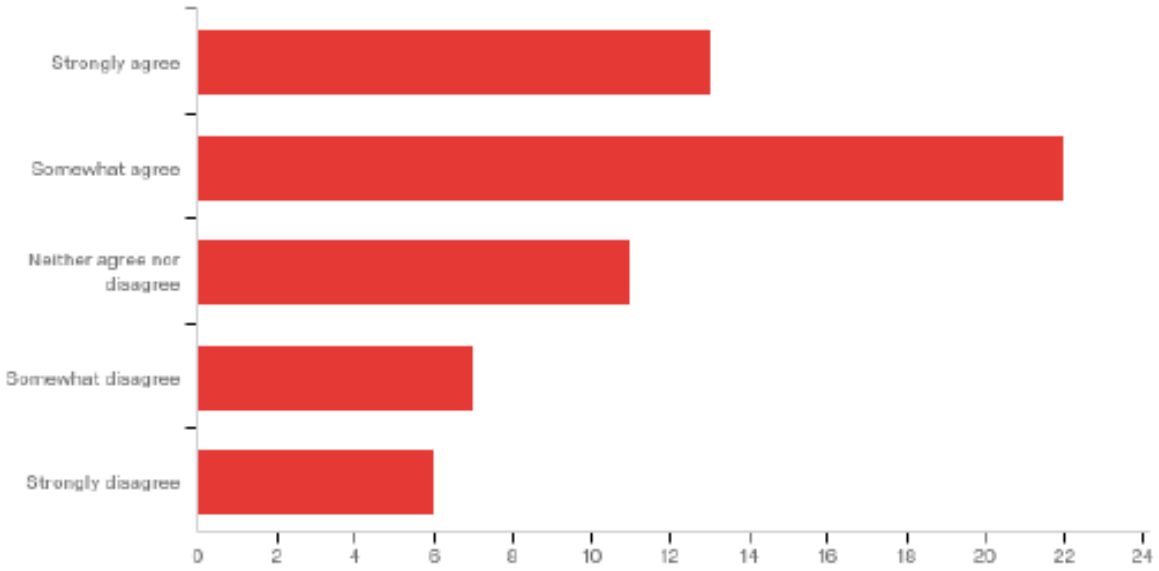
Q14 - All professionals practicing in the field of EAAT are knowledgeable enough about equines to ensure safety and well-being of the equines.



#	Answer	%	Count
1	Strongly agree	8.47%	5
2	Somewhat agree	25.42%	15
3	Neither agree nor disagree	10.17%	6
4	Somewhat disagree	38.98%	23
5	Strongly disagree	16.95%	10
	Total	100%	59

Q14FT

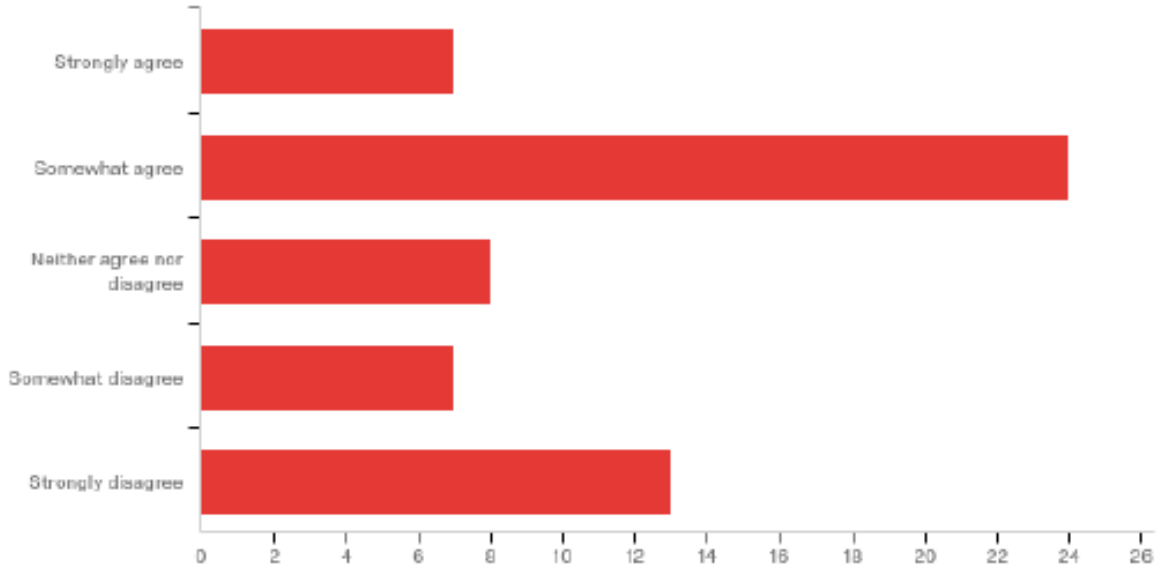
Q17 - I have experienced (conducted or observed) a session in which an equine engaged in EAATs has been used as a tool or a prop.



#	Answer	%	Count
1	Strongly agree	22.03%	13
2	Somewhat agree	37.29%	22
3	Neither agree nor disagree	18.64%	11
4	Somewhat disagree	11.86%	7
5	Strongly disagree	10.17%	6
	Total	100%	59

Q17FT

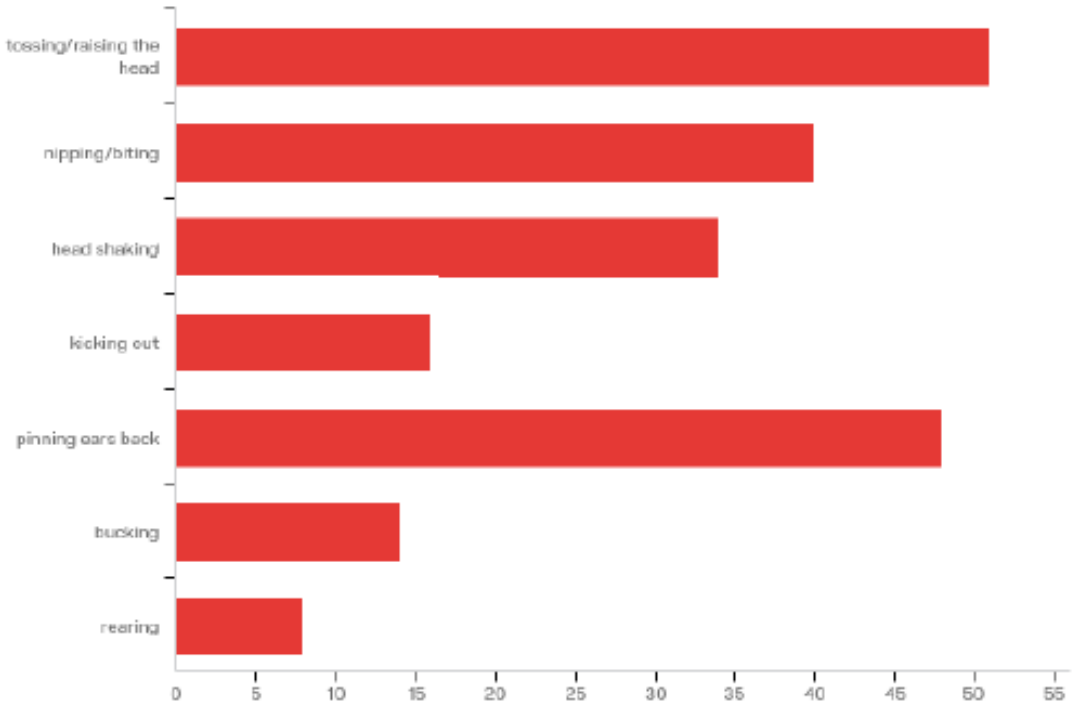
Q18 - I have experienced a participant trying to manipulate, scare, or tease an equine in an EAAT session which I've facilitated or observed.



#	Answer	%	Count
1	Strongly agree	11.86%	7
2	Somewhat agree	40.68%	24
3	Neither agree nor disagree	13.56%	8
4	Somewhat disagree	11.86%	7
5	Strongly disagree	22.03%	13
	Total	100%	59

Q18FT

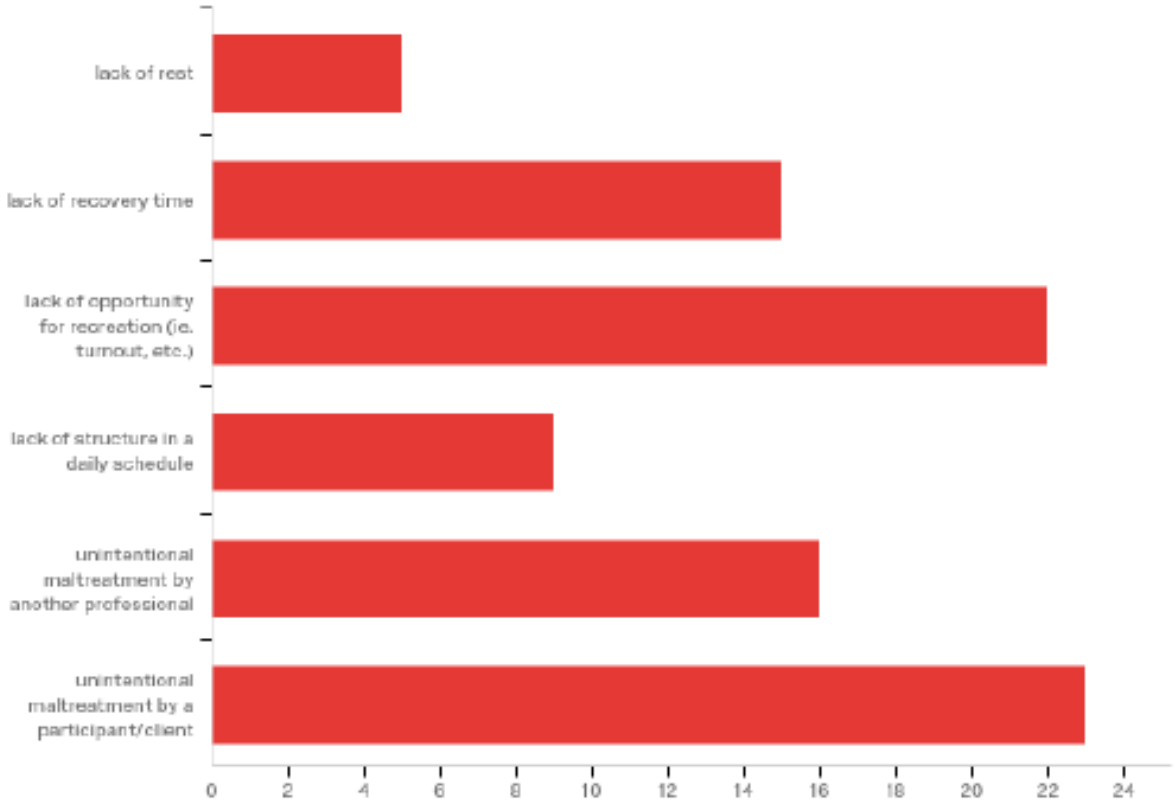
Q19 - I have observed/experienced the following equine behaviors in an EAAT session:



#	Answer	%	Count
1	tossing/raising the head	92.73%	51
2	nipping/biting	72.73%	40
3	head shaking	61.82%	34
4	kicking out	29.09%	16
5	pinning ears back	87.27%	48
6	bucking	25.45%	14
7	rearing	14.55%	8
	Total	100%	55

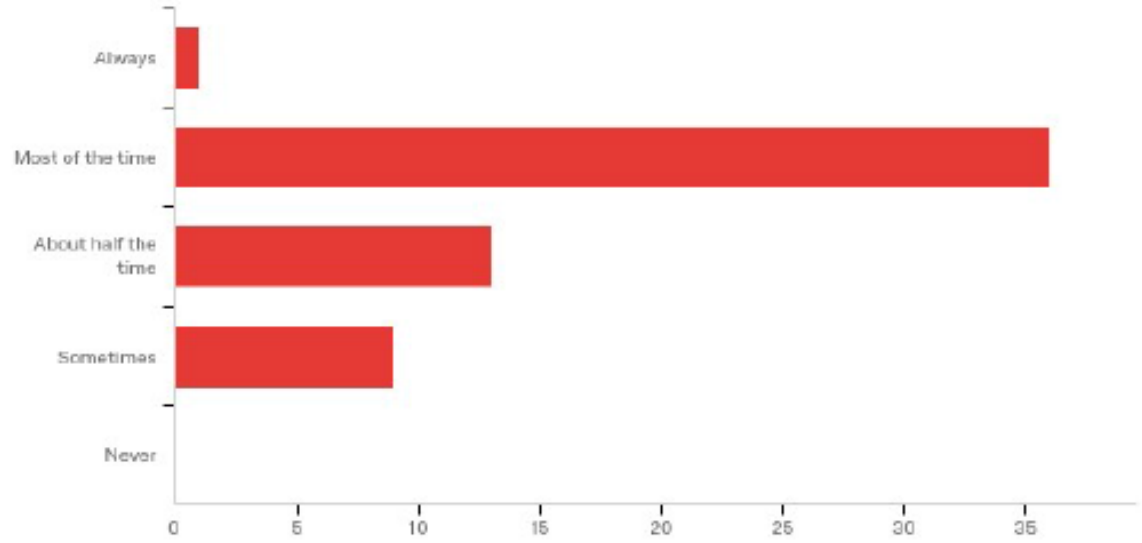
Q19FT

Q20 - I have been involved in a session in which I have been concerned about the following factors related to the well-being of an equine:



Q20F

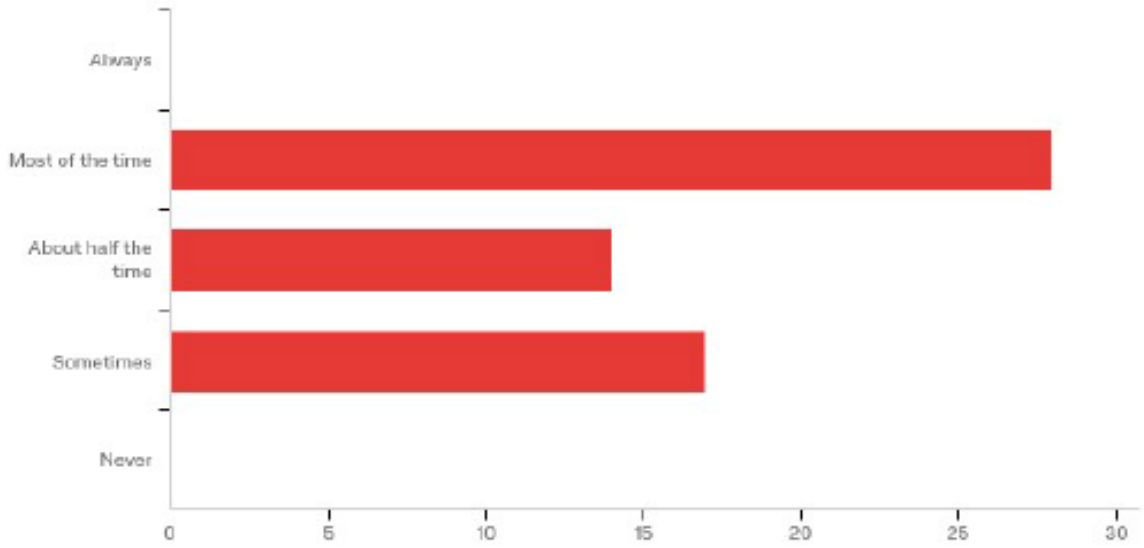
Q22 - I think equines enjoy being involved in EAATs.



#	Answer	%	Count
1	Always	1.69%	1
2	Most of the time	61.02%	36
3	About half the time	22.03%	13
4	Sometimes	15.25%	9
5	Never	0.00%	0
	Total	100%	59

Q22FT

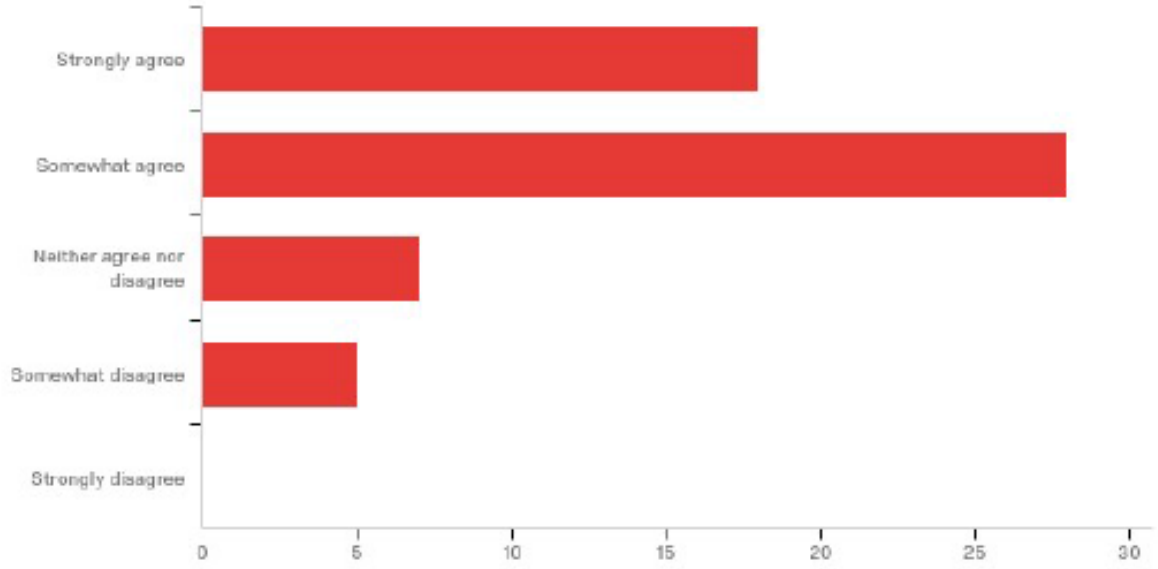
Q23 - How often do you think that EAAT sessions are mutually beneficial for the equine(s)?



#	Answer	%	Count
1	Always	0.00%	0
2	Most of the time	47.46%	28
3	About half the time	23.73%	14
4	Sometimes	28.81%	17
5	Never	0.00%	0
	Total	100%	59

Q23FT

Q24 - In some situations, EAATs may be detrimental to the well-being of an equine.



#	Answer	%	Count
1	Strongly agree	31.03%	18
2	Somewhat agree	48.28%	28
3	Neither agree nor disagree	12.07%	7
4	Somewhat disagree	8.62%	5
5	Strongly disagree	0.00%	0
	Total	100%	58

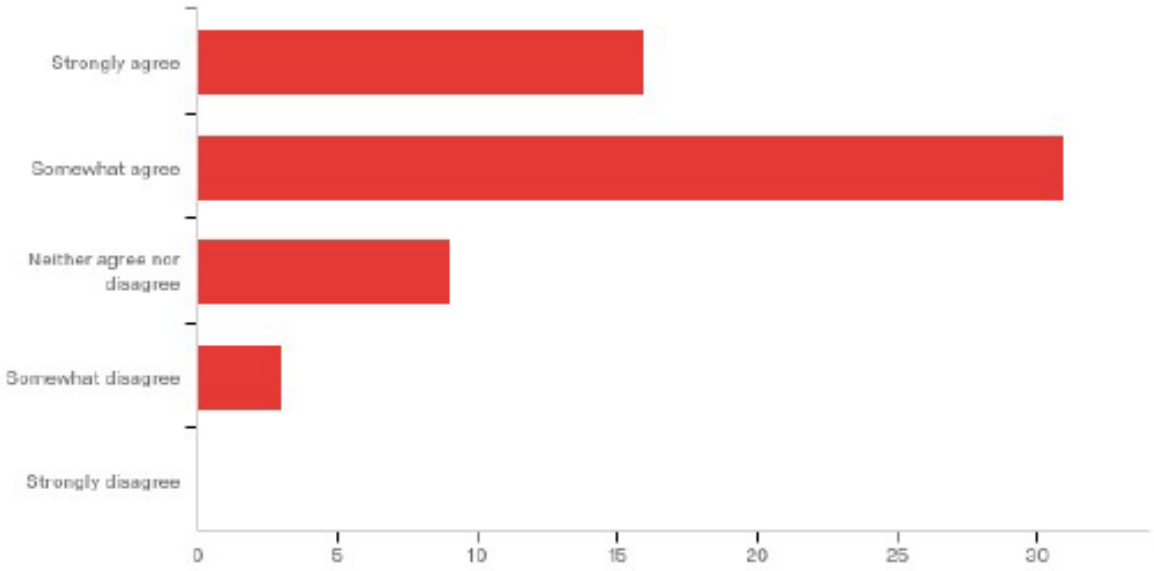
Q24FT

Q28 - I would consider using an equine heart rate monitor or other device to measure the stress level of a horse during an EAAT session.

#	Answer	%	Count
1	Yes	62.71%	37
2	Maybe	30.51%	18
3	No	6.78%	4
	Total	100%	59

Q28T

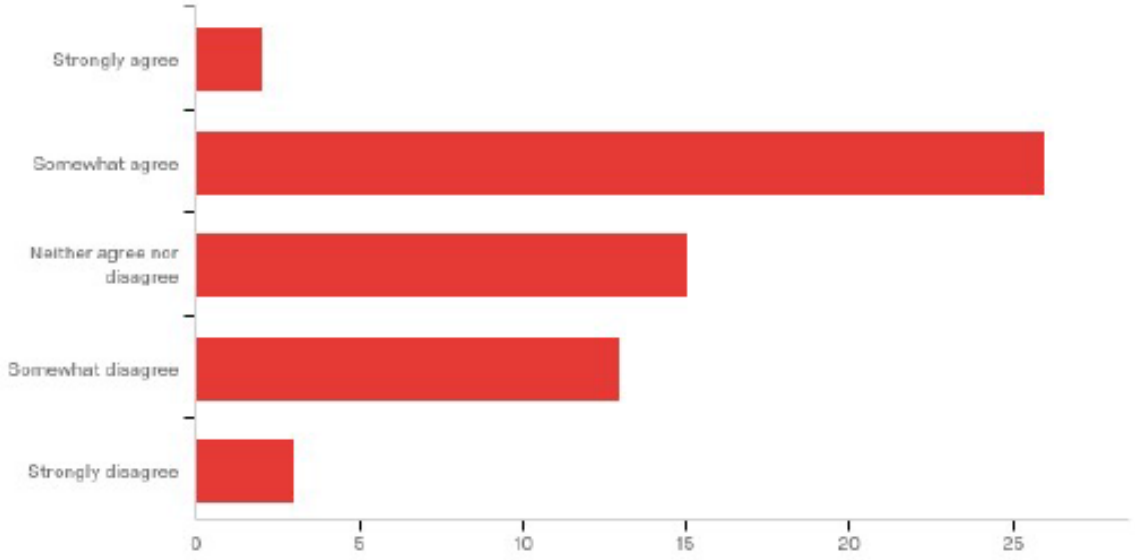
Q30 - The amount of guidelines and regulations in the EAAT industry has increased over time.



#	Answer	%	Count
1	Strongly agree	27.12%	16
2	Somewhat agree	52.54%	31
3	Neither agree nor disagree	15.25%	9
4	Somewhat disagree	5.08%	3
5	Strongly disagree	0.00%	0
	Total	100%	59

Q30FT

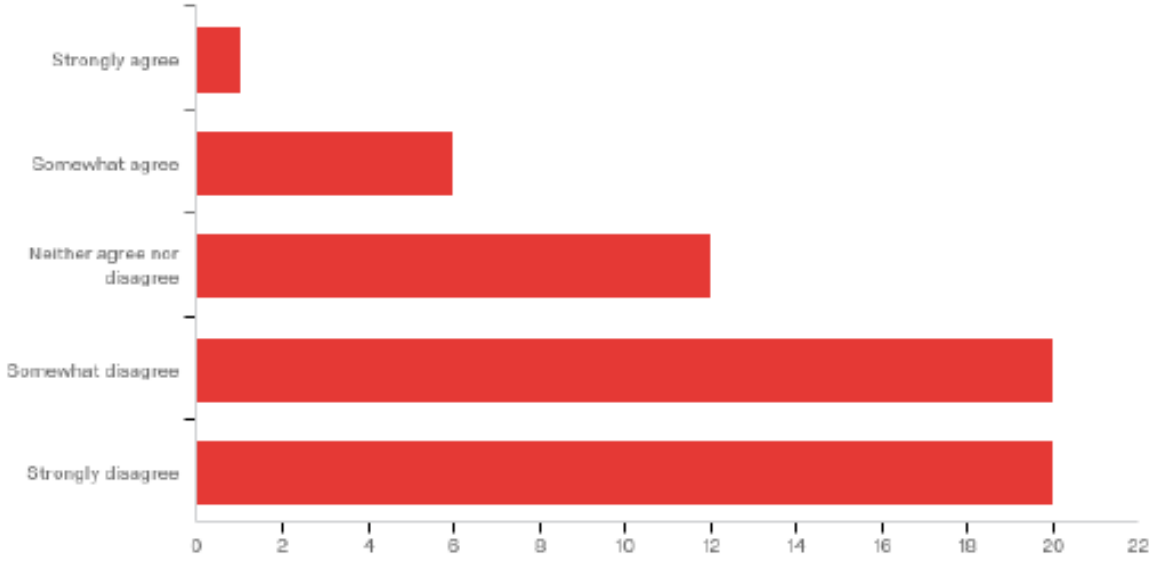
Q31 - There are currently enough rules, guidelines, and regulations to ensure the well-being of the equine involved an in EAAT session.



#	Answer	%	Count
1	Strongly agree	3.39%	2
2	Somewhat agree	44.07%	26
3	Neither agree nor disagree	25.42%	15
4	Somewhat disagree	22.03%	13
5	Strongly disagree	5.08%	3
	Total	100%	59

Q31FT

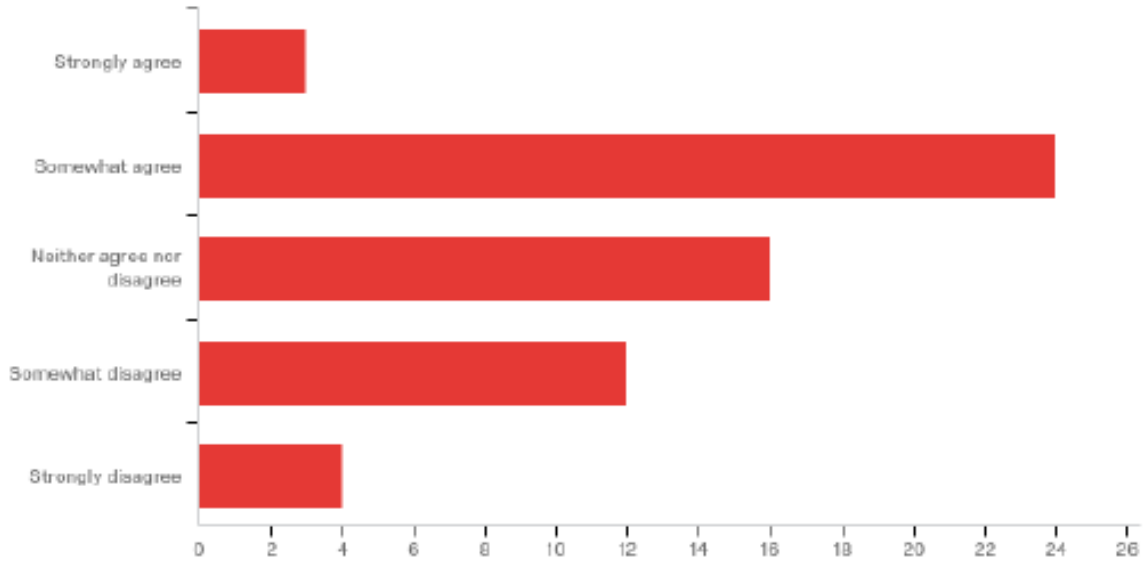
Q32 - Standards, training, terminology, and codes of ethics related to equine welfare in EAATs are currently universal across all organizations and areas in the field.



#	Answer	%	Count
1	Strongly agree	1.69%	1
2	Somewhat agree	10.17%	6
3	Neither agree nor disagree	20.34%	12
4	Somewhat disagree	33.90%	20
5	Strongly disagree	33.90%	20
	Total	100%	59

Q32FT

Q33 - Concerns related to equine welfare in EAATs are being appropriately considered and addressed.



#	Answer	%	Count
1	Strongly agree	5.08%	3
2	Somewhat agree	40.68%	24
3	Neither agree nor disagree	27.12%	16
4	Somewhat disagree	20.34%	12
5	Strongly disagree	6.78%	4
	Total	100%	59

Q33FT