

## **Psychotherapy Incorporating Horses to Address Anxiety in Women College Students: A Pilot Study**

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An annual 2019 survey of directors of college counseling centers reported that 60.7% of students seeking counseling present with the predominant concern of anxiety. Furthermore, counseling centers across the United States have seen a rise in the number of students requesting services in recent years, frequently resulting in wait lists for students to receive counseling. Group psychotherapy sessions may mitigate wait times; however due to student anxiety and negative stigma surrounding mental health treatment it can often be challenging to attract students to participate in groups compared to individual sessions. This pilot study aimed to investigate the efficacy of group psychotherapy incorporating equines for undergraduate women college students presenting with concerns of anxiety. Implementing the Equine Assisted Growth and Learning Association's model of psychotherapy, six women participants attended one 90-minute group session per week for 7 weeks on the campus of North Dakota State University. Students completed the Self Compassion Scale (SCS) and the Depression Anxiety Stress Scales (DASS) at weeks 0 and 7 as pre and post measures of the intervention. A significant increase was observed in the common humanity subscale of the SCS; however, no other differences were found in the remaining SCS subscales nor in the DASS subscales. Anecdotally, multiple students expressed that they would not have persisted in coming to group without the horses present. Furthermore, there was markedly improved attendance rates in the psychotherapy incorporating equine group compared to other group therapies at the counseling center. We recommend that future research examine whether psychotherapy integrating both horses and the tenets of self-compassion can help woman college students improve their anxiety management skills and become more resilient.

*Keywords:* psychotherapy, equines, anxiety, college counseling, undergraduate students

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### **Author Note**

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## **Mental Health on College Campuses**

College counseling centers have been experiencing a steady increase in the utilization of counseling services for the past decade (Reetz et al., 2015). Of the numerous mental health concerns of college students, those presenting with Generalized Anxiety Disorder (GAD) continue to rise to the top. GAD is characterized by excessive worry that is difficult to control and significantly impacts daily functioning (American Psychiatric Association, 2013). Nordberg et al. (2013) found that college students who report distress, including GAD, are more likely to seek counseling services. In its 2019 annual survey, the Association for University and College Counseling Center Directors (AUCCCD) found that 10% of university students nation-wide seek counseling services and that women are twice as likely as men to seek services. Anxiety has risen steadily as the predominant concern among those students presenting to college counseling centers, increasing 23.9% from 2009 to 2019 (AUCCC, 2010, 2019). This increase is consistent with national and global data, which suggest that anxiety disorders comprise the most prevalent mental health diagnoses (Bandelow & Michaelis, 2015). Furthermore, the tremendous economic cost of anxiety disorders in the United States is estimated to be upwards of \$42 billion annually (Kessler & Greenburg, 2002).

In addition to students presenting with GAD, 17.5% of all students also indicate feelings of social isolation and distress associated with loneliness. Pascarella and Terenzini (2005) discussed that students coping with internal stressors associated with mental health conditions such as anxiety, social anxiety and depression may be particularly vulnerable to adjustment problems that compromise their longevity at institutions. Women in college report a higher incidence of mental health problems than men (Eisenberg et al., 2009). Social anxiety and other extenuating impacts of GAD have been shown to predict academic problems and to increase risks that students will not attach to their academic institutions, which may negatively impact their eventual retention and academic success (Strahan, 2003; Nordstrom et al., 2014). Moreover, students with mental illness are less engaged in college, report poorer relationships, and have lower graduation rates than students who do not identify as having a mental illness (Salzer, 2012). Thus, there is an imperative need to find comprehensive treatments that support college students who struggle with mental illness.

Despite the increased number of students seeking counseling services, many college mental health centers lack the staff necessary to successfully manage students' needs (Kraft, 2011). College counseling centers continue to have difficulty managing the influx of clients, and 34% of directors have reported using waitlists to manage client flow (AUCCCD, 2018). Consequently, establishing effective therapeutic interventions that provide for a more efficient provision of mental health services is desperately needed.

Mental health professionals use group therapy as an approach to treating multiple students simultaneously. Group therapy has also been found to be an effective intervention for GAD and social anxiety (Yalom & Leszcz, 2005). Bernhardsdottir and Vilhjalmsson (2013) reported that psychologically distressed women university students reported "feeling more self-confident and in control" after taking part in cognitive behavioral group therapy (CBT). Van Der Kolk (2014) discussed the importance of varying interventions that include creative and experiential therapies for individuals who may not be able to process emotions like anxiety, negative thought patterns, and adverse experiences through simple language due to challenges such as trauma. Furthermore, there is very little research focusing on the impacts of group therapy targeting anxiety symptoms for college students, and no current literature exploring group therapy that incorporates equines with this population.

One potential insulator against debilitating anxiety for college students is self-compassion. Self-compassion, as defined by Neff (2003a), refers to having a warm and accepting stance towards aspects of oneself that are disliked or painful. Research has demonstrated a correlation between higher levels of self-compassion with reports of greater life satisfaction, social connectedness, as well as reductions in self-criticism, anxiety and depression. Werner et al. (2012) report findings that individuals with social anxiety disorder report lower levels of overall self-compassion, potentially contributing to reduced academic success and difficulty establishing meaningful relationships in higher education (Nordstrom et al., 2014).

### **Psychotherapy Incorporating Equines**

Evidence suggests that some types of animal-assisted interventions may benefit adults physically and psychologically, and help to reduce stress, anxiety, and depression (Fine, 2015). Psychotherapy incorporating equines is a form of experiential therapy that is appropriate for individuals or groups (Notgrass & Pettinelli, 2014). Research investigating benefits of psychotherapy incorporating equines have cited increases in self-confidence, communication, and problem solving for individuals of varying ages (Kersten & Thomas, 2004). Trotter et al. (2008) reported that adults and children participating in psychotherapy incorporating equines had lower anxiety scores, as well as reduced anxiety and depressive symptoms associated with trauma-related stress. Additionally, individuals have been found to focus less on fear and guilt and more on independence and self-support when participating in psychotherapy incorporating equines (Klontz et al., 2007). Participation in psychotherapy incorporating equines has also been found to alleviate some post-traumatic stress disorder symptoms in maltreated youth (McCullough et al., 2015) and veterans (Burton et al., 2019).

### **The Equine Assisted Growth and Learning Association Model**

The Equine Assisted Growth and Learning Association (EAGALA, 2019) has developed a model of psychotherapy to provide a structural framework for conducting psychotherapy sessions incorporating equines that includes four key components. The first key component stipulates a collaborative, team approach. More exactly, it is expected that a licensed mental health professional and qualified equine specialist, both of whom are trained in the EAGALA model, work in partnership with each other, equines and clients. A second key component is the solution-focused, experiential nature of the therapy sessions that empowers clients to create the best solutions for themselves when given the opportunity to discover them. The third key component is that the sessions are entirely ground-based with no mounted horseback riding involved, allowing horses the freedom to interact with clients as they choose. The fourth key component is that mental health and equine professionals, who are certified in the EAGALA model, follow a strict code of ethics to ensure best practices and adherence to the highest industry standards. The EAGALA Code Of Ethics includes twelve principles designed to uphold the safety and well-being of clients and horses; maintain professional integrity; demonstrate honesty and respect among colleagues; and seek ongoing education and training of best industry practices.

The EAGALA model invites clients to engage in a process with the horses and the practitioners are there to observe (not interpret) and provide feedback to clients based on “SPUD’S” (EAGALA, 2019). SPUD’S—an abbreviation that stands for Shift, Pattern, Unique, Discrepancy, and Self—is the framework for the experiential learning that takes place in sessions following the EAGALA Model. Morgan (2017) reported that equine-assisted activity sessions following the SPUD’S framework of the EAGALA-model were as effective as yoga and mindfulness in reducing stress in undergraduate students. Limited research exists on the

implementation of psychotherapy incorporating equines – and more specifically the EAGALA model – to address mental health needs of students in higher education. Consequently, the purpose of the present study was to determine whether participants experienced a shift in self-compassion or anxiety levels after once weekly 90-min group psychotherapy incorporating equines sessions for seven weeks.

## **Method**

### **General Research Approach**

This pilot study used a one group, pre-and post-test design.

### **Participants**

Human subjects' participation was approved by North Dakota State University's Institutional Review Board (protocol #AG17234). Participants for this pilot study were recruited through the NDSU Counseling Center. To be considered for the study, individuals must have been: 1) a full-time woman undergraduate student between the ages of 18 and 24 years; 2) a current NDSU Counseling Center client presenting with the predominant concern of anxiety; and 3) available for the scheduled time of psychotherapy that would incorporate equines. Potential participants self-selected by either responding to a general "all-student" email informing them of the group opportunity or through a counselor at the Center who informed them of the group opportunity. They were then referred to the study investigators for additional information about the group opportunity. A total of seven individuals met the criteria and were recruited for study participation. Potential participants met with the investigating mental health professional in a private room at the counseling center where a hard copy of the informed consent document was reviewed. Potential subjects had the opportunity to ask questions about the study at that time. Additionally, the option to participate in the psychotherapy incorporating equines sessions without use of individual data for the study was given as an alternative; however, no one selected this option. All individuals signed the consent document and were sent home with a copy for their information.

### **Practitioners**

The same mental health professional (MHP) and equine specialist (ES) facilitated all sessions with equines and clients for this study. Both are EAGALA certified professionals and have participated in a PATH Intl. Equine Specialist in Mental Health and Learning workshop (2011). In addition, the MHP has 20 years of clinical counseling experience; 15 of which she has spent in collegiate mental health. She has a PhD in Counselor Education with her dissertation focused on canine-assisted therapy in counseling for youth in a residential childcare facility. She has attended numerous AAI continuing education opportunities hosted by the University of Denver School of Social Work and the International Institute of Play Therapy. In addition, she has served as a volunteer handler and therapy team evaluator for Pet Partners and was recently invited to participate as a content expert on a panel to create AAI credentialing for Pet Partners. The equine specialist is a veterinarian and equine science program director at a land-grant institution and has over 35 years horse experience in management, horsemanship, behavior and veterinary care. She has also participated in Eponaquest trainings, teaches an equine guided leadership course based on the teachings of Linda Kohanov (2015), and actively pursues continuing education in the field of EAS.

### **Equines and Facilities**

#### ***Daily Management***

The equine partners in this study were protected under North Dakota State University's Institutional Animal Care and Use Committee (protocol #A20031). A total of five program

horses met the criteria for working in the psychotherapy incorporating equines setting. These criteria included soundness; responsiveness to human movement and noises; tolerant of being handled by different individuals of varying skill levels; willing to load; traveling and unloading in a trailer; desensitized to a multitude of props used during sessions, not displaying fear or repeated distress during sessions of psychotherapy that incorporated horses; and being able to work in a herd situation.

All daily management practices for horse care fell within the recommendations published in the *Guide for the Care and Use of Agricultural Animals in Research and Teaching* (Federation of Animal Science Societies, 2010). Horses were maintained at the university equine center as a herd, observed daily for injury or illness and turned out together from 0700 and 1630 daily in a 24 m by 122 m dry lot enclosed with a 1.5 m high pipe fence. Horses had ad libitum access to fresh water, trace mineral and salt blocks, and a round bale of mixed brome, timothy and orchardgrass hay. Because the dry lot has no shelter, horses were kept inside during inclement weather and turned out in groups of three to four for free exercise in the 30 m by 36 m indoor arena enclosed with a 1.7 m high pipe fence. Between 1630 and 0700, horses were maintained in individual 3 m by 3 m steel stalls with pine shavings that were cleaned daily. They were fed a.m. and p.m. grain meals (sweet feed or senior feed) with access to fresh water and grass and/or alfalfa hay to meet their dietary requirements. Horses were groomed and exercised one to three times each week, depending on individual needs, and more frequently when programming was in session. They were vaccinated for rabies, tetanus, West Nile Virus, eastern and western encephalitis, rhinopneumonitis, and influenza; de-wormed every 12 weeks; had their teeth floated annually at a minimum and more frequently if needed; and hooves trimmed every 6 to 8 weeks and were shod if required. In addition, horses received alternative treatments (i.e. chiropractic, acupuncture or massage), as well as joint medications or injections if indicated.

*Psychotherapy Sessions Incorporating Equines*

All sessions were conducted within the framework of the American Counseling Association's Animal-Assisted Therapy in Counseling Competencies of knowledge, skills and attitudes (Stewart, 2014). Each domain includes competency subthemes which are described hereafter. 'Knowledge' specifies that a practitioner has formal training in animal-assisted therapy in counseling (AATC), in-depth animal knowledge and knowledge of existing ethical requirements. 'Skills' refers to mastery of basic counseling skills, intentionality of including animals in a treatment session, and having a specialized skill set with regard to including animals in treatment sessions. 'Attitudes' includes animal advocacy, professional development in AATC, and demonstration of professional values.

Psychotherapy sessions incorporating equines took place from 0930 to 1100 in the campus livestock pavilion, which is within walking distance to the dorms and easily accessible via public transportation. The pavilion arena is located behind doors that can be closed during sessions to help ensure client privacy. No more than three horses were transported 6.5 km (one-way) via a five-horse slant load trailer from the university equine center to a campus livestock pavilion for weekly psychotherapy sessions incorporating equines. All horses were familiar with the hauling routine and the facility. To allow horses the opportunity to re-familiarize themselves with the arena space, they were turned out for 60-90 min once a week for two weeks prior to sessions beginning. During psychotherapy sessions incorporating equines weeks, horses arrived at the pavilion arena approximately 45 min prior to the start of the session and were hauled back to the university equine center 30 min after the session ended. The pavilion arena is 13.7 m by 27.4 m with dirt footing that was watered as needed to keep dust levels down. The arena

perimeter was a solid 1.5 m concrete wall with an additional 0.9 m of pipe fencing on top of the wall. Horses had access to clean, fresh water at all times in the arena.

Horses were observed for signs of distress before, during and after sessions. Potential distressed or negative behaviors that have been identified in our horse herd include bite, bite threat, kick, kick threat, lip lick/chew (indicative of return to a calmer parasympathetic state from a distressed sympathetic state), ears pinned, head shake, head toss, startle, and eliminative behaviors. Positive observed behaviors include mutual grooming, play behavior, investigative behavior, resting/relaxed body posture, and ingestive behaviors. Weekly horse selection was based on the planned activity for the day (e.g. some horses may be more or less willing to participate in a given activity so this was considered when deciding which horses to bring), in addition to how the horse(s) responded during the session the week prior and how they were behaving the day of sessions. For example, it became apparent over two sessions that one of the mares and one of the clients did not work well together. The mare consistently pinned her ears each time this particular client would approach or put her hands on the horse. For the safety of the client and the well-being of the mare, the decision was made to no longer include that mare in sessions as she was communicating a significant level of discomfort.

### **Instruments**

#### ***Self-Compassion Scale***

Self-compassion entails three basic components: self-kindness, common humanity, and mindfulness (Neff, 2003a). The SCS is a 26-item self-report questionnaire that aims to measure the construct of self-compassion. The test scale has been validated and can significantly predict mental health outcomes as measured by Beck Depression Inventory (1961) and Spielberger Trait Anxiety Inventory (1983). High scores of self-compassion are strongly correlated with positive mental health outcomes; specifically, reductions in depression and anxiety (Neff, 2003b).

#### ***Depression Anxiety Stress Scales***

The DASS was developed to facilitate defining, understanding, and measuring the ubiquitous and clinically significant emotional states usually described as depression, anxiety and stress (retrieved from [www2.psy.unsw.edu.au/groups/dass/](http://www2.psy.unsw.edu.au/groups/dass/), October 28, 2014). It is a 42-item test that consists of a set of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. This instrument shows excellent internal consistency and high test-retest stability of scores (Page et al., 2007).

### **Data Collection and Analysis**

Participants were individually invited to a private room at the university counseling center to complete both the DASS and SCS with pen and paper. Each instrument was estimated to take between 5 and 10 minutes to complete. Participants took no longer than 20 minutes to complete both assessments. The DASS and SCS were completed at weeks 0 and 7 and paired sample t-tests were used to evaluate differences between pre and post intervention responses. Client responses were kept in a locked file cabinet in the MHP's office at the counseling center.

### **Intervention**

Each week participants attended one 90-minute group psychotherapy session incorporating the EAGALA model for seven weeks in the livestock pavilion on the NDSU campus. The same counselor and equine professional who are both certified in the EAGALA model facilitated all seven sessions. Three horses were selected each week from a consistent herd of five equine partners. Weekly EAGALA sessions incorporated interventions modified from publications by DePrekel and Neznik (2015a & 2015b) and DiGiacomo & Sierra Boys Ranch (n.d.) (Table 1) and are explained in greater detail below.

**Table 1**

*Weekly intervention activities in group psychotherapy incorporating equines sessions*

<i>Session</i>	<i>Activity</i>
1	Observing the Herd
2	Window of Tolerance
3	Collaborative Obstacle Build
4	Course of Life
5	Outside the Box
6	Forward Motion
7	Paint Your Story

*Note.* These intervention activities were modified from publications by DePrekel and Neznik (2015a and 2015b) and DiGiacomo & Sierra Boys Ranch (n.d.)

All sessions began with circling up in the arena to reflect on the week and past sessions (with the exception of week one) with the horses at liberty in the same space. Sessions were structured to provide experiences incorporating equines that would allow clients to experience and learn about the three major constructs of self-compassion (mindfulness, common humanity, and self-kindness) and additional anxiety management tools including: increased personal awareness (mindfulness), emotional regulation and distress tolerance (self-kindness), psychological flexibility, behavioral activation and universality (common humanity). Each session concluded with circling up and processing participants reflections, observations and insights and time for group members to say good-bye to their equine group members. The names and brief descriptions of each sessions were as follows:

1. Observing the Herd. The first session began with establishing group norms (i.e. attendance, confidentiality), as well as observing herd interactions and clients introducing themselves to the horses. Post- intervention process discussions included clients' sharing observations of the horses and themselves, frequently identifying mutual themes and building a sense of common humanity within group members.
2. Window of Tolerance. The second session introduced the concept of Window of Tolerance (WOT) and identifying individual sensations that correlate with shifts between hyper and hypo arousal states when confronted with daily stress and anxiety. Clients moved horses around the arena to explore the idea of recognizing, understanding or expanding one's WOT. Post-intervention processing included discussions regarding how clients perceived stress in the equines and how both the clients and the equines mutually cared for one another as well as themselves illustrating self-kindness.
3. Collaborative Obstacle Build. This session engaged the group in a collaborative activity building on the concept of universality (something shared by all people) and common humanity (the idea that suffering is a shared human experience) (Neff, 2003b; Yalom & Leszcz, 2005). Participants were instructed to build obstacles that were representative of their collaborative anxiety story that they managed in their everyday college experience and to move their equine group members through the obstacles.

4. Course of Life focused on creating experiences for clients to increase personal mindfulness of their individual anxiety experiences. Individually, clients constructed their personal anxiety story utilizing available props and then partnered with an equine group member of their choice to walk through their story while sharing what each obstacle represented to their equine partner. Each participant could choose to share with the larger group if they wished.
5. Out of the Box created an opportunity for psychological flexibility, cognitive reframing, and emotional regulation development. Each group member took a turn at being the “leader” and instructed the other group members to move their equine partners into a boundary and keep them there. Only the acting group leader was allowed to speak and offer instructions. The exercise promoted psychological flexibility in allowing each client to “lead” in a unique way and demonstrate alternate approaches to accomplishing a common task. Additionally, the Out of the Box exercise allowed for group members to engage in the role of “leader” which many group members shared was unfamiliar and anxiety provoking.
6. Forward Motion targeted self-compassion’s concepts of common humanity and mindfulness, in addition to anxiety management tools of behavioral activation. Group members were asked to consider what their anxiety story would look like as they completed group and moved into their future. Utilizing available props, participants were asked as a group to create their future relationship with anxiety and then to partner with the equines and move into their future.
7. Paint Your Story. This final session allowed group members to self-select their equine partner and using non-toxic and washable finger paint to create their story for their equine partner to wear, which represented their shift from the first group session to the last group session.

### **Results**

During the research period, a total of seven clients were recruited; however, one did not complete the study. Of the remaining participants, all six completed the DASS (n=6), but only five completed the SCS (n=5). There was a significant increase observed between pre (M = 2.15, SD = 0.45) and post-test scores (M = 2.80, SD = 0.41) in the common humanity subscale of the SCS;  $t(4) = -2.80$ ,  $p = .05$  with an effect size of  $-1.50$ . No significant differences ( $p > .05$ ) were detected in the remaining subscales of the SCS (Table 2); however, increasing (desired) shifts were observed in self-kindness and total SCS subscales and decreasing (also desired) shifts were observed in self-judgement, isolation, overidentification. The mindfulness subscale remained equal from pre to post tests. No significant differences were observed in the DASS (Table 3); however, depression, anxiety, stress subscales did shift, but in the increasing (undesired) direction.

**Table 2**  
*Results of Pre and Post-test Self-Compassion Scale Scores*

SCS Subscales	Pre-test		Post-test		<i>t</i> (4)	<i>p</i>	Cohen's <i>d</i>
	M	SD	M	SD			
Self-kindness	2.24	0.95	2.72	1.05	-1.29	.27	-0.48
Common humanity	2.15	0.45	2.80	0.41	-2.80	.05	-1.50
Mindfulness	3.25	0.56	3.25	0.85	0	1	0
Self-judgement	4.12	0.18	4.01	0.58	0.37	.73	0.27
Isolation	3.70	1.16	3.15	0.74	2.27	.09	0.56
Overidentification	3.75	0.90	3.65	0.86	0.23	.83	0.11
Total	2.37	0.63	2.67	0.58	-1.24	.28	-0.50

*Note.* Paired sample *t*-tests were used to determine differences in pre- and post-test scores of individuals participating in weekly 90-min psychotherapy incorporating equines group sessions for seven weeks.

**Table 3**  
*Results of Pre and Post-test Depression Anxiety Stress Scales Scores*

DASS Subscales	Pre-test		Post-test		<i>t</i> (5)	<i>p</i>	Cohen's <i>d</i>
	M	SD	M	SD			
Depression	16.33	14.00	17.33	14.62	-0.13	.90	-0.07
Anxiety	17.33	11.50	19.67	8.89	-1.61	.17	-0.23
Stress	21.33	9.93	24.67	11.78	-1.01	.36	-0.31

*Note.* Paired sample *t*-tests were used to determine differences in pre- and post-test scores of individuals participating in weekly 90-min psychotherapy incorporating equines group sessions for seven weeks.

### Discussion

The purpose of the present study was to determine whether a psychotherapy incorporating equines group would yield significant improvements in self-compassion and anxiety for participants as measured by the SCS and DASS, respectively. We found a significant improvement in only one subscale of the SCS, that of common humanity. Neff (2003a) defines common humanity as “perceiving one's experiences as part of the larger human experience rather than seeing them as separating and isolating.” The idea of common humanity is tied into a sense of belonging (Tajfel & Turner, 1979), which has been shown to have protective factors against stressors (Dreisoerner et al., 2020). Additionally, ‘belonging’ has been linked to improved student retention and success in higher education (Russell & Jarvis, 2019), important factors of sustainability for the learners and institutions.

Statistically significant shifts were not observed in 6 out of the 7 SCS subscales, however most subscale scores increased in desired directions except the mindfulness subscale. Research

participants in the current study also shared during group processing that interacting with the horses lent them to be more mindful of what was occurring for them intrapersonally. Participants described an increased connection between cognitive awareness and how those cognitions related bodily sensations and experiences. The researchers posit the increased shift in participants' mindfulness functions to increase their ability to name, recognize and acknowledge feelings of anxiety. The increased personal awareness of their present states is an essential first step for implementing anxiety management skills. Furthermore, the psychotherapy incorporating equines group enabled those clients with some pre-existing fear or anxiety about horses to work through those feelings in a safe space.

Conversely, overall mean scores for the DASS indicated a slight, albeit insignificant, upward shift with an overall change of +1.0 from pre to post indicating higher levels of perceived depression, anxiety and stress for participants. The DASS subscale for anxiety showed the greatest shift with a variance of +2.3. This shift could be related to a number of confounding variables that were not considered such as client's increases in awareness of their intrapersonal states, state of being at the time of pre and post measures (beginning of the semester compared to the end), and the common occurrence in mental health treatment of decreased dysregulation as one becomes more emotionally attuned (Van der Kolk, 2014; Yalom & Leszcz, 2005).

The lack of significant differences may also be due to a number of limitations within the study, the first being the duration of the pilot project. According to the American Psychological Association (2020), improvements for some individuals may occur in six to twelve therapy sessions, whereas Howard et al. (1986) found that 50% of psychotherapy clients improved after eight sessions, while 75% improved after six months. The intervention that we studied only had seven sessions and so was at the cusp of possibility for detectable change. The number of sessions for this pilot study was determined by logistical reasons (e.g. arena and facilitator schedules, academic calendar, and horse availability) as opposed to the optimal number of therapeutic sessions. While this is not ideal, it is indicative of real life and a consideration for this work in the academic setting.

Additional limitations include the fact that the DASS and SCS are both self-report instruments so the potential for bias exists. For example, a client may want to demonstrate improvement and so chooses the answer reflective of that phenomenon. Self-reporting also requires the ability to be introspective and accurately self-assess, which may be confounded by a mental health diagnosis. Another possibility is that the instruments we selected (DASS and SCS) were not sensitive enough to detect change or, conversely, that there simply was no detectable difference. It should also be noted that four of the six clients were participating in the group psychotherapy session as well as their individual counseling session, so essentially, they were receiving a 'double-dose' of treatment. We also did not collect any medication information from participants for this study, so this is another potentially confounding element. Additionally, we had a small sample size and participants self-selected for psychotherapy incorporating equines treatment. Finally, we had no control group in this study and so the improvements we did see in the common humanity subscale may not be reflective of the equine piece of the group psychotherapy session.

Attrition is often a significant challenge in administering group therapy in a college setting. Yalom and Leszcz (2005) reported that therapy groups of 8 sessions or less in university outpatient clinics have a drop-out rate of 39%. Because students with higher rates of social anxiety report more social impairment, attending groups can often become too internally distressing to persist (Nordstrom et al., 2014). The aforementioned challenges contribute to

disruptions in the therapeutic process due to poor attendance, late arrivals, or early termination of group. Horses have been shown to be a motivating factor for attendance and engagement in psychotherapy sessions incorporating equines (Rothe et al., 2005; Trotter 2012; Lentini & Knox 2015). Multiple students expressed during our final session that they would not have persisted in group without the connection they felt to the horses. Additionally, there was an attrition rate of only 14% here (from 7 participants to 6). At a very minimum, clients must *attend* psychotherapy groups if they are to engage in treatment sessions and the horse may be an integral factor for consistent attendance. In addition to higher completion rates in the psychotherapy incorporating equines groups compared to non-psychotherapy incorporating equines college groups, we noticed that participants would stay after group to help put supplies away and socialize with group members. These brief social interactions created opportunities for clients to practice casual conversations and general social skills. Practicing social interactions in an emotionally safe environment is often an aspect of treating social anxiety (Yalom & Lesczc, 2005).

Given limited results related to self-compassion, we recommend that future research examine if psychotherapy that integrates both horses and the tenets of self-compassion (i.e., self-kindness, common humanity, mindfulness) can help women college students enhance their abilities to manage anxiety and become more resilient. We further recommend that the DASS, as a measure of anxiety, be replaced with the Counseling Center Assessment of Psychological Symptoms Instruments (CCAPS) (Center for Collegiate Mental Health, CCMH, 2018). The CCAPS was created to be used as an affordable and psychometrically strong clinical tool for college counseling centers. It is a multi-dimensional assessment that is updated regularly with peer-based norms drawn from large samples to provide reliable and valid measurements (CCMH, 2021). Due to the widespread use of the CCAPs among college counseling centers, it would be commonly known to consumers of the literature.

Incorporation of a robust qualitative component would also be essential (Mowbray et al., 2003) for myriad of reasons. Chur-Hansen et al. (2010) highlighted the advantages of qualitative inquiry in reference to animal-assisted therapy because its open-ended nature allows themes that have not been considered important to be identified. They posited that identification of new themes is pivotal to further our understanding of “mechanisms at work” (p. 142). A phenomenological inquiry would allow researchers to explore questions of motivation with regard to presence of equines, the relationship dynamics among equines and peer group members, the impact of those relationships on the tenets of self-compassion and anxiety, and insights to the intrapersonal experiences and shifts of clients as they persisted through the equine group experience.

Logical next steps include expanding the duration of the group to a more traditional timeframe of 8 to 12 weeks, as well as creating a facilitator manual of psychotherapy incorporating equines sessions. This manual would be designed to educate participants about the three key tenets of self-compassion (self-kindness, mindfulness, common humanity) in building participant resiliency in managing their anxiety. The aforementioned structure provided by a facilitator manual would aid in creating treatment integrity of the group experience and insulate against some mitigating variables that are inherent to an experiential facilitation model like EAGALA. Moreover, implementation of a fidelity measure currently being developed by Gergley (2020) that assesses adherence to the EAGALA model, as well as competency of the model’s delivery, would greatly enhance the ability of researchers to replicate treatment interventions and test the efficacy and effectiveness of the model to treat anxiety in the college population.

## Conclusion

While this is a pilot study with a small sample size, it is the first one we know of that incorporates equines as part of treatment options for students through their college counseling center in the United States. The findings suggest that psychotherapy incorporating equines for women college students with anxiety shows promise as a treatment intervention. As the mental health needs of college-aged students in the United States continues to increase and the demand for university counseling centers to provide services continues to rise, solutions to mitigate wait times and offer effective treatment options are imperative for the health and well-being of this population. While we found significant changes in only the common humanity subscale of the SCS, overall shifts in the means of both the SCS and the DASS were observed, and facilitators noted improved attendance for the group psychotherapy incorporating equines compared to office-based group psychotherapy at the NDSU Counseling Center. This pilot study suggests that a research design is warranted that is longer in duration, incorporates fidelity measures, and includes a qualitative component exploring the impacts of psychotherapy incorporating equines as it relates to self-compassion. Furthermore, the causal relationships and motivating factors related to attendance and attrition rates for psychotherapy incorporating equines compared to more traditional office-based psychotherapy, as well as groups incorporating other animals, such as dogs, should be investigated.

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