SYE

2021-2022

Modeling ideal St. Lawrence University Equine Turnout

Proposal:

For this SYE the goal is to create a model that has the ability to convert a horse’s numerical personality score to a categorical ideal turnout situation, catered to each individual horse. This will be done using skills learned in previous statistic courses and programs such as R-studio and Excel. The Spring 2022 portion of this SYE is where most of the statistical work will be completed, this fall semester will be mainly geared towards collecting the data for this experiment.

Collecting data for this SYE will be done entirely by myself, and will consistent of at least 15 horses appearing 3 times or more in the data set. This number of subjects may increase but will not decrease to less than 15. The age ranges and personality types for each of the horses used in the study will be assessed and documented, and then the behavior of each individual will be observed and recorded in their specific turnout location. This data will all be collected at St. Lawrence University’s Elsa Gunnison Appleton Riding Hall, and the results of this study will only apply to equines in this specific facility.

The personality types being used for the different horses were determined from research conducted by veterinarians in various sources. It is the typical school of thought that horses can be one of four personality types: social, fearful, aloof, or challenging. For each of those types there is both a passive and aggressive form. In addition to recording which personality each horse in the study has, it will also be noted if they are social in a positive way with new horses and if they are social in a positive way with new people. These judgements on personality will be conducted indoors, based purely on observations. The hope is that these judgements can be performed quickly on each horse so that a new horse coming in could be inputted to the program within a relatively small period of time.

For outdoor observations the factors being looked at will be tail swishing, minutes grazing vs. minutes pacing, amount of the time the horse was laying down, if nostrils were dilated or the body rigid at any point, the number of times the horse whinnies, and the number of positive or negative interactions with other horses. Positive interactions with other horses would be grooming, assisting with fly control, or rubbing. Negative interactions would be biting, squealing, chasing, or running. These observations will then be converted to numbers on a scale that will be described later on. Finally, the conditions the horses are turned out in will be noted; the type of turnout field they are in, if they are wearing clothing of any kind, the time of day, and the weather at the time of observation.

The hope for this semester of study is that a sufficient amount of data can be gathered so significant and informative conclusions can be drawn later on. There are many variables being observed so that there is more to explore for significance and relationships later on as we move forward with the SYE. On a final note, research was conducted on permissions for completing an observational study of animals and no formal paperwork is required. I have completed a training previously on responsible animal practices and no further training is needed.

Sources:

<https://thehorse.com/113343/recognizing-pain-in-stoic-horses/>

<https://www.trtmethod.com/separation-anxiety/how-to-deal-with-paddock-anxiety/>

<https://animals.mom.com/horses-put-noses-face-3375.html>

<https://dressagetoday.com/theory/horse-personalities-basic-types> - great resource

levels of tail swishing:

Frequent – almost constant – score 4 negative

Often – regularly – score 2 negative

Infrequent – some but not overly obvious – score 2 positive

Rare – hardly ever – score 4 positive

Calculating overall scores:

Tail swishing level (if positive) + L + Q + S = positive score

Tail swishing level (if negative) + M + N + O + P + R = negative score

four basic personality types to classify horses as:

- aloof

- challenging

- fearful

- social

All of these can be aggressive or passive – so subtle or pronounced

Notes:

Questions:

**Is personality type related to turnout success?**

**How does success in different type of turnouts of relate to personality type?**

Response variable: Overall turnout score

Level one observational unit: Observation number

Level two observational unit: Horse

Level one covariates:

Time observed

Time of day

Date

Flymask

Flysheet

Group

Type of turnout

Tail swish frequency

Minutes grazing

Minutes pacing

Dilated nostrils  
 rigid body posture

Whinnies

Positive interactions

Negative interactions

Whinnies

Level two covariates:

Age

Personality