

Resilience Equine Assisted Learning with Nursing Students: A Randomized Controlled Trial

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Purpose

To determine the feasibility of the Resilience Equine Assisted Learning (REAL) intervention as an extra-curricular activity and to explore within-group changes in stress, burnout, and resilience among undergraduate nursing students.

Background

Burnout: a psychological syndrome that can manifest in response to prolonged stress and results in feelings of emotional exhaustion, insufficiency, and detachment from work.

Equine-Assisted Learning (EAL): learning that incorporates horses experientially for emotional growth and learning

REAL: a type of EAL that was designed to build resilience in nursing students.

Resilience: an individual's capacity to cope effectively with stress.

Stress: a complex bidirectional transaction between the individual and the environment that includes a stimulus and response.

- 64% of undergraduate nursing students experience **burnout** during education.¹
- Resilience** is a known protective factor to buffer against the **stress** exposure that leads to burnout.²
- Lack of formal resilience training for undergraduate nursing students persists.³
- EAL** interventions promote resilience and decrease stress and burnout in a diversity of populations.⁴

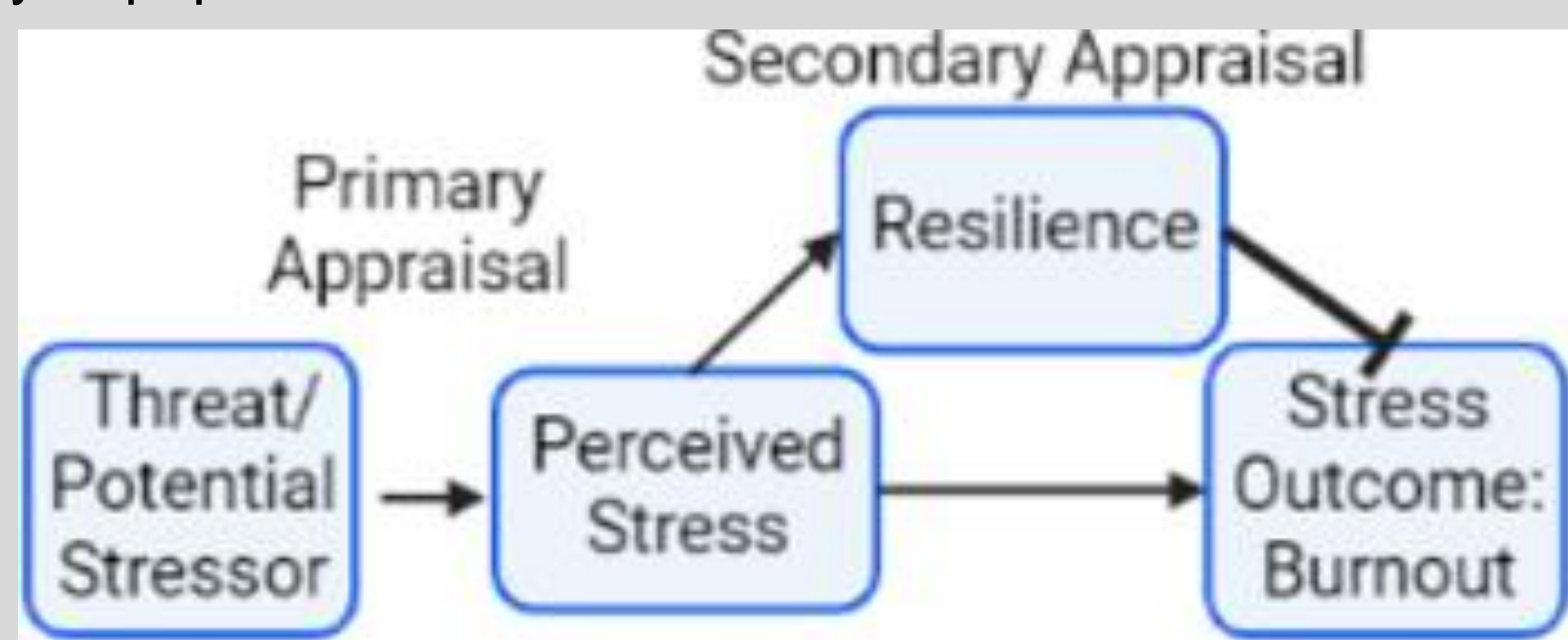


Figure 1. Adapted Transactional Theory of Stress and Coping for REAL intervention.

Methods

Design: Three-group randomized control trial

Interventions: Resilience Equine Assisted Learning (REAL), Unstructured Horse Interaction (UHI) or Treatment-as-Usual (TAU) controls

Study Sample: University of Nevada Reno undergraduate pre-licensure nursing students.

Measures:

- Primary: Feasibility measures were compared to benchmarks.
- Secondary: Self-report measurement tools quantified stress, burnout, and resilience.

Procedures: Participants were randomized to groups for the intervention duration (6 weeks).

Data Analyses: Descriptive statistics and non-parametric statistical testing were used to summarize and analyze data.

Results

Primary Outcomes

- 17 nursing students (38% of benchmark) were recruited.
- 100% of participants completed all data collection aspects of the study.
- Intervention adherence in the REAL and UHI groups was poor (average < 53%).
- Reasons for non-adherence were schedule conflicts (100%) and winter weather conditions (30%).
- High REAL acceptability, appropriateness, and feasibility scores (>15).
- REAL intervention fidelity was high (>90%),
- No adverse events were reported during the interventions.

REAL, UHI, and TAU acceptability, appropriateness, and feasibility

Group	Acceptability (Mean ± SD)	Appropriateness (Mean ± SD)	Feasibility (Mean ± SD)
REAL (n = 7)	18 ± 2.83	17.40 ± 2.79	16.40 ± 3.51
UHI (n = 6)	18 ± 1.90	16.83 ± 1.60	17 ± 2.10
TAU (n = 7)	12 ± 4.34	13 ± 3.90	16.50 ± 1.76

>15 = benchmark for high acceptability, appropriateness, and feasibility

Secondary Outcomes

In post-intervention data, resilience was negatively correlated to burnout-exhaustion scores (r=-0.57, p=0.01) and perceived stress scores (r=-0.60, p=0.01).

REAL Participants reported less burnout after the 6-week intervention.

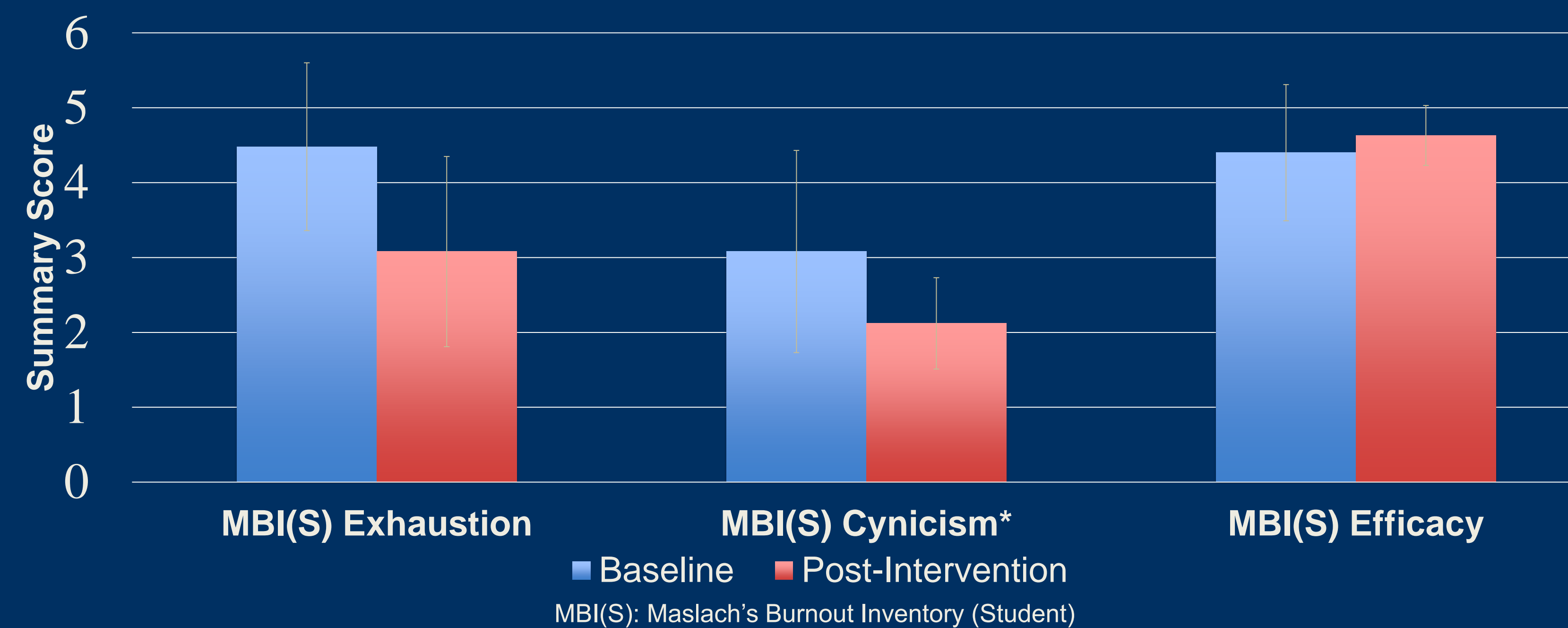
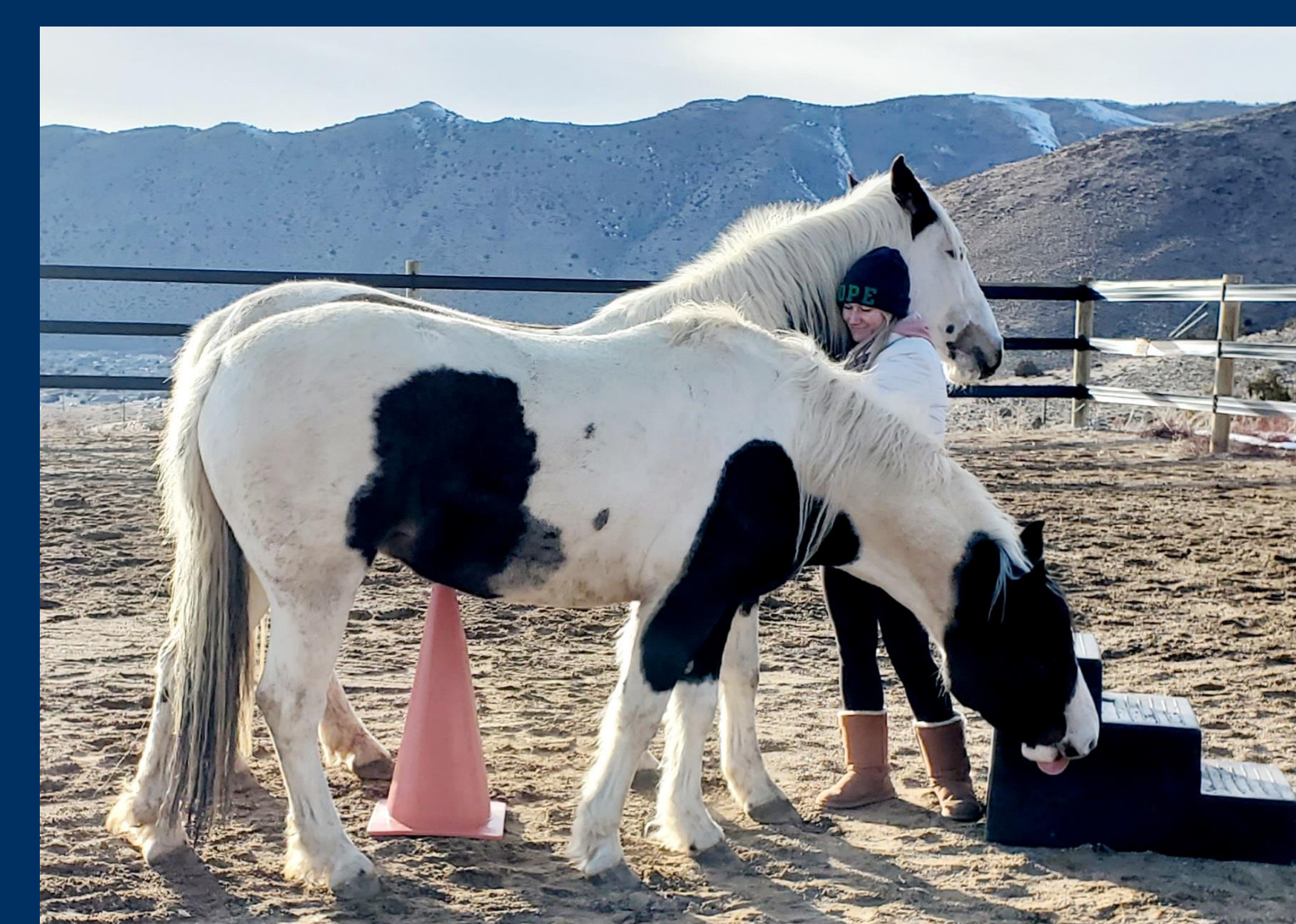


Figure 2. Summary data of burnout domains exhaustion, cynicism, and efficacy reported pre-post 6 week intervention. Post-intervention, burnout-cynicism was decreased from baseline (p=0.04, n = 7).



Stress and Resilience were not changed after 6-week intervention in REAL participants

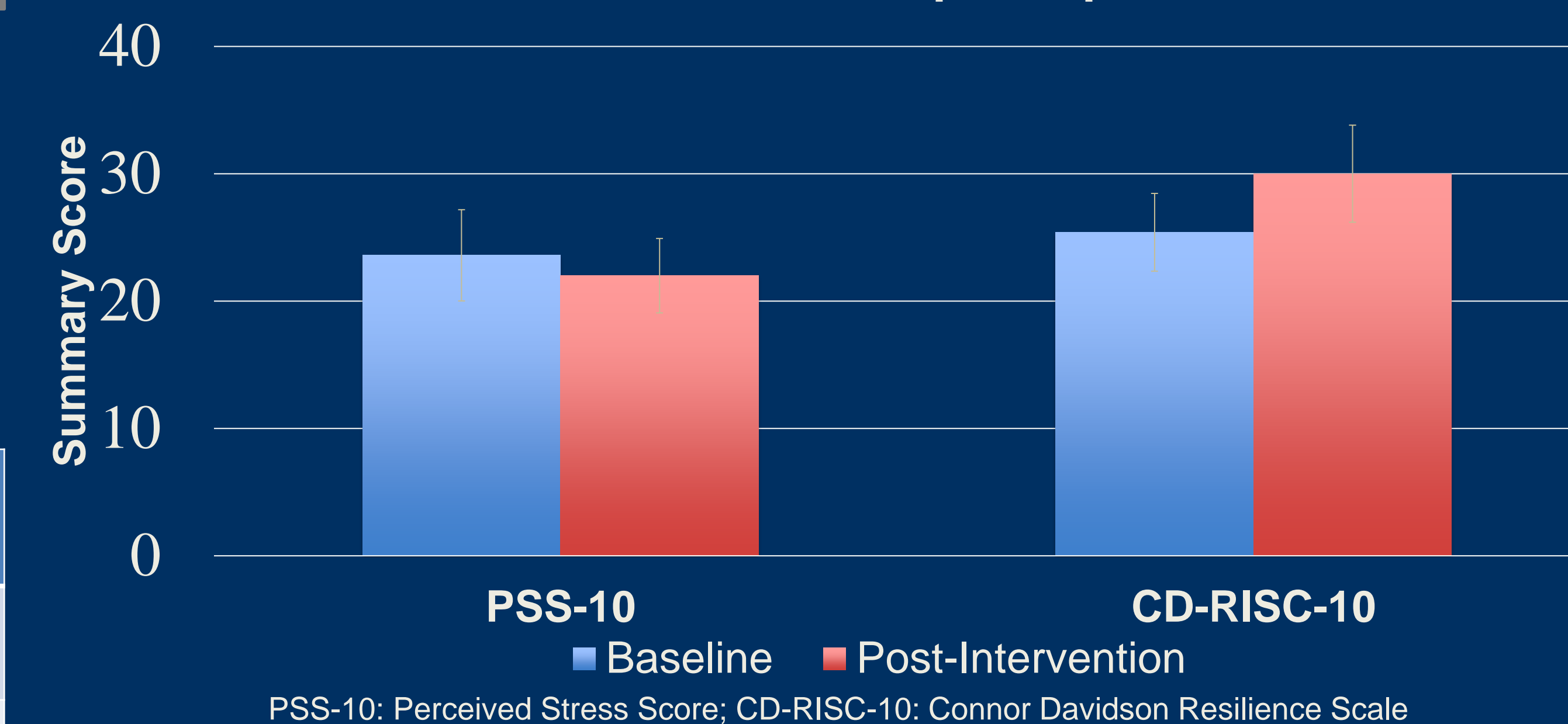


Figure 3. Summary data of stress (PSS-10) and resilience (CD-RISC-10) post-intervention in REAL participants.



Conclusions

- This study was feasible, appropriate, and acceptable. The REAL intervention reduced within-group burnout scores, and burnout and stress decreased as resilience increased.

Limitations

- Small sample size and poor intervention adherence.
- The record-setting winter weather conditions severely impacted the outdoor equine intervention sessions.

Implications for Practice

- Resilience interventions must be incorporated into the nursing curriculum to overcome student participation barriers.

Recommendations for Future

- Randomized controlled trial powered for between group analysis and controls will allow testing of cause-effect relationships.
- More research is needed to establish the number of REAL sessions needed ("dose") and repetition frequency ("duration") needed for effect size.
- A longitudinal study design will provide data on the impact of REAL on nurses' transition into the workplace..

Acknowledgments

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References

