

Comparison of Validity in Patient Reported Outcome Measures in an Epithelial Ovarian Cancer Cohort

Kandyce Keller, MPH^{1,2}; Laurie Grieshaber, MA, PhD^{1,2}; Britton Trabert, MS, MSPH, PhD^{1,2,3}; Kathryn Maurer, MD^{1,3}; Mary Playdon, PhD^{1,2,5}; Amy Cizik, MPH, PhD^{2,6}; and Jennifer Doherty, MS, PhD^{1,2}

¹Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA; ²Department of Population Health Sciences, School of Medicine, University of Utah, Salt Lake City, UT, USA; ³Department of Obstetrics and Gynecology, University of Utah, Salt Lake City, UT, USA; ⁵Department of Nutrition and Integrative Physiology, University of Utah, Salt Lake City, UT, USA; ⁶Department of Orthopaedics, University of Utah, Salt Lake City, UT, USA

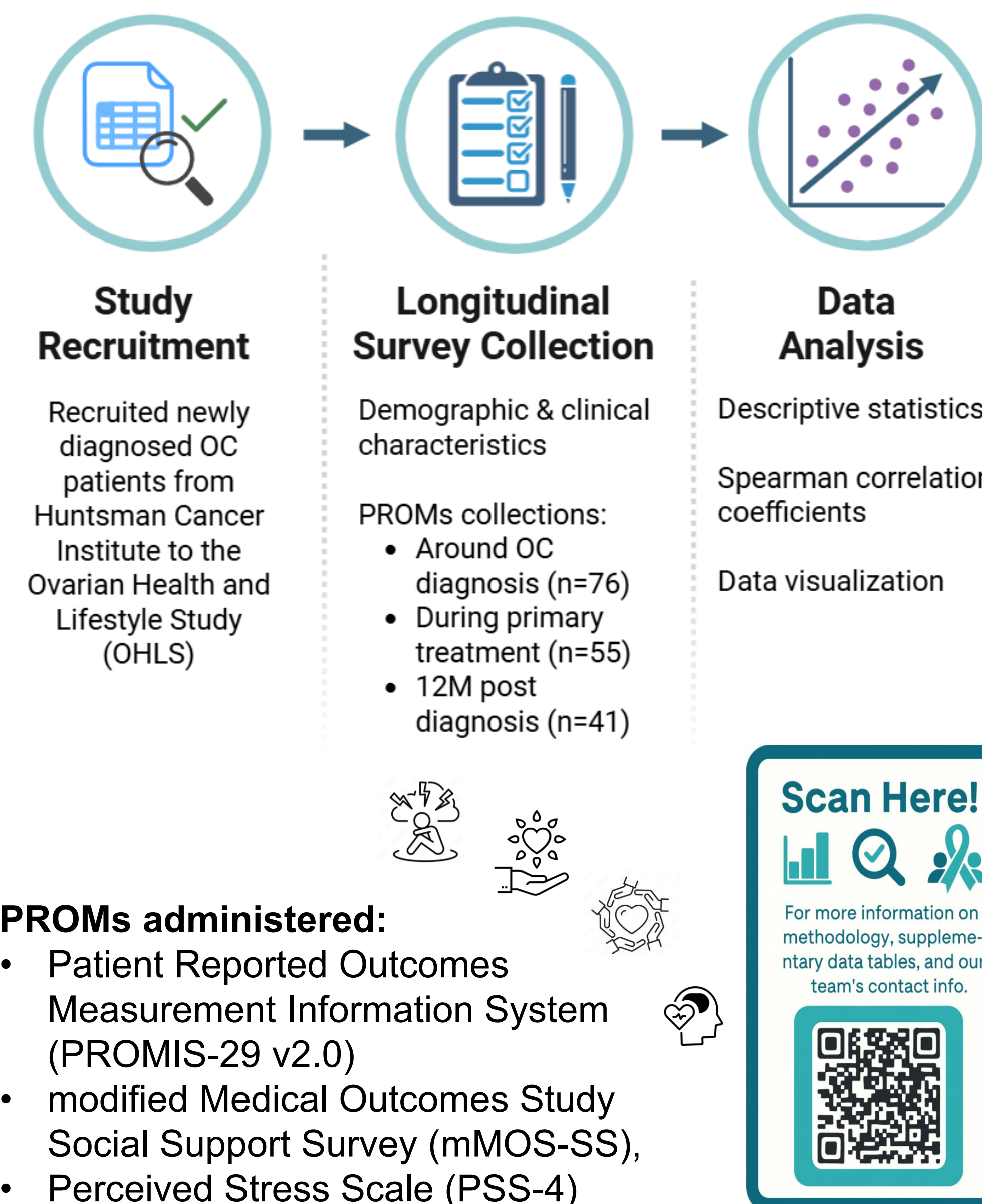
INTRODUCTION

- Ovarian cancer (OC) is the 5th leading cause of cancer-related death in women, even though it's a rarer gynecologic cancer
- ~70% of OCs are diagnosed at advanced stages, and the 5-year survival rate is ~50%
- Patient reported outcome measures (PROMs) capture the OC survivorship experience by reflecting the aggressive nature of the disease and its impact on health-related quality of life across the survivorship trajectory
- Survey burden must be considered as we collect PROMs data from OC survivors

Study Objective

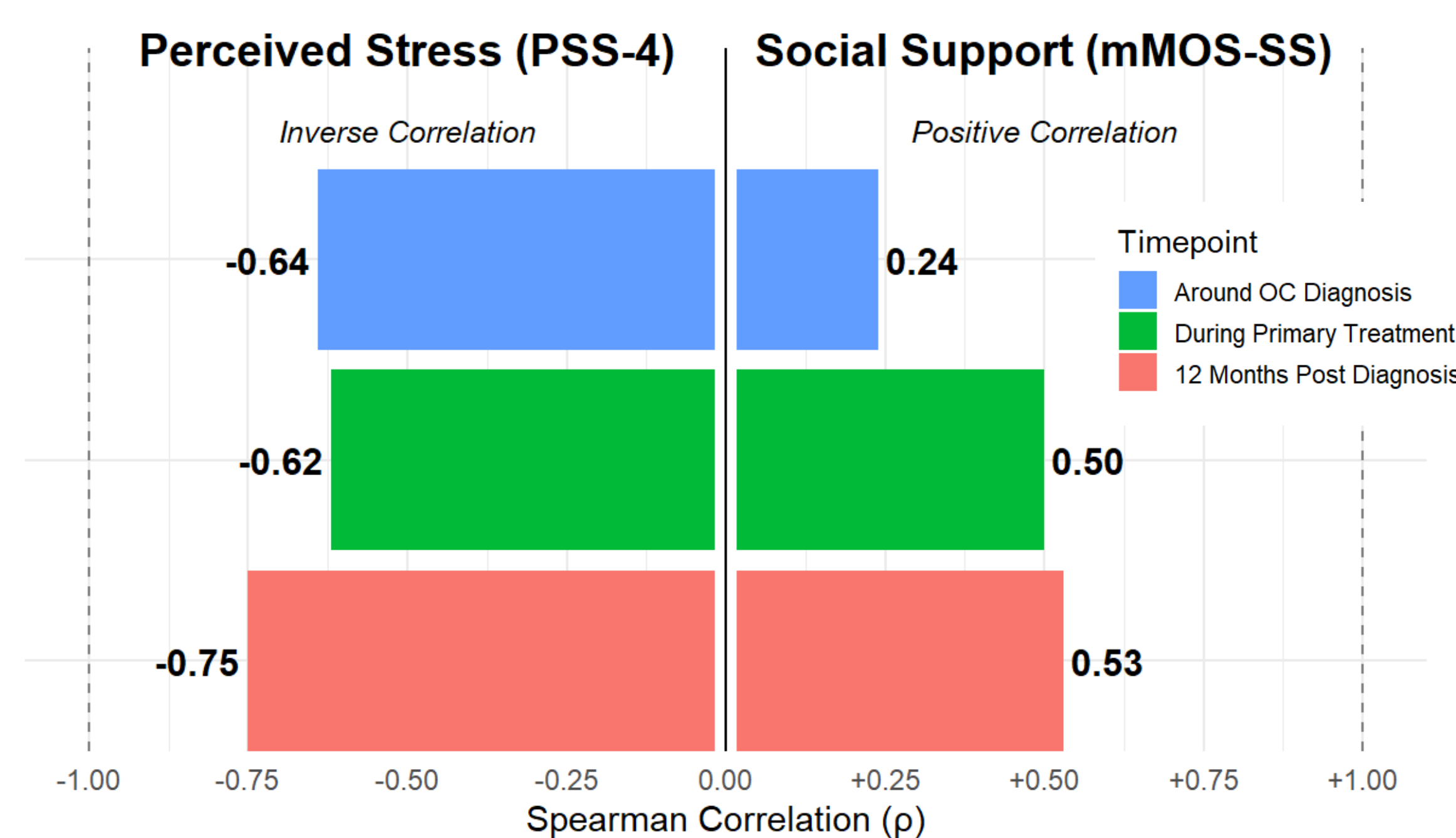
To assess the strength of construct validity across the PROMs administered to a cohort of OC survivors to consider instrument reduction

METHODS



Results show the **PROMIS-29 mental health scores** captured the **perceived stress construct well**; therefore, our data supports removing the PSS-4 instrument to **reduce survey burden** on OC survivors

Figure 1. Spearman Correlations over the Survivorship Trajectory comparing PROMIS-29 Mental Component Score to other PROMs



Key Takeaways:

Perceived stress (PSS-4) had **persistent strong inverse correlation** with the PROMIS-29 **mental health component scores (MCS)** across all time points. As OC survivors progressed through treatment into follow-up **more social support** measured by mMOS-SS was correlated with **better overall (MCS)** on the PROMIS-29 survey.

Table 1. Demographic and Clinical Characteristics of the OHLS Participants (n=80)

	N	%
Age at diagnosis (Median, IQR)	63.0	(53-70)
Non-Hispanic ethnicity	75	94%
White race	73	91%
Received higher education	60	88%
High grade serous histotype	58	73%
Late stage at diagnosis (III, IV)	64	80%
Received neoadjuvant chemo	46	58%
Study status – active follow up	58	73%

Key Takeaways:

Majority of the study population are between the ages of **53 – 70 years old**, identified as **non-Hispanic white**, and received some form of **higher education**. Most were diagnosed with **high grade serous carcinoma** at **advanced staged (III and IV)** and were treated **with neoadjuvant chemotherapy**.

RESULTS

- The PROMIS-29 MCS measured the construct of perceived stress well
 - Persistently strong inverse correlation between PROMIS-29 MCS and PSS-4 at all survey time points ($\rho = -0.64$ to -0.75)
- There was weak evidence to support PROMIS-29 validly measured social support through the MCS or social roles domains alone
 - PROMIS-29 MCS had a weak positive correlation with the mMOS-SS, ($\rho = 0.24$) around the time of OC diagnosis
 - The relationship between PROMIS-29 MCS and mMOS-SS increased to moderate positive correlations during primary treatment ($\rho = 0.50$) and 12-months post diagnosis ($\rho = 0.53$)

Implications

- Removing the PSS-4 instrument, would lead to decreased burden on the study participants, while still yielding high quality mental health-based PROMs for research among OC survivors
- Replacing mMOS-SS, with the PROMIS instrumental support instrument could standardize the survey methods and scales

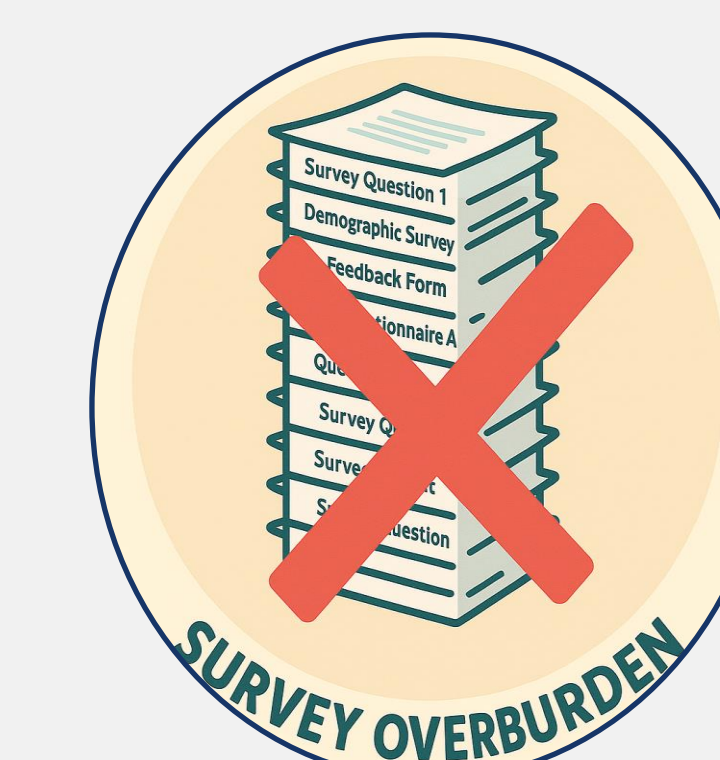
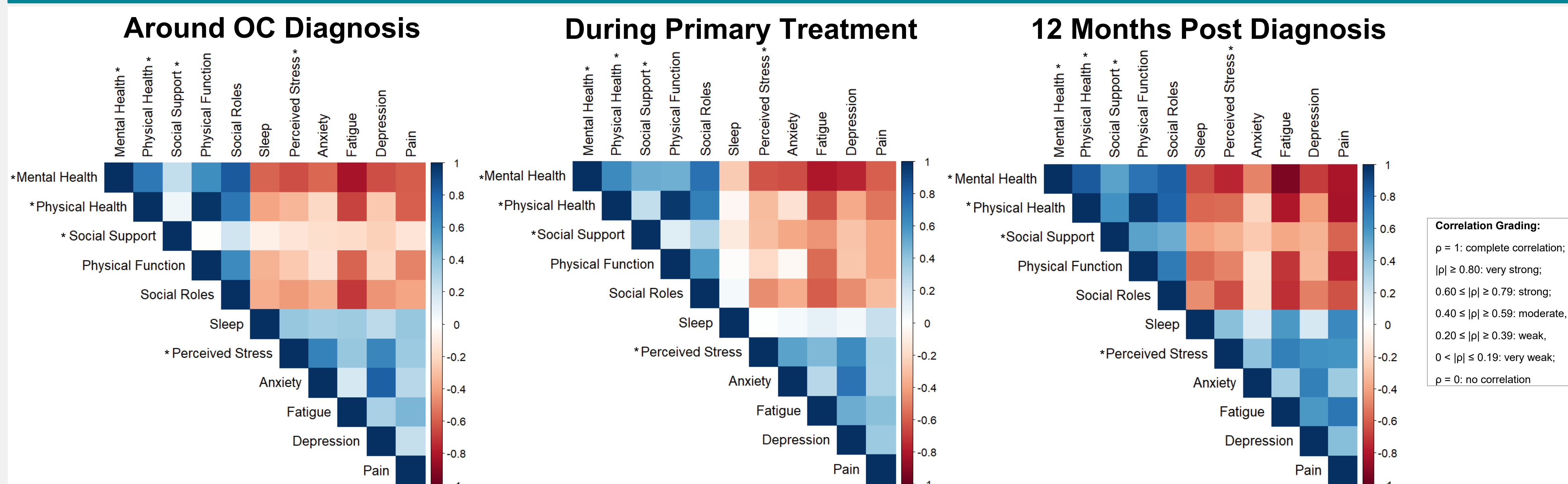


Figure 3. Spearman Correlation Matrices over the Survivorship Trajectory between all PROMs (including PROMIS-29 domains and overall scores*)



Key Takeaways:

All PROMs were correlated in the hypothesized directions when compared to the PROMIS-29 MCS. PROMIS-29 social roles domain was weakly correlated with the mMOS-SS ($\rho = 0.20$) at OC diagnosis. The PROMIS-29 physical function domain and the PROMIS-29 MCS were not correlated at OC diagnosis. However, these correlations increased at the 12 months post diagnosis survey time point.

Acknowledgements

This research is supported by pilot funding from the Breast and Gynecologic Cancer Center (BGCC) and the Cancer Control and Population Sciences Program (CCPS) at Huntsman Cancer Institute. Additional support provided by the HCL research informatics core team. Special thanks to our OHLS participants for their time and dedication to supporting the future of cancer research!