**Appendix 3: Comparison of sources of systematic variance across analyses**

**Appendix 3A: Overview of observation procedure**

**Appendix 3B: Sources of variability for nested generalizability study analyses**

**Appendix 3C: Comparison of sources of systematic variance across analyses**

**Appendix 3A: Overview of observation procedure**



Observers rated team performance using the behavioral marker systems for three common ICU team tasks representing both action- and transition-oriented tasks. For rounds, 88 total instances of teamwork were observed across four different attending physicians and team performance was rated on eight subdimensions. For handoffs, 25 teams were rated on six subdimensions. For codes, 25 teams were rated along five subdimensions. These subdimensions were core competencies that emerged from four main dimensions that engender teamwork in the ICU:

S1= communication style, S2 = communication content, S3 = closed-loop communication, S4 = task management and delegation, S5 = norms, S6 = offering and seeking support, S7 = error correction and feedback, S8 = planning and establishing goals, S9 = contingency planning, S10 = updating and revising goals.

**Appendix 3B:** **Sources of variability for nested generalizability study analyses**



|  |  |
| --- | --- |
| **Source of Variation** | **Description** Adopted from previous literature30,34,38,39  |
| T | * Systematic variances in tasks averaged across instances, subdimensions, and raters.
 |
| I:T | * Systematic variance in instances of teamwork (nested within tasks) across subdimensions and raters.
 |
| S | * Systematic variance in subdimensions across instances and tasks.
 |
| R | * Systematic variance in ratings across subdimensions, instances of teamwork, and tasks.
 |
| RS | * Variance due to raters consistently scoring a particular teamwork subdimension differently.
 |
| T R | * Variance due to raters consistently scoring a particular task differently.
 |
| I:T R | * Variance due to raters consistently scoring teams within a particular task differently.
 |
| I:T S | * Variance due to teams within tasks performing differently on subdimensions of teamwork.
 |
| I:T R S | * Residual error. Note: the T X R X S interaction is not distinguishable from the residual error term for interpretation.34
 |

**Appendix 3C: Comparison of sources of systematic variance across analyses**

T= Task main effect

S = Subdimension subdimension main effect

I:T = Instances of teamwork nested within tasks main effect

L = Leadership main effect

R = Rater main effect

I = Instances of teamwork main effect

RS = Rater by subdimension interaction

(I:T) R = Instance by rater interaction

(I:T) S = Instance by subdimenstion interaction

LS = Leadership by subdimension interaction

RL = Rater by leadership interaction

(IT)RS; IRS; (I:L)RS = Residual (unexplained) variance

 *Transition Team Tasks*

 *Action Team Task Global Team Competency*