



Slaying Assessment Dragons:

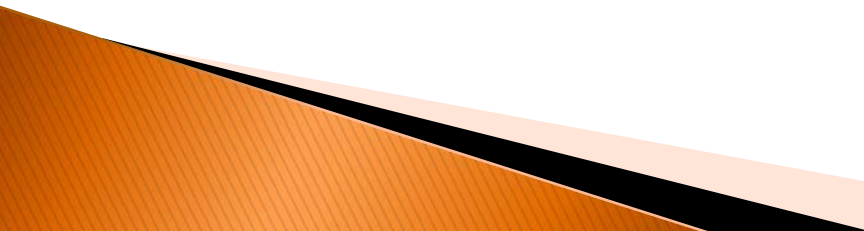
Assessing Teamwork Using the Teamwork
Self-Reflection Instrument (TSRI)

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First, a show of hands...

- ▶ How many of you are from:
 - Public Institution?
 - Private Institution?
 - 2-year College?
 - 4-year University?

Institutional Profile

- ▶ 4-year, public university approximately 1-hour north of Houston, Texas
 - ▶ Current enrollment over 20,000 undergraduate and graduate students
 - 80+ bachelor's degree programs, more than
 - 50+ master's degree programs, and
 - 6 doctoral programs
 - ▶ Classified by the Carnegie Commission on Higher Education as a “Doctoral Research University” and a “Community Engaged” University
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Background of Teamwork Assessment

- ▶ Why assess teamwork?
 - To provide valuable programmatic assessment data for the degrees and programs at SHSU
 - To satisfy general education assessment requirements. Teamwork is identified as a core objective within the Texas Higher Education Coordinating Board's (THECB) Core Curriculum

THECB Definition of Teamwork

The Ability to Consider Different
Points of View and to Work
Effectively With Others to Support a
Shared Purpose or Goal

Hypothesis

- ▶ As a result of the teamwork assessment, we expected to observe the following:
 - Students with more teamwork experiences will demonstrate higher total TSRI scores
 - Students enrolled in upper-division (i.e., junior- and senior-level) courses would demonstrate higher TSRI scores than those enrolled in lower-division (i.e., freshman- and sophomore-level) courses

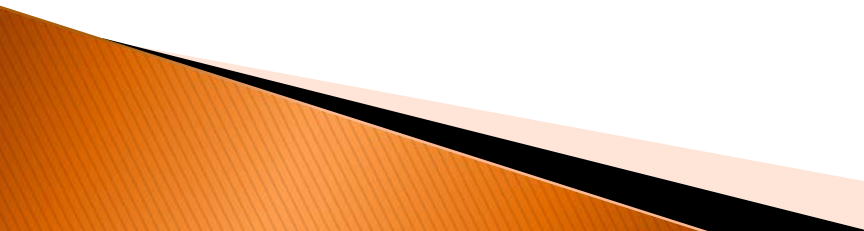
Development and Methods of the TSRI

- ▶ In the 2016–2017 academic year, SHSU completed a teamwork assessment pilot.
 - Paper format adapted from the AAC&U Teamwork VALUE Rubric
 - In-person classroom administration to all colleges that responded to our call for volunteers
 - 580 completed, but only 84% were usable due to students not following instructions correctly

Development and Methods of the TSRI (cont'd)

- ▶ In Fall 2017, SHSU piloted an electronic version of the TSRI using the Qualtrics survey platform.
 - Evaluated strengths and weaknesses of initial pilot to adapt paper TSRI to an electronic version
 - Scheduled emails sent to students in participating classrooms within two of our colleges, instructor participation highly encouraged
 - 541 students received emails and 403 students provided responses, resulting in a 74.49% response rate

Structure of the TSRI

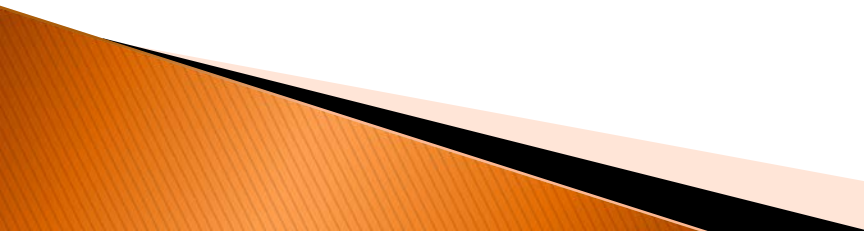
- ▶ 17 Likert–Scale questions to evaluate student perceptions of their:
 - Contributions to group activities and discussions
 - Time and task management skills
 - Interactions with group members
 - Responses to intergroup conflict and disagreement
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Students were asked to:

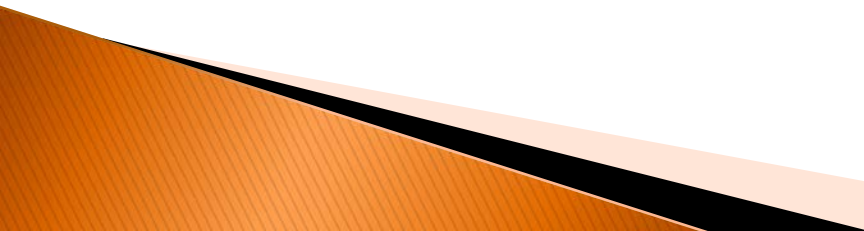
“Reflect on their teamwork experiences as a whole, not necessarily just one experience”

and that they should:

“choose the answer that (they) feel best identifies (their) behaviors”



Example TSRI Question

- ▶ Choose one from the list below:
 - I only contribute what is required to complete the project or task
 - I may contribute some ideas and work to the group
 - I actively contribute ideas and work that advance the project
 - I help integrate the work and ideas of all group members to complete the project
- 

Structure of the TSRI (cont'd)

- ▶ 3 additional questions at the end
 - Estimate number of teamwork experiences at SHSU
 - 0, 1–3, 4–6, 7–9, 10 or more
 - Rate ability to work with others on a Likert–scale
 - Very Below Average, Below Average, Average, Above Average, Very Above Average
 - Estimate whether their teamwork skills are better than ___% of students completing the survey
 - Less than 10%
 - 10%
 - 30%
 - 50%
 - 70%
 - 90%

Scoring of the TSRI

- ▶ Each response assigned a point value (-1, 1, 2, and 3)
- ▶ Scores can therefore range from a minimum of -17 to maximum of 51

Instrument Reliability

- ▶ An exploratory factor analysis revealed the possibility of four underlying factors each meeting the eigenvalue-greater-than-one-rule (Kaiser, 1958):
 - Three were ultimately demonstrated to be reliable using internal consistency analysis
 - Relative fit of questions within each of the factors was determined using the correlational cutoff of .3 (Lambert & Durand, 1975)

Instrument Reliability (cont'd)

- ▶ Reliability Analysis Revealed Three Reliable Factors:
 - Factor One – Interactions with Group Members
 - Cronbach's Alpha = .78
 - Factor Two – Engagement in Group Activities and Discussion
 - Cronbach's Alpha = .78
 - Factor Three – Responses to Intergroup Conflict
 - Cronbach's Alpha = .76

Instrument Reliability (cont'd)

- ▶ Two questions (Question 2 and Question 9) did not factor into any of the three reliable factors and
 - Overall reliability of the instrument was (slightly) improved with their deletion (.838 to .844).
- ▶ These questions will be revised prior to the Fall 2018 administration

Question Number	Factor One Interactions with Group Members (Reliable)	Factory Two Engagement in Group Activities and Discussions (Reliable)	Factor Three Responses to Intergroup Conflict or Disagreement (Reliable)	Factor #4 (Not Reliable)
Question 1	.100	.577	.065	.452
Question 2	-.013	-.031	.292	.515
Question 3	.104	.725	.166	.031
Question 4	.012	.768	.209	.064
Question 5	.070	.771	.207	.051
Question 6	.266	.412	.306	-.006
Question 7	.091	.349	.353	.386
Question 8	.149	.313	.276	.442
Question 9	.156	.036	-.129	.750
Question 10	.732	.006	.087	.028
Question 11	.801	-.002	.145	.021
Question 12	.776	.078	.042	.095
Question 13	.680	.145	.197	.062
Question 14	.536	.241	.109	.224
Question 15	.149	.110	.751	.072
Question 16	.180	.286	.707	.125
Question 17	.165	.249	.758	.049

Results

- ▶ Although students with more self-reported teamwork experiences demonstrated higher mean scores than those with fewer teamwork experiences, these results were not statistically significant
 - $(F(4, 398) = 1.26, p = .28, \eta^2 = .01)$
- ▶ TSRI scores of students enrolled in lower-division courses were statistically significantly lower than those of students enrolled in upper-division courses
 - $t(253.54) = -1.99, p = .05$
 - This difference represented a small effect size (Cohen's d) of 0.28
- ▶ The overall Mean score for all students was 31.14, with scores ranging from a low of 1 to a high of 51

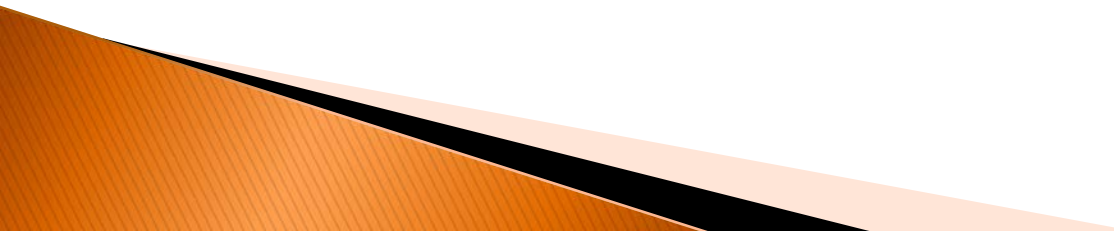
Number of Teamwork Experiences	N of students	<i>M</i>	<i>SD</i>
0 Experiences	15	28.27	9.22
1–3 Experiences	129	30.16	10.31
4–6 Experiences	141	31.27	9.01
7–9 Experiences	50	32.78	8.46
10 or More Experiences	68	32.18	9.85

Course Level	N of students	<i>M</i>	<i>SD</i>
Lower Division	270	30.47	9.38
Upper Division	133	32.50	9.76

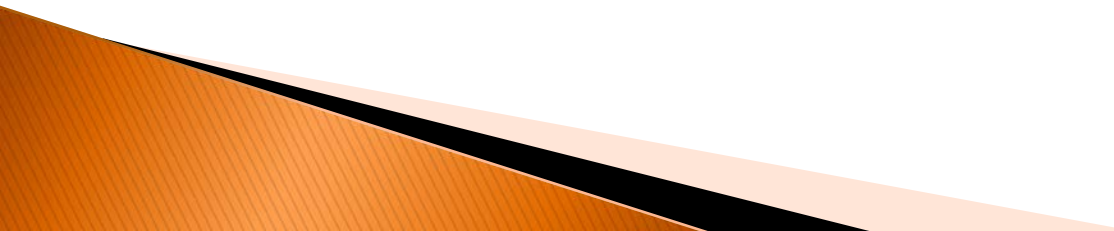
Next Steps

- ▶ Exploring the student scores within the three reliable factors will provide more information when analyzing data for future use
- ▶ Statistical analysis revealed two of the questions must be revised in order to increase the validity of the TSRI
 - Plans are underway to have an updated version ready for fall 2018
- ▶ A potential change in the way each answer was scored will be considered, due to Qualtrics inability to calculate the negative scores

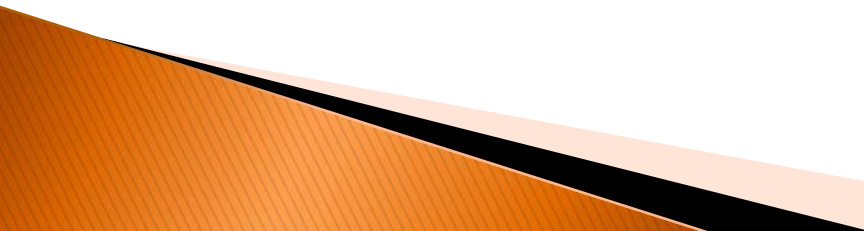
Next Steps (cont'd)

- ▶ Deeper analysis of institutional data is forthcoming in an effort to keep equity in mind when presenting findings to appropriate constituents at SHSU
 - ▶ The transition from a pilot project to full roll-out to colleges will occur in fall 2018
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Highlights

- ▶ One of the two hypotheses was met!
 - ▶ Instrument was reliable, overall
 - ▶ Approach to administration was a success, with some minor tweaks for next year
 - ▶ High response rate due to instructor participation and incentives
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Questions for Further Discussion

- ▶ Will a larger and more representative sample size result in statistically significant results regarding the relationship between overall TSRI score and number of teamwork experiences?
 - ▶ Will we discover that this relationship is simply the result of a natural growth in maturity of the students?
 - ▶ Will our results of future administrations be duplicated or will we see more pronounced trends?
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Questions?

Contact Us

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Citations

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- ▶ Lambert, Z. V., & Durand, R. M. (1975). Some precautions in using canonical analysis. *Journal of Market Research*, *XII*, 468–475. doi:10.2307/3151100