

## 2020– 21 Alternative Delivery Executive Summary

Submit to the BlackBoard Assessment Site.

<b>Department:</b> Health and Human Sciences <b>Date:</b> 6/15/2021 <b>Course(s):</b> PSY 101
<b>Alternative Format(s) – select as many as are applicable:</b> <b>Dual Credit</b> <b>Select</b> <b>Select</b>
<b>Members</b> (must include more than course instructor only) <b>involved with analysis of artifacts:</b> Sara Brady and Thad Warren
<b>See Alternative Delivery Assessment Plan for:</b> a) <i>Course requirement evaluation;</i> b) <i>Student Outcome;</i> c) <i>Question(s);</i> e) <i>Methodology</i>
<b>Analysis of artifacts:</b> 1). Student Outcome: <b>PERFORMANCE CRITERIA*</b> - <i>How was data analyzed? (attach rubrics/scoring tools if used).</i> In Fall 2020, a 24-item test was disseminated to 114 dual credit and CUNE students via an online survey tool (see Appendix A for the final items; correct answers are bolded). For each of the 12 domains, there were two items. Items were analyzed for reliability (item discrimination index and split-half correlations). In Spring 2021, dual credit and CUNE instructors administered a pretest (12 items) during the first week of the term and a posttest (12 items) during the second week of the term. A unique identifier was used to pair pre- and posttest responses. To compare the amount of change across the two delivery methods a 2 (Time: pretest vs. posttest) x 2 (Delivery: dual credit vs. CUNE) mixed-model ANOVA was conducted with time as the within subjects factor and delivery as the between subjects factor. In addition, chi-square tests of independence were conducted on the individual items to determine whether knowledge scores were comparable across delivery modes. 2). <b>COMPARABILITY</b> – <i>How did you determine if the outcomes of the traditional and alternative delivery modes were comparable?</i> (note “na” if delivery modes were not compared). The inferential statistic (p value) and effect size (Cohen's d) were examined. P values above .05 and Cohen's d lower than .25 were considered thresholds for determining whether the two delivery modes were equivalent.
<b>Summary of RESULTS*:</b> 1). <i>Restate the assessment question(s) (from the Assessment plan):</i> 1) To what extent is a multiple-choice knowledge test in psychology a valid instrument of student learning for CUNE and dual credit courses? 2) To what extent is a multiple-choice knowledge test in psychology a reliability instrument to measure student learning for CUNE and dual-credit courses? 3) To what extent do students' knowledge scores improve over time on a multiple-choice knowledge test in psychology for CUNE and dual-credit courses? 2). <i>Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.</i> To answer Question 1, Appendix B summarizes the results of the item discrimination index computations from the data generated in Fall 2020. Four items were considered for removal due to discrimination indices below .25 (Q2, Q4, Q8, and Q18). However, Q2 was retained due to a higher percentage correct than the other three items (< 20%). Overall, these results suggest that most of the 24 items were reasonably discriminating in predicting students' overall knowledge scores. Therefore, the multiple-choice test was considered a reasonable valid tool for assessing students' knowledge of psychology concepts.  To answer Question 2, Appendix C summarizes the results from the reliability analysis from the data generated in Fall 2020. Split-half correlations of the odd-number items were modestly predictive of even-numbered items, $r = .180$ , $p = .06$ . A paired samples t test, further demonstrates that students scored significantly higher on odd-numbered items ( $M = 7.52$ , $SD = 2.55$ ) than they did on even-numbered items ( $M = 4.79$ , $SD = 1.72$ ). However, this is mostly likely due to the fact that four out of the 12 even-numbered items demonstrated poor discrimination with students' overall totals (difficulty indices < .25) and low percentage correct (< 25%). With the improvement of the three items marked for revision (Q4, Q8, Q18), it is anticipated that this analysis would improve. Therefore, the reliability of this particular tool is yet to be determined based upon this particular set of analyses.  To answer Question 3, Appendix D displays the results from the repeated measures ANOVA. There was a main effect of time, $p < .001$ , suggesting that overall students' knowledge scores significantly decreased over time. These results are consistent with the result from Fall 2020, despite the fact that three of the posttest items were changed. There was a marginally significant main effect of campus, $p = .071$ , suggesting that CUNE students scores higher on average than high school students. However, this effect was small, $\eta^2 = .024$ . More importantly, campus did not significantly moderate the results over time, $p = .823$ .

Because the ANOVA results from Spring 2021 were consistent with the t test results from Fall 2020, an item-analysis was done to compare CUNE and high school students on each of the individual items in the pre- and posttest (see Appendix D). Chi-square tests of independence were conducted to determine if the expected frequencies of correct vs. incorrect responses differed from the observed frequencies for high school and CUNE students. Based upon these results, there were only two significant results found. On the pretest learning item and posttest health item, CUNE students outperformed high school students ( $p = .003$  and  $p < .001$ , respectively). Therefore, the conclusion from these analyses are that overall, CUNE and high school students performed relatively equally across the pre- and posttest items.

3). **INTERPRETATION\*** - *Discuss how the results answer the assessment question(s).* Overall, the multiple-choice tool developed, established some validity to measuring knowledge over time, but the internal reliability of the 24 items are questionable. This is because the odd-numbered items (pretest) were significantly different from the even-numbered items (posttest) in both the Fall and Spring semesters. That being said, the two modalities scored equivalently, suggesting that although change over time could not be confirmed, there is equivalency across dual credit and traditional modalities.

4). *Observations made that were not directly related to the question(s).* (i.e. interrater reliability of the scoring tool was low) The same concepts that are tested at the pretest should be the exact same concepts tested and posttest and not just from the same domains.

5). **How did the outcomes of the traditional and alternative format analysis compare?** The outcomes of the traditional and alternative formats were the same.

**Sharing of Results:** *When were results shared? Date:* 6/15/2021 *How were the results shared? (i.e. met as a department)* Via email *Who were results shared with? (List names):* Thad Warren, Kathy Miller, Ed Hoffman, Mark Blanke, Amy Hubach, Kim Boyce, and Rebecca Ristow

**Discussion of Results – Summarize your conclusions including:**

1. **ACTION\***- *How will what was learned from the assessment impact the alternative format teaching of this course starting the next academic year?* The multiple-choice tool needs to be revised in such a way that the exact same CONCEPTS are measured from Time 1 to Time 2 and not just the same domains of psychology.

2. **IMPACT\***- *What is the anticipated impact of the ACTION\* on student achievement of the learning outcome in the next academic year?* The anticipated impact of the action on student achievement will be to adequately measure knowledge over time in PSY 101 courses and not just equivalence across delivery modalities.

3. **BUDGET IMPLICATIONS** – *Indicate budget requirements necessary for the successful implementation of the ACTION\* (i.e. an additional staff person, new equipment, additional sections of a course).* None

**Submitted by:** Thad Warren/Sara Brady **Assessment Committee Reviewed (date):** 7/9/2021

**Submitter notified approval/additional action needed:** Approved 7/9/2021

**BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean:** na

## Appendix A

### Knowledge Items

*Pretest items are odd-numbered, whereas posttest items are even-numbered.*

[Q1\_subf] In studying the bystander effect, a researcher is interested in looking at differences between police officers in Thailand and Canada. The researcher is taking a \_\_\_\_\_ in this cross-cultural study.

- a) cognitive perspective
- b) egocentric perspective
- c) biological perspective
- d) sociocultural perspective**

[Q2\_subf] Dr. Prevatt wants to know more about how our sensations become perceptions. She has developed a drawing that can be interpreted in different ways, depending on which parts of the drawing the viewer focuses on. Now she is showing the drawing to different people, and asking them to report what they see, any thoughts they may have as they view the drawing, and how their thoughts influence their perceptions. Dr. Prevatt's approach to this research most closely resembles \_\_\_\_\_

- a) structuralism.**
- b) functionalism.
- c) Gestalt psychology.
- d) evolutionary psychology.

[Q3\_neur] Neurotransmitters are released into the

- a) nodes of Ranvier
- b) myelin sheath
- c) synaptic cleft**
- d) post-synaptic neuron

[Q4\_neur] Monica stepped down on a shard of glass and immediately yanked her toe off the glass. This is because her \_\_\_\_\_ neurons converted the stimulus of the shard of glass into a signal sent to her spinal cord. Then, Monica's \_\_\_\_\_ neurons sent signals to Monica's leg muscles, resulting in her pulling her foot away from the shard of glass.

- a) sensory; motor**
- b) motor; sensory
- c) sensory; inter-
- d) inter- ; sensory

[Q5\_s\_p] Perception is the \_\_\_\_\_

- a) psychological process of interpreting sensory information.**
- b) action of physical stimuli on receptors leading to sensations.

- c) process by which people respond to environmental stimuli they experience .
- d) act of selective attention from sensory storage.

[Q6\_s\_p] When Elsie went to her audiologist, he gave her a hearing test. During the test, the audiologist presented tones to Elsie through earphones. The tones started at a low intensity and then became louder. The audiologist asked Elsie to raise her hand whenever she started to hear a sound. The audiologist was testing Elsie's \_\_\_\_\_

- a) auditory convergence.
- b) absolute threshold.**
- c) refractory threshold.
- d) difference threshold.

[Q7\_consc] Jill feels incredibly tired at night. What aspect of her circadian rhythms explains this phenomenon?

- a) body temperature bottoms out in the mornings
- b) the three biorhythm patterns converge at low points in the mornings
- c) heart rates typically increase at night
- d) there is a structure in the brain sensitive to light changes, which then affects our sleepiness**

[Q8\_consc] The effects amphetamines and other \_\_\_\_\_ are similar to the effects of epinephrine.

- a) stimulants.**
- b) depressants.
- c) hallucinogens.
- d) antipsychotics.

[Q9\_lear] Freezing behaviors in response to an electric shock and feeling ill in response to food poisoning, are both examples of \_\_\_\_\_

- a) unconditioned stimuli.
- b) conditioned responses.
- c) conditioned stimuli.
- d) unconditioned responses.**

[Q10\_lear] Reinforcement \_\_\_\_\_ a behavior, while punishment \_\_\_\_\_ a behavior.

- a) decreases; increases
- b) weakens; strengthens
- c) increases; motivates
- d) strengthens; weakens**

[Q11\_mem] Cadence is a camp counselor who is planning an ice-breaker game with her campers. She wants to devise a game whereby each camper needs to remember everyone's favorite food in a specific sequence, but she does not want to make the task too difficult. According to research on short-term memory, what is the magic number of campers she should

include in her game?

- a) 5, plus or minus 4.
- b) 7, plus or minus 2.**
- c) 9, plus or minus 3.
- d) 11, plus or minus 1.

[Q12\_mem] If Devon wants to use the best method to get storage in long-term memory, he should use \_\_\_\_\_

- a) maintenance rehearsal.
- b) rote rehearsal.
- c) elaborative rehearsal.**
- d) sleep learning.

[Q13\_moti] After a long job interview without having anything to drink for several hours, Juan is motivated to seek a beverage and drink it in order to restore \_\_\_\_\_

- a) intrinsic motives.
- b) homeostasis.**
- c) drive level.
- d) arousal.

[Q14\_moti] According to Maslow's theory of motivation, Ryder's motive for self-actualization makes him want \_\_\_\_\_

- a) to fulfill his full personal potential.**
- b) to have frequent contact with others.
- c) to possess as many material goods as possible.
- d) to convince others of his true worth.

[Q15\_dev] When a newborn infant is suddenly dropped and then caught, mimicking the sensation of falling, the infant will spread out the arms and then pull in the arms. This behavior is known as

- a) rooting
- b) suckling
- c) the patellar reflex
- d) the Moro reflex**

[Q16\_dev] According to Erikson, \_\_\_\_\_ describes adolescent difficulty in forming an identity.

- a) moratorium
- b) ego crisis
- c) identity crisis**
- d) role stagnation

[Q17\_pers] In Freud's theory of personality, the \_\_\_\_\_ mind includes thoughts and emotions that are completely inaccessible to a person's level of awareness.

**a) unconscious**

b) preconscious

c) collective unconscious

d) conscious

[Q18\_pers] Marshall is incredibly self-disciplined. When his friends ask if he wants to attend a party that night, Marshall says no, because he has a really important test the following morning. His friends are disappointed, but they also know that Marshall is a very reliable person who makes plans and follows through with those plans. Based on Marshall's behavioral tendencies, Marshall seems to be high on the trait of \_\_\_\_\_.

**a) conscientiousness.**

b) introversion.

c) emotional stability.

d) openness.

[Q19\_heal] Julissa is experiencing a stressful school year. Based upon the general adaptation syndrome, what is the correct sequence of stages that Julissa will experience?

a) resistance, alarm, exhaustion

b) exhaustion, resistance, alarm

c) alarm, exhaustion, resistance

**d) alarm, resistance, exhaustion**

[Q20\_heal] Brianne is not doing very well in her college classes. In evaluating her performance, Brianne has decided that she is spending too much time playing video games and not nearly enough time studying in the library. Brianne adopts a plan that allows her to earn a half-hour of video games for each 10 hours she spends in the library studying. Brianne's plan is an example of \_\_\_\_\_

a) emotion-focused coping.

b) behavioral focusing.

c) cognitive adaptation.

**d) problem-focused coping.**

[Q21\_diso] Ravi, a nursing student, has difficulty talking to other people. Unfortunately, he has chosen a career in which he must interact with others on a daily basis. The night before a clinical rotation he tosses and turns, and the resulting lack of sleep makes the situation worse. When he interacts with a patient, he often becomes confused and stumbles over his words. As a result, he feels worthless and miserable. Which two criteria of abnormal behavior are most useful in analyzing this case?

a) inability to function normally and statistically rare

**b) personal distress and inability to function normally**

c) statistically rare and deviance from social norms

d) deviance from social norms and personal distress

[Q22\_ *diso*] Rachel is a behavioral therapist and is working with client diagnosed with major depressive disorder. Which of the following causes is the most likely focus of Rachel's intervention?

- a) **learned behaviors of depression**
- b) unusual levels of neurotransmitters
- c) negative interpretations of life events
- d) a superego that is too harsh and strict

[Q23\_ *soci*] Britni develops a positive attitude toward a product that has repeatedly appeared in internet ads on her phone. This phenomenon is referred to as

- a) impression management
- b) the Purkinje shift
- c) **the mere-exposure effect**
- d) reaction formation

[Q24\_ *soci*] Which of the following was an important finding from Milgram's shock experiment?

- a) Individuals will readily conform to group norms.
- b) The presence of other people makes aggression more likely.
- c) **A person of authority can get most people to obey instructions to harm others.**
- d) Agreeing to a small request makes it more likely you will agree to a big request.

## Appendix B

### Validity Analyses from Fall 2020

```

> PSY101_DC_Assessment_Fall2020_binary <- read.csv("C:/Users/sara.brady/Concordia University, Nebraska/Human and
Social Science Department - Assessment - Documents/Assessment/2020-2021/Alternate
Delivery/PSY101_DC_Assessment_Fall2020_binary.csv")
>library(psychometric)
>item.exam(PSY101_DC_Assessment_Fall2020_binary, y=NULL, discrim=FALSE)
  Sample.SD Item.total Item.Tot.woi Difficulty Discrimination
Q1subf_r  0.3662522  0.50982888  0.467812356  0.84210526      NA
Q2subf_r  0.4214406  0.07255649  0.009889759  0.22807018      NA #consider removal (22.8% correct)
Q3neur_r  0.4944185  0.36454169  0.298272601  0.41228070      NA
Q4neur_r  0.2965673  0.29561572  0.254590468  0.09649123      NA #consider removal (9.65% correct)
Q5sp_r    0.4469184  0.47196505  0.417853546  0.72807018      NA
Q6sp_r    0.4984061  0.42640620  0.362895755  0.43859649      NA
Q7consc_r 0.4513259  0.36670021  0.306495675  0.71929825      NA
Q8consc_r 0.3488843  0.07976829  0.027947424  0.14035088      NA #consider removal (14.0% correct)
Q10lear_r 0.3893673  0.35606845  0.303961893  0.81578947      NA
Q11mem_r  0.4820163  0.37181306  0.307611372  0.64035088      NA
Q12mem_r  0.4469184 -0.02423646 -0.090374099  0.27192982      NA
Q13moti_r 0.4702779  0.41198390  0.351420698  0.67543860      NA
Q14moti_r 0.4323511  0.45902131  0.406009878  0.75438596      NA
Q15dev_r  0.4959078  0.28250497  0.212623274  0.42105263      NA
Q16dev_r  0.4632932  0.05169487 -0.017243811  0.69298246      NA
Q17pers_r 0.4270216  0.47864997  0.427438652  0.76315789      NA
Q18pers_r 0.3662522  0.10120907  0.046915883  0.15789474      NA #consider removal (15.8% correct)
Q19heal_r 0.4927671  0.33018999  0.262599880  0.59649123      NA
Q20heal_r 0.4994175  0.44533538  0.382834556  0.44736842      NA
Q21diso_r 0.4994175  0.30854389  0.239122928  0.55263158      NA
Q22diso_r 0.4555204  0.16411924  0.097219108  0.28947368      NA
Q23soci_r 0.4889717  0.32472343  0.257442919  0.61403509      NA
Q24soci_r 0.5002716  0.19329549  0.120281871  0.45614035      NA
Score     3.4166842  0.99741001  0.989361716  12.18421053      NA
  Item.Criterion Item.Reliab Item.Rel.woi Item.Validity
Q1subf_r      NA  0.18590516  0.170584162      NA
Q2subf_r      NA  0.03044384  0.004149625      NA
Q3neur_r      NA  0.17944389  0.146823253      NA
Q4neur_r      NA  0.08728460  0.075171332      NA
Q5sp_r        NA  0.21000270  0.185925575      NA
Q6sp_r        NA  0.21158928  0.180074420      NA
Q7consc_r     NA  0.16477383  0.137721396      NA
Q8consc_r     NA  0.02770757  0.009707557      NA
Q9lear_r      NA  0.23729638  0.207247449      NA
Q10lear_r     NA  0.13803200  0.117832587      NA
Q11mem_r      NA  0.17843216  0.147621935      NA
Q12mem_r      NA -0.01078411 -0.040212310      NA
Q13moti_r     NA  0.19289529  0.164538946      NA
Q14moti_r     NA  0.19758603  0.174767225      NA
Q15dev_r      NA  0.13948061  0.104978058      NA
Q16dev_r      NA  0.02384461 -0.007953824      NA
Q17pers_r     NA  0.20349545  0.181723230      NA
Q18pers_r     NA  0.03690511  0.017107514      NA
Q19heal_r     NA  0.16199157  0.128831791      NA
Q20heal_r     NA  0.22143064  0.190353841      NA
Q21diso_r     NA  0.15341487  0.118897229      NA
Q22diso_r     NA  0.07443105  0.044090625      NA
Q23soci_r     NA  0.15808262  0.125328967      NA
Q24soci_r     NA  0.09627519  0.059909106      NA
Score         NA  3.39285542  3.365477830      NA
>

```



## Appendix C

### Reliability Analyses from Fall 2020

#### Correlation

##### Pearson's Correlations

Variable		Score_1half	Score_2half
1. Score_1half	Pearson's r	—	—
	p-value	—	—
2. Score_2half	Pearson's r	0.180	—
	p-value	0.055	—

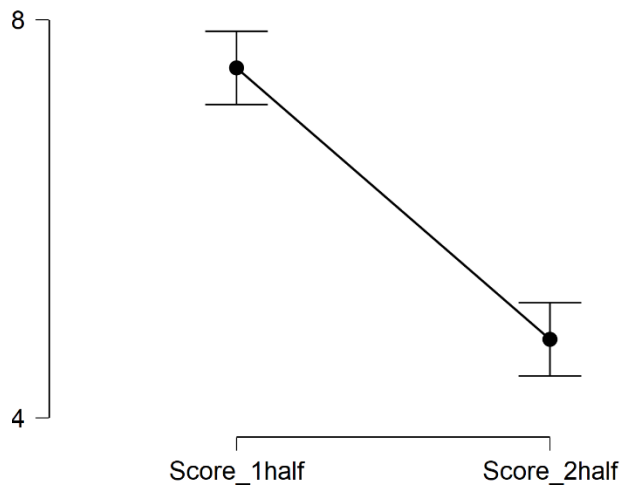
##### Paired Samples T-Test

Measure 1	Measure 2	t	df	p	Cohen's d
Score_1half	- Score_2half	10.376	113	< .001	0.972

*Note.* Student's t-test.

#### Descriptives Plots

##### Score\_1half - Score\_2half



## Appendix D

### Results from Repeated Measures Analysis of Variance (ANOVA)

#### Within Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Time	168.159	1	168.159	27.683	< .001	0.106
Time * campus	0.307	1	0.307	0.051	0.823	1.935e -4
Residuals	479.89	7 9	6.075			

Note. Type III Sum of Squares

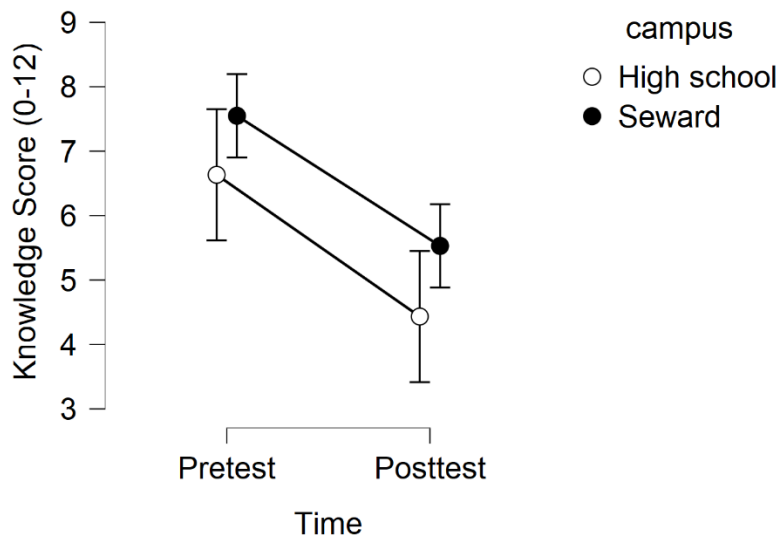
#### Between Subjects Effects

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2$
campus	38.224	1	38.224	3.349	0.071	0.024
Residuals	901.776	7 9	11.415			

Note. Type III Sum of Squares

#### Descriptives

Time	campus	Mean	SD	N
Posttest	High school	4.433	3.53	30
	Seward	5.529	3.54	51
Pretest	High school	6.633	1.79	30
	Seward	7.549	2.452	51



## Appendix D

### *Results from Item Comparison by Campus*

Domain by Campus	Pretest Items				Posttest Items			
	Correct		Incorrect		Correct		Incorrect	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Subfields</b>								
High school	25	37.31%	5	35.71%	16	69.57%	39	46.99%
Seward	42	62.69%	9	64.29%	7	30.44%	44	53.01%
<b>Neuroscience</b>								
High school	12	35.29%	18	38.30%	35	54.69%	20	47.62%
Seward	22	64.71%	29	61.70%	29	45.31%	22	52.38%
<b>Sensation and Perception</b>								
High school	16	34.78%	14	40.00%	18	48.65%	37	53.62%
Seward	30	65.22%	21	60.00%	19	51.35%	32	46.38%
<b>Consciousness</b>								
High school	24	41.38%	6	26.09%	30	55.56%	25	48.08%
Seward	34	58.62%	17	73.91%	24	44.44%	27	51.92%
<b>Learning**</b>								
High school	7	19.44%	23	51.11%	31	50.82%	24	53.33%
Seward	29	80.56%	22	48.89%	30	49.18%	21	46.67%
<b>Memory</b>								
High school	20	31.75%	10	55.56%	20	48.78%	35	53.85%
Seward	43	68.25%	8	44.44%	21	51.22%	30	46.15%
<b>Motivation</b>								
High school	9	26.47%	21	44.68%	36	52.17%	19	51.35%
Seward	25	73.53%	26	55.32%	33	47.83%	18	48.65%
<b>Development</b>								
High school	15	31.92%	15	44.12%	33	55.00%	22	47.83%
Seward	32	68.09%	19	55.88%	27	45.00%	24	52.17%
<b>Personality</b>								
High school	18	36.00%	12	38.71%	31	50.00%	24	54.55%
Seward	32	64.00%	19	61.29%	31	50.00%	20	45.46%
<b>Health***</b>								
High school	13	29.55%	17	45.95%	11	29.73%	44	63.77%
Seward	31	70.46%	20	54.05%	26	70.27%	25	36.23%
<b>Disorders</b>								
High school	23	42.59%	7	25.93%	18	62.07%	37	48.05%
Seward	31	57.41%	20	74.07%	11	37.93%	40	51.95%
<b>Social Psych</b>								
High school	17	33.33%	13	43.33%	27	52.94%	28	50.91%
Seward	34	66.67%	17	56.67%	24	47.06%	27	49.09%

\*\*Pretest items  $p < .01$ .

\*\*\*Posttest items  $p < .001$ .