**Guided Critique of Quantitative Research #2**

**EDRS 811, Spring 2015**

**Jason Sutton**

Directions: Answer each of the following questions using Times New Roman, 12 point double-spaced font with 1 inch margins on all sides. Bullet points are sometimes appropriate when responding to specific questions.

Kaniuka, T.S., (2010). Reading achievement, attitude toward reading, and reading self-esteem of historically low achieving students. *Journal of Instructional Psychology,* 37(2), 184-188.

 doi: 613407214.x.

2. INTRO

The author is attempting to determine if there is a level of significance in means between a treatment group and a control group with providing students an intervention in reading to measure the effect it has on their individual self-esteem and attitudes towards reading. The author wants to know will increasing students’ self-esteem have a direct positive impact on the students’ academic achievement. The author was asking the question is there a relationship between effective instruction and students' attitudes toward reading and reading-based self-esteem? The author was working with an elementary school implementing the research-based remedial reading program with a historically low-achieving grade 3-4-5 school (N=376,73% minority), with reading scores on state reading tests well below district and state averages with less than 48% of the students passing. The school was located in a suburban area characterized by severe poverty and social isolation. The participants were the lowest performing 20% of grade 3 and grade 4 students at the school. The students were typically 1 -2 years behind their age equivalent peers academically. The comparison school was located in the same district and was comprised of similar low income, predominantly minority students, albeit with higher levels of academic achievement, with approximately 57% passing. The treatment group (the group receiving the intervention) for reading (Corrective reading) was N=60 and the control group (the group receiving no intervention) was N=25. The author implemented a 32-item criterion-referenced attitude/self-esteem instrument to measure two components of student affective performance, Reading Attitude, and Reading Self-Esteem. In the design and data analysis, the author used a 2 x 2 ANOVA with 1 between group’s factor, Group (treatment, control) and I repeated measure factor. Affective Scale (attitude, self-esteem). The style of analysis allowed for the testing of the differences due to treatment across the two affective scales.

1. Restate the research problem in your own words. (e.g. What is the author’s purpose in conducting this research?)
2. Who is the population?
3. Identify the research design.

Write a brief (2-4 sentences) summary of the above information.

3. SAMPLE:

 As noted in the previous section, the participants’ were a total of 85 students. The school was located in a suburban area characterized by severe poverty and social isolation. The participants were the lowest performing 20% of grade 3 and grade 4 students at the school. The students were typically 1 -2 years behind their age equivalent peers academically. The comparison school was located in the same district and was comprised of similar low income, predominantly minority students, with higher levels of academic achievement, with approximately 57% passing. The treatment group received the intervention of corrective reading (N=60). The control group received core instruction (N=25). The school that received the treatment was the school that had an overall lower pass rate in reading compared to another school in the district with similar demographics. The students who received the treatment were identified as exceptional students. Exceptional students were comprised of 9 Learning Disabled (LD) Resource in reading and 1 Speech Impaired, 1 Intellectually Disabled mild, 1 Severely Emotionally Disabled, and 1 Hearing/Speech Impaired. The remaining 47 regular education treatment students were all eligible for Title 1 services. Of the 25 students in the control group, 4 were exceptional (3 Severely Emotionally Disabled, 1 Learning Disabled) and 19 were Title 1 eligible.

1. Who were the participants?
2. What was the sample size(s)?

 c. What are the important demographics that you should mention?

d. Identify the subgroups (hint: how were these subjects recruited and what determined what group they were placed in?)

Write a brief (3-5 sentences) description of the sample that includes the above information.

4. PROCEDURE:

 The study consisted of a total of 2 groups. One group was the treatment group and the one group was the control group. The treatment group was N=60 students who received Corrective Reading. The control group N=25 received core instruction. After the treatment group received their intervention, both groups were given a 32-item criterion-referenced attitude/self-esteem instrument to measure two components of student affective performance, Reading Attitude and Reading Self-Esteem (This assessment was only administered once at the end of the treatment).

1. How many groups were used in the study?
2. What did each group do/get?
3. When and how many times were measures given to each group?

Write a 2-3 sentence summary of the above information.

5. MEASURES:

 All students N=85 were given a 32-item criterion-referenced attitude/self-esteem instrument to measure two components of student affective performance, Reading Attitude and Reading Self-Esteem. The Reading Attitude scale assessed student preferences to engage in reading instruction (vs. other activities) and student feelings regarding reading instruction. The Reading Self-Esteem focused on the degree to which students viewed themselves as successful in reading tasks and activities. In responding to the scale, students indicated their agreement or disagreement to the 16 affective statements (8 positive, 8 negative) for each scale using a 5-point Likert scale (Almost Always Yes, Usually Yes, Partly Yes/No, Usually No, Almost Always No). Examples of typical statements on the scale were, "I look forward to reading class each day" (attitude) and, "I can read successfully when I want to" (self-esteem). To help maintain reliability, in all cases, the reading teacher administered the instrument in group fashion by reading the standardized directions to their students, guiding student practice on three sample items, and monitoring students' completion of the instrument. The independent variable was corrective reading which the treatment group N=60 received. The dependent variables were self-esteem and reading attitude (feeling). The affective data were analyzed using a 2 x 2 ANOVA with 1 between groups’ factor, Group (treatment, control) and 1repeated measure factor Affective Scale (attitude, self-esteem). One question I had was the length of the intervention and what levels (A, B, and C) of Corrective reading did the students receive.

 List each measure

1. How was each measure assessed (e.g. survey? What kind—Likert scale? Open ended questions? Etc.)
2. How was it operationalized and used in the analysis (e.g. IV? DV? Categorical? Continuous?)
3. Make note of any information on validity or reliability? (or perhaps absence of these qualities)

Write a 3-4 sentence summary of this information.

6. RESULTS:

 The purpose of the study was to discover if a treatment (Corrective reading) had on 60, 3rd and 4th graders in a school about their feelings towards reading and their self-esteem. A 32-item criterion-referenced attitude/self-esteem instrument was used to measure two components of student affective performance, Reading Attitude, and Reading Self-Esteem. The Reading Attitude scale assessed student preferences to engage in reading instruction (vs. other activities) and student feelings regarding reading instruction. The Reading Self-Esteem focused on the degree to which students viewed themselves as successful in reading tasks and activities. In responding to the scale, students indicated their agreement or disagreement to the 16 affective statements (8 positive, 8 negative) for each scale using a 5-point Likert scale. The independent variable was corrective reading which the treatment group N=60 received. The dependent variables were self-esteem and reading attitude (feeling). In this study, the null hypothesis was there is no differences with in the two groups (treatment and control group) of students’ self-esteem and attitudes towards reading. The author used the data were she analyzed the results from the 32-item criterion-referenced attitude/self-esteem instrument used to measure two components of student affective performance, Reading Attitude, and Reading Self-Esteem using a 2 x 2 ANOVA with 1 between groups’ factor, Group (treatment, control) and I repeated measure factor Affective Scale (attitude, self-esteem). In the results, Table 1 shows the means and standard deviations for the treatment and comparison groups on the Reading Attitude (RA) and Reading Self-Esteem (RSE) scales. Table 2 summarizes the results of a 2 x 2 ANOVA with one between group factors. Group (treatment, control) and one within factor. Scale (RA, RSE). As Table 2 shows, the main effects (Group, Scale) were found significant (but not the lone interaction). In comparing the means, the ANOVA results (see Table 2) showed that the treatment students displayed significantly, F (1, 81) = 8.74, p < .01 more positive attitudes and self-esteem toward reading than comparison students. We would reject the null hypothesis.

 In looking at table 1, the treatment group (N=60) had a higher mean with reading attitude with 40.23 compared to the control group (N=25) of 37.04. The treatment group had a higher mean reading self-esteem with 49.84 compared to the control group 43.53. The standard error of both groups ranged from 8.26 to 8.46.

 In looking at table 2, an ANOVA 2 x 2 was conducted. When we look at the individual groups the F-ratio is 8.74\*. There is no level of significance level present on the chart but the level of significance is \*p <.01. The graph is indicating that there is a level of significance between the means of the “groups (treatment group and control group).” Also, “within the subjects the attitude scale” has an F-ratio pf 46.87\*. There is no level of significance displayed on the graph. The level of significance is \*p<.01. The table is also showing that there is a level of significance in the attitude scale between the two groups( treatment group, control group) The table shows that there is significant level of the means of the groups and within subjects attitude scale. When looking at the “Attitude scale” and “groups” together the F-ratio is 1.76. There is no level significance of the two measures together.

 It must also be noted that there were several other results that developed from the assessment of the treatment and control group. When administering a 5-point scale the nominal questions had limited answers. I would have liked to see the author ask open-ended questions to get a description of the students perception on reading and how the individual students feel it effects their self-esteem. I would also question how test anxiety and stamina effect the assessments

List each statistical test individually (i.e. if a type of test was used more than once list it multiple times).

1. What are the IV and DV for each test?
2. Was the null hypothesis rejected or retained for each one?
3. Write a one sentence summary of each test explaining what information it provides (make note of which ones include effect sizes).
4. Using your summary statements identify the purpose of each test (e.g. decide which tests are tied to research questions and which ones provide needed information about the sample or research conditions).

Based on (d.) write a 2-3 sentence summary of what information was gathered from the tests that were NOT the tests linked directly with the research questions.

Write a more detailed summary of the tests that were linked to research questions (Include what was tested, what test was used and what the findings indicate. Do NOT include actual test statistics.)

e. One section of results in this article presents only descriptive statistics (subjective views). Write a brief summary (1-3 sentences) of the findings and include the types of information that was included.

7. CRITIQUE:

 In the discussion, the author showed that an evidenced-based remedial reading intervention could effectively improve student achievement for students who have historically failed to meet state achievement standards. This present study looked at those same students to see if academic success could influence the students’ attitudes toward reading and reading associated self-esteem. As shown, the students who were involved in the remedial program had significantly higher scores with regard to attitude toward reading and reading self-esteem, indicating a greater level of reading self-esteem and a better overall general attitude toward reading.

 There were some limitations that were not discussed. One question I had was the length of the intervention Corrective reading. How long did the students receive the intervention? Who administered the intervention? Corrective reading comes in three levels. Where all 60 students receiving the same level in Corrective reading? Lastly, how were the students selected to receive the intervention?

 With the article, I found the results to be interesting. It seems clear here that if schools wish to influence student affective domains, schools may effectively influence the affective disposition of students by increasing academic performance and in this case by utilizing evidenced-based instructional programs. One could argue that when students act in a manner deemed important by adults, student self-esteem may be positively influenced. The current study suggests that in order to increase a student's self-concept, the focus for educators should be on improving academic achievement, which in a school environment is the behavior deemed important by the adults.

List the areas of strengths and weakness that authors include in their discussion.

1. Do you agree/disagree with each of their points? Why or why not?
2. Identify at least one limitation/weakness that the author has not discussed.
3. What do you believe are the most interesting findings or strengths of the research?

Write a short paragraph (4-8 sentences) that summarized the above information.