COM 968-52 Statistics for Social Research III

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Omega Graduate School

Date (September 9, 2023)

Teaching Assistant

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Assignment

### *Developmental Readings*

1. Review Assignment #3, the course essential elements, assigned readings and recommended readings to identify selections of books and scholarly articles to identify and select developmental reading sources and entries.
* Refer to the “[Student Guide to Developmental Readings](https://drive.google.com/file/d/161V_FaYR2BnNGCSFUlWPjUSIQzcH04Hq/view?usp=share_link)” for updated information on sample comments, rubrics, and critical definitions related to developmental readings.
1. Start the assignment on a new page after the Instructions Page. Follow all APA 7th edition guidelines for documentation and style.
2. Works Cited: Include a separate Works Cited page, formatted according to APA style, 7th edition (not included in page count).
3. Submit all assignments in DIAL.

**Source One:** Sholihin, M., Hardivizon, H., Wanto, D., & Saputra, H. (2022). The effect of religiosity on life satisfaction: A meta-analysis. *HTS : Theological Studies*, *78*(4), 7172. <https://doi.org/10.4102/hts.v78i4.7172>

**Comment 1:**

**Quote/Paraphrase:** Thirdly, Figure 1 indicates that the influence of the religiosity variable on life satisfaction was significant in various study settings. This was demonstrated by the effect size overall statistical value of 2.85 (effect size with 95% CI). This confirmed that the influence of religiosity on human life satisfaction was very contributive and significant (Lim & Putnam, 2010; Ten Kate et al., 2017). The meta-analysis approach used in the studies on the effect of religiosity on life satisfaction confirmed a theoretical belief that the religiosity variable is an influential variable that explains and even influences human life satisfaction in various aspects (Sholihin et al., 2022, p. 5).

**Essential Element:** This comment is associated with independent variables.

**Additive/Variant Analysis:** This is additive to discussing independent variables. This study sheds light on examining the effects of religiosity on life satisfaction.

**Contextualization:**  I like this study because it analyzed the effect of religiosity on life satisfaction and confirmed a theoretical belief of my own that religiosity positively influences your life choices. I have been a Christian since I was in elementary school, and I can attest that it has kept me from experiencing many of the ills in life during my teenage years more than many of my friends and acquaintances. My humble opinion is that many children push, test, and go outside the boundaries their parents set for them during their teenage years. Often, it comes to how far outside those boundaries we travel, and, in doing so, have you inadvertently changed the parameters of your life? For example, shoplifting, promiscuity, and drug use are some of the recklessness that I was exposed to and witnessed my friends and acquaintances experiencing when I was growing up. However, I went to church and Sunday school regularly, and when faced with those challenges, I walked away. I know that it was because of my faith in God. In short, it left me on a better path with more positive choices, and my life is all the better today.

**Source Two:** Arli, D., Septianto, F., & Chowdhury, R. M. M. I. (2021). Religious but not ethical: The effects of extrinsic religiosity, ethnocentrism, and self-righteousness on consumers’ ethical judgments. *Journal of Business Ethics*, *171*(2), 295–316.

<https://doi.org/10.1007/s10551-019-04414-2>

**Comment 2:**

**Quote/Paraphrase:** The findings of this research demonstrate that ethnocentrism is both a mediator and a moderator of the effects of extrinsic religiosity on consumers’ ethical judgments. The results support prior research that indicates that extrinsic religiosity and prejudice are related. Extrinsic religiosity leads to ethnocentrism, and in-group loyalty manifested through ethnocentrism leads to the support for unethical actions. Hence, ethnocentrism is a mediator of the effects of extrinsic religiosity on consumers’ ethical judgments. This explains why extrinsic religiosity has negative impacts on consumer ethics.

**Essential Element:** This comment is associated with interpreting results (Arli et al., 2021, pp. 28–29).

**Additive/Variant Analysis:** This is in addition to discussing independent variables. This study sheds light on the interpretation of findings as it analyzes the impact of religiosity on ethnocentrism. It also takes into account the impact on consumers' ethical judgments.

**Contextualization:** As I understand this article, I believe it says ethnocentrism plays a role in explaining how extrinsic religiosity influences ethical judgments. For example, Muslims that refer to non-Muslims as “infidels.” It implies that the influence of extrinsic religiosity on ethical judgments is partially or entirely through the lens of ethnocentrism when acting as a mediator. However, in the moderator role, ethnocentrism affects extrinsic religiosity on consumers’ ethical judgments because it influences the strength or direction of the relationship between extrinsic religiosity and ethical judgments, a kind of an “us” and “them” mentality. It is a slippery slope that can often lead to stereotyping or negative judgments based solely on religious identity rather than individual characteristics or actions. For me, it comes down to watching Jesus’s actions. Like when the woman was going to be stoned to death and He wrote something in the sand that made all of her accusers walk away.

**Comment 3:**

**Quote/Paraphrase:** The current research also identifies the critical role of self-righteousness regarding the relationship between extrinsic religiosity, ethnocentrism, and unethical consumer actions. Extrinsic religiosity leads to acceptance of unethical consumer actions through self-righteousness when ethnocentrism is high. Furthermore, self-righteousness was negatively related to consumers’ ethical judgments (i.e., higher self-righteousness leads to greater acceptance of unethical consumer activities). Prior research in consumer ethics has neglected the role of self-righteousness. Hence, this also contributes to the current study of the literature on consumer ethics (Arli et al., 2021, p. 30).

**Essential Element:** This comment is associated with the interpretation of results.

**Additive/Variant Analysis:** This is additive to discussing independent variables. This study sheds light on the implications of extrinsic religiosity on consumers' ethical judgments and looks to determine if extrinsic religiosity leads to ethnocentrism. Therefore, as a researcher interested in the effects religiosity has on consumer behavior, the findings from this research have significant implications in the affirmative.

**Contextualization:** Growing up, I misunderstood “self-righteous” and “righteousness.” Honestly, I confused the meaning of the scripture: God imparted His righteousness on us (2 Corinthians 5:21) by dying on the cross in our place, with there being none that is righteous (Romans 3:10-12). My thinking was that His imparting His righteousness now makes me self-righteous. No judgment here, please, because I was young in the Lord. However, Isaiah 64:6 straightened me out for good and gave me the best definition of “mankind righteousness.” Consequently, ethnocentrism is “self-righteousness.” When individuals or groups evaluate other cultures, beliefs, or behaviors based on the standards or values of their own culture, then it becomes a form of self-righteousness. Judging other cultures as inferior or superior to one’s own can lead to cultural superiority, cultural insularity, cultural misinterpretation, and cultural stereotyping, leading to prejudice, bias, and “self-righteous” behavior. Therefore, it is essential to understand ethnocentrism's impact on attitudes, behaviors, and intercultural interactions.

**Source Three:** Francis, J. M., Myers, B., Nkosi, S., Williams, P. P., Carney, T., Lombard, C., Nel, E., & Morojele, N. (2019). The prevalence of religiosity and association between religiosity and alcohol use, other drug use, and risky sexual behaviors among grade 8-10 learners in Western Cape, South Africa. PLOS ONE, 14(2), e0211322.

<https://doi.org/10.1371/journal.pone.0211322>

**Comment 4:**

**Quote/Paraphrase:** The outcomes of interest for this paper were self-reported AOD use in the last 30 days (alcohol, tobacco, cannabis) and risky sexual behavior (defined as reporting at least one of eight possible risky sexual behaviors). The eight sexual behavior questions were “Did you have sex before your 15th birthday?”, “Have you ever been high on drugs or alcohol when you had sex with someone?” “Have you had sex with two or more people in the past 3months?” “Have you ever had anal sex (this means when the penis enters the anus)?” And the following additional questions, “Have you ever been sexually involved with someone who is more than five years older than you?”, “Have you ever thought you or your partner might be pregnant?” “Have you traded sex for money/drugs/alcohol in the past 12 months?)”. The primary exposure of interest for this paper was religiosity. Participants were classified as having high religiosity if they reported attending a religious service or activity “1–2 times a month or weekly or more” and low religiosity if they reported “never or rarely” attending a religious service or activity. Other exposures included the mental health status and aggressive behavior assessed by the Problem Oriented Screening Instrument for Teenagers (POSIT), which is a screening tool validated for use among learners in South Africa [54], academic factors (repeated a grade, ever expelled from school and considering quitting the school), and witnessed a crime. The POSIT scores for mental health were categorized as low risk (1–4), medium risk (5–10), and high risk (≥11). The POSIT scores for aggressive behaviors were categorized as low risk (1–2), medium risk (3–9), and high risk (≥10). The variable “witnessed a crime” was categorized as “never witnessed a crime event,” “ever witnessed 1 or 2 events”, and “ever witnessed at least three events.” The crime events enquired about whether learners had seen someone selling drugs, using drugs, getting shot with a gun, being beaten, getting stabbed, and being forced to have sex when they did not want to. The demographic variables included in the analyses were sex, school grade, age (categorized as 10–14, 15–17, and 18–23 years), mother’s education (categorized as no formal or less than primary and primary education, secondary education, and college or university education), whether the learner reported living with at least one parent, population group, household financial circumstances, and learners’ race. Given the South African context, the participants were asked to self-identify as “White,” “Black,” “Coloured” (of mixed race ancestry), and “Indian.” These refer to demographic markers that are used to monitor socio-economic disparities and do not signify inherent characteristics (Francis et al., 2019, pp. 5-6).

**Essential Element:** This is additive to discussing statistical procedures.

**Additive/Variant Analysis:** This study adds to my knowledge of discussing and analyzing data. It used univariate and multivariate logistic regression analysis statistical techniques to examine the relationship between one or more independent variables and a binary outcome variable (Salkind & Frey, 2019, pp. 287–288). In this case, the researcher is analyzing the association between religiosity, AOD (alcohol and other drug use) use, and risky sexual behaviors.

**Contextualization:** I was intrigued by this study because of the variables I encounter daily as a middle school vice principal of a Maryland suburban school. Also, I grew up in the inner city of Washington, D.C., which had and has similar attributes of concern. In addition, the study is adding the effects of religiosity. As I stated earlier, I know that accepting Christ early in my life physically saved my life. I am bothered by how many of my students are “unchurched.” Also, there are difficulties in public schools when mentioning Christianity, let alone Jesus. However, I was encouraged several months back because a student asked me if she could use the microphone during lunch to say something to the students. I was hesitant but took a chance on her. She yelled to everyone that Jesus Christ was her Lord and Savior. I was floored. I practically passed out when she received several shout-outs in kind. It encouraged my heart and my commitment to my scholars that day.

**Comment 5:**

**Quote/Paraphrase:** This study’s findings call for further exploration of how religious practice could serve as a platform for AOD use and risky sexual behavior interventions. As a starting point, one could borrow a leaf from a faith-based intervention in the USA that encouraged a discussion of health topics among youths during or after the religious services for AOD use and risky sexual behaviors. Furthermore, we could use findings from the youth ministry establishment to examine youth development's influence in Western Cape, South Africa. Another potential avenue is to include religiosity in AOD use and risky sexual behavior reduction interventions by promoting higher religiosity among those religious adolescents with low religiosity who are already using AODs. In addition, based on the tenets of social identity theory and from the findings of this paper, we could identify and assess interventions that have included the engagement of adolescents and young people in (secular or religious) prosocial networks, which could give them a stronger sense of belonging and purpose. In addition, since parenting has proven to be an effective way to modify substance use among adolescents and young people, religiosity could be included as part of parenting interventions (Francis et al., 2019, p. 17).

**Essential Element:** This is additive to discussing results interpretation.

**Additive/Variant Analysis:** This study adds to my knowledge of using the research's outcome to impact positive cultural changes and calls for further exploration in this area. It also eluded that parenting has proven to be an effective way to modify substance use among adolescents and young people (Francis et al., 2019, p. 17).

**Contextualization:** I appreciated this study because it showed me that you can have a passion for an area, hypothesize the effects religiosity might have, and then conduct a study to determine if this is the case. The researcher began with a premise based on adolescence being viewed as a period of experimentation and a heightened risk of engaging in risky behaviors (Francis et al., 2019, p. 2). They partnered that knowledge with data from the World Health Organization and the United Nations Office on Drugs and Crime to look for interventions that may positively impact teens. My mom and grandparents understood the power of the Lord and introduced me to Him at an early age. I did the same thing for my children, and all praise be to God, neither one of them nor I became victims of AOD or risky sexual behaviors. Although, this can not be said with 100% certainty. However, according to Francis et al. (2019), religiosity was associated with lower odds of reported AOD use and risky sexual behaviors among grade 8-10 learners in the Western Cape (Francis et al., 2019, p. 2).

**Source Four:** Randolph, J. J., Bryson, A., Menon, L., Henderson, D. K., Kureethara Manuel, A., Michaels, S., Rosenstein, D. L. W., McPherson, W., O’Grady, R., & Lillard, A. S. (2023). Montessori education’s impact on academic and nonacademic outcomes: A systematic review. *Campbell Systematic Reviews*, *19*(3), e1330. <https://doi.org/10.1002/cl2.1330>

**Comment 6:**

**Quote/Paraphrase:** Very few reviews of the efficacy of Montessori education have been published in peer‐reviewed journals. The results of this meta‐analysis of 32 studies are consistent with an earlier meta‐analysis that only included two Montessori studies, both unpublished and focused exclusively on achievement outcomes; it calculated a d of 0.27 (Borman, 2003), similar to our overall academic effect size (Hedges' g = 0.24). Considering the neutral qualitative reviews, the results of this analysis reflect more positively on Montessori. Ackerman (2019) concluded that “Montessori programs have the potential to enhance young children's learning and development” (p. 11) but that there was no consistent advantage. Her review included studies with less rigorous designs than those included here, and the lack of rigor in the existing experimental base was also a central conclusion of the Marshall (2017) review. Marshall stated that random lottery experiments were essential and that studies' transposing elements of Montessori into other systems is a valuable way to determine what in Montessori leads to benefits (Randolph et al., 2023, p. 50).

**Essential Element:** This is additive to discussing results interpretation.

**Additive/Variant Analysis:** This is additive to my understanding of effect size related to outcomes. Jacob Cohen wrote an influential book instructing statistics teachers on determining the effect size for various questions about differences and relationships between variables. The book also gives guidelines as to what different sizes of effects might represent to understand differences. He and others like him created a rule of thumb for interpreting effect sizes (Salkind & Frey, 2019, p. 195).

**Contextualization:**  This Montessori study tells me that the effect size for academic achievement outcomes found in the Borman (2003) meta-analysis (Cohen’s d = .27) is similar to the overall effect size for academic outcomes reported elsewhere (Hedges’ g = 24). It supports what Ackerman (2019) concluded that “Montessori programs have the potential to enhance children’s learning and development, (p. 11)” but I would go a step further to say that this includes content (Randolph et al., 2023, p. 50). The meta-analysis focused exclusively on achievement outcomes, suggesting a small to moderate effect size, meaning there is a noticeable but not very large difference between the two groups if I understand effect size correctly. Although both indicate a small effect, the Borman study showing a slightly larger effect size (small to moderate) informs me that the Montessori teaching method is a slightly better way of teaching, or the two groups would overlap entirely (Salkind & Frey, 2019, p. 195).

**Comment 7:**

**Quote/Paraphrase:** It is the case that people have incorporated elements of Montessori, like looping or no grades or, more specifically, the practical life materials (Bhatia, 2015), in conventional classrooms and often seen better results (see Lillard, 2017 for a review), and this would seem to point at which elements of Montessori are responsible for the results. If conventional teachers could improve child outcomes by simply adapting some aspects of Montessori, that would be more practical than adopting the whole system, which requires retraining many thousands of teachers, purchasing vast amounts of new materials, and eliminating the textbook industry. Adopting even some elements might be worthwhile for improving outcomes. However, adopting elements is a weak solution if the systems perspective is correct. An alternative, if Montessori is considered sufficiently superior to warrant widespread adoption, is to convert one school or district at a time to the complete Montessori system, beginning in lower‐income districts where the need for improvement is greatest (Randolph et al., 2023, p. 51).

**Essential Element:** This is additive to discussing results interpretation.

**Additive/Variant Analysis:** This improves my understanding of post hoc or after-the-fact comparisons (Salkind & Frey, 2019, p. 243). Suppose I could locate other studies that may have conducted a one-way ANOVA, confirming an overall difference among the means of three, four, or more groups. Might it be possible for me to perform post hoc comparisons (Salkind & Frey, 2019, p. 243)?

**Contextualization:** I chose this specific quote because it gets me to the heart of the matter. I am convinced that Montessori is a solution worth investing in to see its full potential. I understand the expense of operating a Montessori school with fidelity. However, I can also see the benefits proving that it is worth its weight in gold. Our school district and many others already have public Montessori schools but are not thriving at their fullest potential. If the district started small in Title 1 Schools geared towards low-income and people of color students, then the programs could grow from their making good on the investment. We would see an impact on test scores and student achievement as we tracked those students through the system. To me, everybody wins.

**Source Five:** Salkind, N. J., & Frey, B. B. (2019). *Statistics for people who (think they) hate statistics* (7th edition). SAGE Publications, Inc.

**Comment 8:**

**Quote/Paraphrase:** ANOVA comes in many flavors. The most straightforward kind, and the focus of this chapter, is the **simple analysis of variance**, used when one factor or one independent variable (such as group membership) is being explored, and this factor has more than two levels. Simple ANOVA is also called **one-way analysis of variance** because there is only one grouping factor. The technique is called *analysis of variance* because the variance due to differences in performance is separated into (a) variance due to differences *between* individuals between groups and (b) variance due to differences *within* groups. The between-group variance is assumed to be due to treatment differences, while the within-group variance is due to individual differences within each group. This information determines how much the groups would be expected to differ by chance. Then, the observed difference between groups is compared to the difference expected by chance, and a statistical conclusion is reached (Salkind & Frey, 2019, p. 232).

**Essential Element:** This is additive to discussing results interpretation.

**Additive/Variant Analysis:** This adds to my understanding of statistical methods used to compare means between two or more groups to determine if there is a significant difference. It also supports my understanding of independent and dependent variables.

**Contextualization:**  This method is commonly used in statistics to analyze the impact of categorical independent variables on a continuous dependent variable. The primary purpose of ANOVA is to determine whether significant differences exist in the means of the groups being compared. It helps researchers understand the effect of different treatments, interventions, or conditions on the outcome variable. In reading one of the statistics books I purchased, I came across this study that a teacher conducted with her math students. I was interested because I taught math for several years. She wanted to investigate the effect of technology on the achievement, both alone and in combination with lectures, of students in a math class (Terrell, 2021, pp. 259–261). Although I had never investigated this problem, using a combination of computer-assisted technology (CAI), in my case, Khan Academy, in conjunction with providing students with lectures, is how I prepared them for state assessments in which they did well. I checked out the data in this book, and it is nice to confirm, albeit years later, that the method is suitable for teaching mathematics.

**Comment 9:**

**Quote/Paraphrase:** Okay, so you have run an ANOVA and know that an overall difference exists among the means of three or four groups. However, where does that difference lie? You already know not to perform multiple t-tests. You need to perform post hoc or after-the-fact comparisons. You will compare each mean with every other mean and see where the difference lies, but most importantly, the Type 1 error for each comparison is controlled at the same level as you set. There are many ways to make these comparisons, including the Bonferroni (your dear authors’ favorite statistical term) (Salkind & Frey, 2019, p. 243).

**Essential Element:** This is additive to discussing statistical procedures.

**Additive/Variant Analysis:** This adds to my understanding of statistical methods used to compare means between two or more groups to determine if there is a significant difference. I now understand that if you wanted to compare each group, it is not statistically sound to use separate t-tests (Terrell, 2021, p. 263).

**Contextualization:** What I like about statistics is that an investigation into the data can be used to confirm or refute real problems. For example, a principal had been hearing rumors that seniors were skipping classes more than freshmen, sophomores, and juniors (Terrell, 2021, p. 265). Now, while this is a problem in general, it is even more of a problem for seniors because skipping leads to bad grades, which, at this point, reduces your graduation numbers. Statistics can be used to confirm the hypothesis quickly, leaving more time to come up with solutions to rectify the situation. After reading this example, I immediately thought about my 8th-grade students. I also understand where the term “senioritis” stems from.

**Source Six:** Fleming, D. J., Culclasure, B., & Zhang, D. (2019). The Montessori model and creativity. *Journal of Montessori Research*, *5*(2), 1–14.

**Comment 10:**

**Quote/Paraphrase:** The Montessori school included in this study was selected because it was a no-choice situation regarding participation in a public Montessori program; in other words, all students in the district enrolled in preschool were placed in a public Montessori program. Thus, the third-grade students in the sample began Montessori education in the district at age 3 or 4. This was important because, whereas Montessori education is a parental choice in most public schools that offer a Montessori program, this school provided only Montessori classes to children aged 3 and 4, thus helping to mitigate some of the issues related to selection bias (Fleming et al., 2019, p. 4).

**Essential Element:** This is additive to discussing independent variables.

**Additive/Variant Analysis:** This adds to my understanding of statistical methods used to compare means between two or more groups to determine if there is a significant difference. I would love to conduct a study in which one neighborhood school was a no-choice Montessori and the other was traditional. I would compare the educational learning data from kindergarten through third-grade students in a traditional program to those in Montessori.

**Contextualization:**  I wish this were true for most of our Montessori schools. Unfortunately, our Montessori program is run by lottery selection. Because of this, most of the students are bused to the school, or they are car riders. Having a no-choice program for Montessori means that, more than likely, the students are walkers. They live in the neighborhood. Also, many parents of color are unfamiliar with Montessori education and often discount it or pass it over because it is not what they are used to. Unknowingly, they are passing over a tremendous educational opportunity. When my children were 3 and 4, they were accepted into the public Montessori school that housed a traditional program as well as Montessori. The school was not too far from where we lived but not within walking distance. However, I recall wondering why so few children who lived within walking distance did not attend the school, and those who did were not in the Montessori program, and worst yet, those who were in the program were removed after the child advanced to 1st grade.

**Comment 11:**

**Quote/Paraphrase:** The primary analyses proceeded as follows. First, we compared the demographic characteristics of the Montessori and non-Montessori students. Then, the relationship between Montessori participation and creativity was examined. We used difference-in-means t-tests to investigate the bivariate relationships between Montessori status and creativity. Then, we employed ordinary least squares (OLS) regression to estimate differences in final EPoC scores between Montessori and non- Montessori students. Given that the component and final EPoC scores were continuous, researchers employed OLS regression to isolate the relationship between Montessori status and the dependent variable while accounting for differences in student demographics (Fleming et al., 2019, pp. 5–6).

**Essential Element:** This is additive to discussing statistical procedures and understanding variables and results interpretation.

**Additive/Variant Analysis:** This adds to my understanding of difference-in-means t-tests using bivariate relationships and supports my understanding of the statistical method of Ordinary Least Squares (OLS) regression.

**Contextualization:** I am familiar with linear regression, computing the slope, and the line of best fit. These are all algebra terms and are used to analyze relationships between variables. I am also familiar with finding the equation of a straight line that best explains the data. The big aha moment for me is that, when teaching mathematics, I often view the data in isolation from where the data came from. In other words, math problems are inundated with data sets, so you can teach students how to graph, but to what end? If I were a Montessori student, I would know to what end. Unfortunately, I had the privilege of attending traditional schools, and most of what I learned was learned in isolation from how it should or could be used.

**Comment 12:**

**Quote/Paraphrase:** To get a sense of the differences in the total raw EPoC scores and the different EPoC components individually, we performed multiple bivariate, difference-in-means tests to examine the relationship between school type and students’ scores before adjusting for student demographic factors. The results are in Table 3, which shows that, before adjusting for demographics, Montessori students’ final EPoC scores were higher than those of non- Montessori students. This difference was significant at the p < .10 level (two-tailed). Montessori students also outscored non-Montessori students on the divergent exploratory tasks. On average, Montessori students created 2.5 more drawings than their non-Montessori counterparts, a statistically significant difference. However, The differences between technical drawing ability and the convergent-integrative outcomes were minor and not statistically significant (Fleming et al., 2019, pp. 6–7).

**Essential Element:** This is additive to discussing statistical procedures and results interpretation.

**Additive/Variant Analysis:** This adds to my understanding of multivariate analysis. In addition, I’m learning that once you recognize a correlation, it becomes useful to determine if other mitigating factors, such as race, poverty status, gender, student disability, etc., affected the outcome.

**Contextualization:** In statistics, even at the primary level, one could say that it is used to investigate a hypothesis after identifying the problem to see if there is a difference, but I also understand that it is more about the “significance” of that difference. When the researcher wants to understand the magnitude of the difference, they may begin to analyze the regression coefficient. Regression coefficients are crucial for understanding and interpreting the relationships between variables in regression analysis, as they provide insights into how changes in one variable impact another (Fleming et al., 2019, p. 8).

**Source Seven:** Terrell, S. R. (2021). *Statistics translated: A step-by-step guide to analyzing and interpreting data* (2nd edition)—the Guilford Press.

**Comment 13:**

**Quote/Paraphrase:** Recently, I visited the Coca-Cola Museum in Atlanta. During the tour, I was amazed to learn that Coke's formula differs worldwide; the museum had dispensers that allowed us to taste different product varieties from different countries. I tried some and was astonished at how bad some tasted. “How,” I asked, “could anyone enjoy drinking this? Wouldn’t it be better if everyone drank the same brand of Coke we enjoy in the United States?” Of course, my statistical mind went immediately to work. I thought, “If I could only get two groups of people, some from the United States and some from foreign countries, I could get them to rank samples from different parts of the world. If everyone were exposed to OUR formula, I will bet they would agree it is best (Terrell, 2021, p. 355)!”

**Essential Element:** This is additive to discussing statistical procedures and results interpretation.

**Additive/Variant Analysis:** This adds to my understanding of variables and how ordinal data can be used. The Spearman rho formula was used because the researcher used the rankings from the two groups to see a correlation (Terrell, 2021, p. 357).

**Contextualization:**  I must say that I thought I would die the first time I took a statistics class in college. I did not understand what I was supposed to be learning. I passed the class with a C, but it was a C for Christ because I prayed my way through it. Here it is some decades later, and I finally get its usefulness. I have the best two statistics books ever and highly recommend them, but in addition to that, the math finally makes sense. I have my Montessori students to thank for that.

**Works Cited**

Arli, D., Septianto, F., & Chowdhury, R. M. M. I. (2021). Religious but not ethical: The effects of extrinsic religiosity, ethnocentrism, and self-righteousness on consumers’ ethical judgments. *Journal of Business Ethics*, *171*(2), 295–316. https://doi.org/10.1007/s10551-019-04414-2

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