Chapter 3

Erik Christensen

Omega Graduate School

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Dr. Sean Taladay

Chapter 3: Research Design and Methodology

Churches and society need courageous spiritual leaders with the skill and resolve to stand firm in their principles and beliefs amid an increasingly antagonistic culture (Metaxas, 2022). The literature does not provide quantitative research investigating if there is a relationship between leaders’ spiritual formation and transformational leadership practices (Taladay & Panesar-Aguilar, 20121). The purpose of this quantitative correlational research study is to investigate through self-assessed surveys the potential relationship between leaders’ spiritual formation and transformational leadership practices.A well-designed project is essential to ensure correct methods in accomplishing research objectives and the proper use of data analysis (McCombes, 2023). Chapter three provides details concerning the research design for this quantitative correlational study.

The purpose statement was shaped by recognizing a problem exists regarding a lack of understanding of the relationship between a church leader’s spiritual formation and transformational leadership practices. The resulting research question emerged, and hypotheses were developed in alignment with the research question to support the purpose of the study. The results of the study will answer the research hypotheses.

Research Question: Is there a statistically significant relationship between a church leader’s self-assessed spiritual formation and self-assessed TL practices among the General Assembly of Regular Baptist Convention Churches (GARBC) in Southern New Jersey?
Ho1: No statistically significant relationship exists between the self-assessed spiritual formation and self-assessed transformational leadership practices among GARBC leaders in Southern New Jersey.

Ha1: A statistically significant relationship exists between the self-assessed spiritual formation and self-assessed transformational leadership practices among GARBC leaders in Southern New Jersey.

The research methodology, including the purpose of the research and the research question, is defined and explained. The research design and rationale for the study are outlined, including the problem and purpose statements and the hypotheses. Essential information is outlined, including the appropriate quantitative correlational measures, the instrumentation to be used for the study, the population and sample, methods for data collection and analysis, the reliability and validity of the study, ethical procedures to be used, and a concluding summary.

Research Design and Rationale

This quantitative correlational study will examine the relationship between spiritual formation and transformational leadership practices among Southern New Jersey church leaders from the General Assembly of Regular Baptist Churches (GARBC). The Spiritual Practices Inventory will be used to measure spiritual health using an online secure survey (Hall, 2015). The Leadership Practices Inventory will be used to measure transformational leadership practices using an online secure survey (Kouzes & Posner, 2016). Data from the surveys will be documented in an Excel spreadsheet and exported to SPSS.

The Pearson’s *r* bivariate will be used to test whether a relationship exists between church leaders’ spiritual formation and transformational leadership practices. The Pearson’s *r* bivariate measures linear correlation between -1 and 1, signifying the relational strength and direction of the two variables (Turney, 2023b). Correlational research does not establish causality (Plano Clark & Creswell, 2015). The further from 0 the values are, the stronger the relationship exists between the two variables (University of Texas at Austin, n.d.).

Quantitative correlational methodology will be used to evaluate the data. Quantitative methods use statistics to numerically describe phenomena and determine if a relationship exists between two variables (Stockemer, 2019). Choosing a correlational research design is essential to appropriately evaluate the data based on the research question, which seeks to investigate if there is a relationship between the two continuous variables of church leaders’ spiritual formation and transformational leadership practices (Cherry, 2023). Qualitative methodology is used for general or open-ended research questions not in alignment with the research question of this study (Plano Clark & Creswell, 2015). A correlation method indicates the positive or negative strength and direction of a relationship between the two variables (Bhandari, 2021a).In comparison to a qualitative research design, more participants can be researched in a quantitative research study, providing a more significant number of observations to be made (Plano Clark & Creswell, 2015; Stockemer, 2019).

**Research Procedures**

Research procedures for the quantitative correlational research study will include explanations of the population and sample selection, instrumentation, data collection, and data preparation. The research will focus on church leaders from Southern New Jersey representing a Baptist denomination, the General Assembly of Regular Baptist Churches (GARBC). Two primary doctrines define fundamental beliefs by GARBC Churches: Salvation by grace through faith in Jesus Christ alone and the authoritative Word of God (General Association of Regular Baptists, 2023). Quantitative research is needed to investigate if a relationship exists between church leaders’ spiritual formation and transformational leadership practices (Taladay & Panesar-Aguilar, 2021).

Population & Sample Selection

The target population will be Church leaders in 8 counties located predominately in Southern New Jersey.The 14Churches are members of the GARBC. Church leaders for the research conducted in this study will be defined to be Pastors, Elders, Deacons, Bible teachers, and Ministry team members. The leadership population for the 14 churches will be estimated to include an average of three leaders per church. The total population for this study will be 42 church leaders.
 The sample population is a minimum of 31 church leaders based on the calculation provided through G\* Power 3.1 (see Appendix A; Kent State University, 2019).A sample size must be large enough to gather sufficient data, and the statistical power must be established at a level necessary to derive accurate conclusions to avoid a Type II error, defined as accepting a false null hypothesis (Serdar et al., 2021). The standard percentage for statistical power is 0.8 (Serdar et al., 2021). The statistical power for this study is set at 0.9, ensuring strong accuracy and reproducibility of the testing and ensuring detection with reasonable certainty if there is a correlation between the two variables (Bhandari, 2023b; Terrell, 2021). The alpha is based upon a .05 significance error to protect against committing a Type I error, defined as the rejection of a true Null hypothesis (Serdar et al., 2021). A moderate effect size incorporated into the G\* Power sample size equation will be established at 0.5 to help indicate the meaningfulness of the relationship between the two study variables, spiritual formation and transformational leadership practices (Bhandari, 2023c).

Four leaders will be added to strengthen the sample size ratio to the population, bringing the sample size to 35 participants. There will be no less than 31 leaders, with the projected sample size target of 35 church leaders. By increasing the number of leaders, attrition will be guarded against and provide a robust sample size ratio of 83% of the estimated population of 42 church leaders. The GARBC leadership team will email potential participants a recruitment letter and consent form. Convenience sampling will ensure the availability of participants within the specific population to be researched (Stockemer, 2019).

The GARBC leadership team will provide permission to request voluntary participation in this research study of church leaders attending GARBC South Jersey Churches (see Appendix B). An initial recruitment letter (see Appendix C) and participant consent form (see Appendix D) requesting church leaders' participation in this research study will be emailed to the GARBC leadership team for disbursement to South Jersey GARBC Churches. The GARBC leadership team will email the recruitment letter and consent form to potential participants who meet the requirements. The recruitment letter summarizes the purpose of the study and the requirements to participate. Church leaders include Pastors, Elders, Deacons, Bible teachers, or Ministry Team Leaders of the South Jersey GARBC Churches.

The first 35 Church leaders returning a signed consent form will be chosen for the research. The participation consent form will include demographic questions to ensure the correct fit of each respondent. Participants will receive a hyperlink with a username and password via email with directions to access the online surveys. Research ethics will be followed to ensure participant rights are protected, improve research legitimacy, and protect research integrity (Bhandari, 2021b).

Instrumentation

The quantitative correlational study will explore the potential relationship between church leaders’ spiritual health, measured by the STI 2.0, and transformational leadership practices, measured by the LPI. Online surveys will be used to evaluate church leaders' spirituality, transformational leadership practices, and quantitative statistics will be utilized to test the relationship between the two. Two self-assessed instruments will be emailed to participants to investigate if a relationship exists between transformational leadership practices and spiritual formation. The first instrument is the Leadership Practices Inventory, with 30 scales (Kouzes & Posner, 2016). Kouzes and Posner (2021) give five domains transformational leaders should practice. These domains are 1) model the way, 2) inspire a shared vision, 3) challenge the process, 4) enable others to act, and 5) encourage the heart (see Appendix E for the permission letter). The second instrument is the Spiritual Transformation Inventory 2.0 (Hall, 2015). The STI 2.0 uses 33 scales with five main domains derived from the Connected life model of spirituality (Hall, 2015). The five domains are 1) Connecting to self and others, 2) Connecting to God, 3) Connecting to spiritual community, 4) Connecting to spiritual practices, and 5) Connecting to God’s Kingdom (Kouzes & Posner, 2021; Metz et al., 2019; Posner, 2016; Watters, 2019; see Appendix F for the permission letter).

Each instrument aligns with the research question because the LPI measures transformational leadership practices, and the STI 2.0 measures spiritual health. The LPI was developed by Kouzes and Posner based on their transformational leadership model to help individuals become more effective leaders (Posner, 2016). The STI 2.0, developed by Dr. Hall, assesses the spiritual development of individuals through using the relational model of spiritual development called The Connected Life (Hall, 2015). Both instruments use ordinal Likert-scale items with more than five potential answers for each question, significantly increasing accuracy (Rahi, 2017). Quantitative research can be conducted with these two instruments because they use more than five Likert scale responses, allowing ordinal variables to be treated as interval data (Alabi & Jelili, 2023).

***Leadership Practices Inventory (LPI)*** Transformational Leadership practices will be measured by the LPI (see Appendix E for permission letter), a survey developed by Kouzes and Posner to measure transformational leadership practices recognized in the Five Practices of Exemplary Leadership(Posner, 2016; Watters, 2019). Kouzes and Posner, through their research, show leaders are not simply born with certain innate qualities, nor is leadership success for only a certain select number (Watters, 2019). The five practices of exemplary leadership were derived through extensive research, interviews, and iterative processes, shaping the LPI into one of today’s most utilized leadership surveys with nearly 2.8 million online responses (Posner, 2016; Watters, 2019).

The LPI began with a 5-point Likert scale and developed through research into a ten-question Likert scale to score responses ranging from 1- almost never, to 10 - almost always (Posner, 2016).Cronbach’s alpha, used to measure a set of scales’ internal strength and reliability with an acceptable reliability coefficient of .7, was used to measure the internal validity of the LPI (Goforth, 2015; UCLA, 2021). Internal reliability establishes the instrument's consistency, ensuring a high level of accuracy and repeatable results (Posner, 2016). The strong reliability of the LPI has been established by the use of the LPI in numerous disciplines, ethnicities, and education levels (Posner, 2016). The Cronbach Alpha score for the LPI scale is .88, establishing the strong reliability of the scale (Posner, 2016). The request to use the LPI was applied for, and permission was received immediately upon payment of the research fee (see Appendix E for the permission letter).

***Spiritual Transformational Inventory (STI)***

Spiritual Formation will be measured using Dr. Hall’s (2015) STI 2.0 (see Appendix F for the permission letter). Hall and Edwards (1996; 2002) developed the initial instrument to measure spirituality from a relational perspective: the Spiritual Assessment Inventory 2.0 (Hall, 2015). The SAI has been used in over 100 empirical studies (Hall, 2015). As research about relational spirituality increased, a broader measurement became necessary due to further developments, particularly in attachment theory and the importance of a person’s emotional experience with God (Hall, 2015).

The first version of STI, used from 2003 to the Fall of 2011, was developed using relational spirituality theory and the Spiritual Assessment Inventory to build upon (Hall, 2015). STI 1.0 was replaced by version 2.0 and tested to show validity (Hall, 2015). STI 2.0 was developed, keeping relational spirituality as the theoretical basis while revising the domains and scales. STI 2.0 connects a range of different disciplines, including spirituality and the psychology of religion, to investigate topics such as relational maturity (Hall, 2015). The Connected Life model of spirituality was formed to organize a more precise framework, which included the revision and addition of the domains and scales (Hall, 2015).

The STI 2.0 uses 33 scales with five main domains derived from the Connected life model of spirituality (Hall, 2015). The Connected life model is based upon a relational model of spirituality to measure spiritual formation (Hall, 2015). The five domains are 1) Connecting to self and others, 2) Connecting to God, 3) Connecting to spiritual community, 4) Connecting to spiritual practices, and 5) Connecting to God’s Kingdom (Hall, 2015). Responses from participants are based upon a 6-point Likert scale ranging from 1 – Very true of me to 6 – Very untrue of me (Hall, 2015). Cronbach’s alpha, used to measure the internal consistency of the group of STI scales, scored .87, indicating a high internal consistency (Hall, 2015; Goforth, 2015). The request to use the STI was applied for, and permission was received immediately upon payment of the research fee (see Appendix F for the permission letter).

Data Collection

Participant informational and follow-up letters will be proposed to the Institutional Review Board (IRB) for approval. Upon obtaining IRB permission, research will be conducted as outlined. Consent and approval will be obtained from the General Association of Regular Baptist (GARBC) leadership team (see Appendix B for the permission letter). A recruitment letter (see Appendix C for recruitment letter) and consent form for potential participants (see Appendix D for consent form) will be emailed to the GARBC leadership team to invite church leaders from the South Jersey GARBC churches to participate in the research. Church leaders include Pastors, Elders, Deacons, Bible teachers, or Ministry Team Leaders of the South Jersey GARBC Churches. The informed consent letter will include demographic questions.

Using online surveys, the first thirty-five church leaders to return a signed consent form will be utilized for the research project. Thank-you letters will be emailed to each participant for agreeing to help in the study (see Appendix G). Online self-assessed surveys will be used to collect data over four weeks. Permission to use the LPI and STI instruments will be obtained from the IRB. Participant's contact information will be obtained. Participants will remain confidential. An email will be sent to each participant, including directions with embedded links to access the online survey information. Each participant's survey will be reviewed to ensure the correct correlation of the data.

When the online surveys are completed, scores from each survey will be collected and exported to SPSS 29 for analysis. SPSS is a statistical analysis software program. Individual responses and information will be kept confidential and stored on an external flash drive for three years. Once data analysis and the research project have been completed, a summary review of findings will be emailed to each participant and the churches participating in the study for review.

***STI data collection***

 Participants will receive an email link with an invitation to complete the STI 2.0. When participants access and complete the survey, an email notification will be generated to communicate the data is ready for collection. Data will then be collected and recorded.
***LPI data collection*** Participants will receive a link providing access to the LPI survey. Once participants respond to the questions, a notice of completion will be provided. Data will then be collected and recorded.

***Data Preparation***Each participant’s survey will be reviewed to ensure all questions have been answered. Surveys will be reviewed to eliminate any potential discrepancies and typing errors. The coefficients from the LPI and STI instruments will be imported to SPSS to prepare for analysis. Each variable will be assessed to determine frequency distribution and normality (Turney, 2023a).

Data Analysis

Data will be tested for normality and relevant assumptions of appropriate statistical procedures. Descriptive statistical procedureswill be performed for the STI and LPI, including the means, frequencies, and standard deviations. The Cronbach’s alpha coefficients were evaluated for the STI and LPI (Hall, 2015; Posner, 2016). These processes support the reliability of the study.

Pearson’s *r* bivariate correlation will be used to investigate if a positive relationship exists between church leaders’ spiritual formation, measured by the STI 2.0, and transformational leadership practices, measured by the LPI. SPSS 29 will be used to calculate the mean of composite scores for both the LPI and STI variables. The coefficients of the STI and LPI will be analyzed. A one-tailed procedure with Pearson’s *r* bivariate will be used to investigate if a relationship exists between the two variables.The results will be analyzed at a .05 significance level to ensure acceptability (Terrell, 2021).

Reliability & Validity

The sample size for the study will consist of 35 church leaders representing the 14 GARBC churches in South Jersey. Greater generalizability to the population could be attained with a larger sample size. Convenience sampling will be used to generate the 35 participants from the population of 42 church leaders needed for a robust sample of the population.

A minimum of thirty-one participants is the appropriate sample size for a Pearson’s r correlation test based upon the calculation utilizing G\*Power. Participants will be selected using a convenience sampling method. The sample adequately reflects the population, protecting against external validity threats (Bhandari, 2023a). Construct validity minimizes external and internal threats to research validity by establishing correct methods of measurement (Middleton, 2023).

The research provides for strong reliability and internal consistency. Type I errors will be guarded against by setting the level of significance (alpha) at .05 (Terrell, 2021). Type II errors will be guarded against by establishing the statistical power at .9, higher than the generally accepted value of .8 (Terrell, 2021). Cronbach’s alpha measures the internal strength and reliability of a scale with an acceptable reliability coefficient of 0.7 (Goforth, 2015; UCLA, 2021). The alpha score for the LPI scale is .88, establishing the strong reliability of the scale (Posner, 2016). The alpha score for the STI 2.0 is .87, establishing a high reliability and internal consistency of the scale (Hall, 2015).

**Ethical Considerations**

The National Institute of Health (NIH) provides ethical guidelines to protect participants involved in research and the collection of data. Participants will be asked valid questions consistent with the NIH ethical principles: respect for social and clinical value, scientific validity, fair subject selection, favorable risk-benefit ratio, independent review, informed consent, and respect for potential and enrolled subjects (NIH, 2021). The NIH principles align with ethical research guidelines regarding the treatment of research participants provided in the Belmont Report(NIH, 2021).

Permission will be obtained from the GARBC for access to church leaders. Consent forms will be provided to potential participants to obtain permission and state a participant’s ability to withdraw without penalty at any time. Participants will not be discriminated against, will be treated equally, and will not suffer personally or professionally (Husband, 2020). Research will follow state and federal laws, ensuring volunteer participants' safety and respectful treatment.

The two study instruments, the STI 2.0 and LPI were submitted for IRB approval and were chosen because both are valid and reliable (Sürücü & Maslakçi, 2020). Data collection by surveys provides information to be evaluated through a quantitative correlation design, ensuring minimal risk to participants. When IRB approval is received, potential participants will receive a recruitment letter and consent form by email through the GARBC leadership team (see Appendices C & D). The consent form provides an overview of the research, details the requirements to participate in the study, and emphasizes the participant's rights.

The quantitative correlation research study is feasible due to appropriate time constraints and budget. Each participant's personal information will be kept confidential. Participant surveys will not be anonymous to ensure correct data correlation. Records will be stored on an external flash drive in the researcher's home safe to be deleted after three years. Results of the study will be made available to the GARBC without disclosing personal information. The research procedures will be appropriate, respectful, and trustworthy (NIH, 2021).

**Summary** **and Conclusion**

 The research design rationale was detailed for the quantitative correlation study that will investigate a potential relationship between spiritual formation and transformational leadership practices. The sequencing of data collection and analysis was clarified. Research procedures were explained, including the purpose and research questions, the population and sample, instrumentation, data collection, preparation and analysis, the reliability and validity of the study, and ethical considerations. The next chapter expresses the data and explains the statistical findings from the research.