Chapter 3

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# Chapter 3: Methodology

The primary motivation for conducting this study came from a review of Boamah’s (2020) study on risks of indirect trauma among direct support professionals who work with adults with intellectual and developmental disabilities. Boamah’s study brought to light some of the emotional and psychological trauma that confront DSPs and the potential effect on organizations staff and clients. To that end, the purpose of this quantitative correlational study is to examine to what extent a relationship exists between the psychological health and psychological resilience of direct support professionals (DSPs) in Rice County, Minnesota, specifically those working in a community residential setting classified as Minnesota Home Community Based Services (HCBS).

The research is intended to ask if any, and to what extent is psychological health as measured by Depression Anxiety Stress Scales (DASS-42) is associated with psychological resilience as measured by Connor- Davidson Resilience Scale (CD- RISC-25). It is hoped that the study will generate findings which could assist participating providers to advance DSP’s health, safety, and well-being.

This chapter describes the study’s methodology. Included are rationale for the research design, population and sample selection, instrumentation, methods of data collection, analysis and synthesis of data, reliability and validity, ethical considerations, assumptions, delimitations, and a summary.

# Research Design and Rationale

The study will use a correlational research design to examine the relationship if any and to what extent a relationship exists between psychological health and psychological resilience of direct support professionals in Rice County, Minnesota. This design is being used in that it is central statistic when it comes to psychological research (Gnambs, 2023). In addition, this study is to analyze the relationship in terms of strength and direction (if any) and to what extent a relationship exists between the two variables (psychological health and psychological resilience) in Rice County, Minnesota. This makes correlational design suitable since correlational design seeks to identify the relationship between bivariate variables, multiple relationships, and predicting variables (Martin & Bridgemon, 2012).

Psychological health measured by DASS-42, and psychological resilience measured by CD-RISC-25 are the two variables associated with this research. These variables will not be manipulated or contrived and will be measured in their natural setting reinforcing the suitability of correlational design.

Convenience sampling techniques will be used to recruit participants for this study. According to Dõrnyei (2007), convenience sampling is a non-probability sampling method which merely includes participants who meet certain practical criteria, such as geographical proximity, availability at a certain time, easy accessibility, or willingness to volunteer.

Finally, various permissions will be obtained. These will include approval from Omega Institutional Review Board and from participating providers. Participants will volunteer to participate in the study and will complete a written informed consent, regarding their rights and option to leave the study at any time. Those who will complete the survey will be rewarded with a gift card

# Research Procedures-

This section reviews how the study’s process complies with expectations for quantitative correlational design. Components of the procedures include selection of participants, data collection methods, and analysis techniques, all of which will be chosen to align with the study's purpose.

## Population and Sampling

The population in this study will be direct support professionals who are 18 years and above in Rice County, Minnesota working in community based residential settings formerly called group homes. These DSPs will be those exclusively serving folks with ID/DD and or mental health issues and must have worked for at least six months.

The 2020 U.S. Census tallied the County’s population at 67 097, which is the 14th most populous of Minnesota’s 87 counties. It has a land area of 516 square miles with seven cities and 14 townships. Its Social Services department provides community-supported social services and financial assistance for eligible people to promote their dignity and independence.

The sample size to conduct this study will be N= 41 which includes 20 % of participants’ attrition and 20 % of other errors during data analysis. This number of respondents will ensure enough participants for the analysis. G\*Power software Correlation; Bivariate normal model set with an alpha level of 0.05, a medium size effect 0.5 and a power level of .80 was used to arrive at the sample size N= 29 (see appendix). The data will be collected using a convenient sample technique. Participants will have to confirm that they do meet the inclusion criteria in the informed consent before answering the questionnaire or the survey.

## Instrumentation

The purpose of this quantitative correlational study is to examine if any and to what extent a relationship exists between psychological health and psychological resilience of direct support professionals (DSPs) in Rice County, Minnesota, specifically those working in community residential setting.

The study will utilize two tools to collect data on variables of interest and answer the research question. The first tool is the Connor-Davidson Resilience Scale (CD-RISC-25) (see Appendix), which will be used to measure psychological resilience (Connor & Davidson, 2003), and the second tool is the Depression Anxiety Stress Scales (DASS-42) (see Appendix), that will measure the psychological health (Lovibond and Lovibond, 1995). These tools have been chosen because they have shown good internal consistency and test-retest reliability in both community and clinical samples (Connor & Zhang, 2006).

***Connor Davidson Resilience Scale***

Kathryn M. Connor and Jonathan R.T. Davidson developed the CD-RISC as a means of augmenting or improving existing measures of resilience (Connor and Davidson, 2003). According to them, existing scales of resilience were considered inadequate because they lacked generalizability (Connor & Davidson, 2003). CD-RISC is one of the most widely used tools to assess psychological resilience (Zagalaz et al., 2020). It is a self- administered scale of twenty-five items each rated on a 5-point Likert scale ranging from not true at all = 0 to true nearly all the time= 4. The total score is obtained by adding up all the 25 items, which gives a score that can range from 0 to 100. A higher score indicates a greater level of resilience and vice versa. The instrument evaluates the overall personal resilience by assessing resilience through the following seven constructs: hardiness(commitment/challenge/control), coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition, and self-efficacy. In some cases, the items overlap more than one of these constructs (Connor & Davidson, 2020).

CD-RISC internal consistency and test-retest reliability has been shown in both community and clinical samples (Connor & Zhang, 2006), and as a result been modified into different versions. Windle et al., 2011, in their methodological review concluded that the CD-RISC scale was among the top three resilience scales to receive the best psychometric quality ratings. According to Lamond et al. (2008) the Cronbach’s Alpha scale for the CD-RISC was 0.923, which was viewed as a satisfactory result. An Iranian study (Khoshouei, 2009) showed good internal consistency for the CD-RISC 25 (alpha coefficients ranging from .78- .91), and good test-retest reliability (r = .78-.88). The CD-RISC has been associated as expected (i.e., either positively or negatively) with various constructs, such as family functioning and depressive symptoms. However, it needs to be tested in relation to a more complex theory to better establish construct validity (Ni et al., 2015).

Scores on the CD-RISC have been compared to several scales designed to measure the same or a similar construct. CD-RISC scores have been significantly positively correlated with a measure of hardiness (Connor & Davidson, 2003). Convergent validity was assessed by correlating the CD-RISC-25 with measures of hardiness (Kobasa Hardiness Scale; Kobasa et al., 1979), perceived stress (Perceived Stress Scale; Cohen et al., 1983), stress vulnerability (Stress Vulnerability Scale; Sheehan et al., 1990), measures of disability (Sheehan Disability Scale; Sheehan et al., 1983) and social support (Sheehan Social Support Scale; Sheehan, 1990) were found to be significantly correlated(Connor and Davidson, 2003).

***DASS-42***

DASS-42 is a self -report tool that was developed by Lovibond and Lovibond (1995) with the aim of maximizing the differences between symptoms of depression and anxiety and to reveal their common features called stress. It has been translated into many languages and has been shown to have transcultural validity (http://www2.psy.unsw.edu.au/dass/). The theoretical foundation of DASS-42 is based on the tripartite model of depression and anxiety (Clark & Watson, 1991).

The DASS-42 has been tested for reliability and validity in various contexts and has been empirically evaluated in diverse cultures. Zawislak et al. (2020) shown construct validity and reliability among students but not the general population. DASS-42 has been checked for validity with outpatient groups of individuals with anxiety and depressive disorders, myocardial infarction patients, patients with insomnia, and patients undergoing treatment for sexual, menopausal, and depressive disorders (Makara-Studzinska et al., 2022)

Each of the three DASS-42 scales contains 14 items divided into subscales of 2-5 items with similar content. The items are presented to subjects in a random order, with a four point scale for each item labelled “Did not apply to me at all”(0), “Applied to me some degree, or some of the time”(1), “ Applied to me a considerable degree, or a good part of the time” (2), and “Applied to me very much or most of the time”(3) (Lovibond & Lovibond, 2020, p.23).

The instrument requires participants to indicate how much the statement applied to them over the past week. Scores for each of the three DASS scales are obtained by summing the scores for the 14 items in the scale. Scores on the DASS scales may be interpreted relative to the mean and standard deviations of the sample (Lovibond & Lovibond, 2020, p. 25).

## Data Collection

Data collection for this study will be preceded by obtaining various required permissions. First, permission from Omega Graduate School IRB will be sought. Then, an email will be sent to Adult Services Manager (gate keeper) of Rice County Community Services explaining the purpose of the study, providing the necessary information and documentation for the study, and requesting for their collaboration (see Appendix for email). If an affirmative reply is received the researcher will request the gate keeper to reach out to providers who deliver Medicaid funded Home and Community Based Services (HCBS) that employ DSPs within Rice County. Those providers who express a desire to participate will receive the researcher’s email and cell phone from the gate keeper.

Targeted participants will be emailed a formal invitation letter requesting their participation, explaining the study’s purpose and its ethical approval information. Next, the participants will be sent an email with a link to an online survey. Before beginning the survey, participants will have to agree to the voluntary informed consent and meet inclusion criteria by completing one prescreening question. The complete survey will contain informed consent, DASS-42 items, CD-RISC- 25 items, and demographic survey. The demographic survey will contain simple data such as years of service as DSP, level of education and gender.

Permission to use DASS-42 is not required since it is in the public domain. The developer of the Connor-Davidson resilience scale (CD-RISC-25) authorizes the use of the scale at a cost and does not allow the scale to appear in any appendix. (see appendix for an email). The researcher will follow this requirement of the scale developer. Guides and validation information will also be obtained from the developer including the scoring instructions.

To maintain anonymity, all participants will be assigned a unique code. No identifying information for individuals or their organizations will be collected. The total time required for each participant to complete demographics, informed consent, and the two surveys will be between 30-45 minutes. It is expected to get the minimum number of participants within 30 days. If for some reason the minimum sample size is not obtained within the time frame, the gate keeper will be contacted and asked to reach out to the participating providers.

## Data Preparation

This is an essential step to put the collected information in context by removing extraneous data and outliers, conforming the data to standardized pattern and protecting or masking sensitive data entries. Participants responses will be downloaded from a chosen software onto Excel spreadsheet where data labelling, and overall data cleansing will take place. Raw data will be cleaned to detect outliers (Laerd Statistics, 2023). Cleansed data will later be exported to PSPP after the required number of surveys are obtained. Descriptive statistics (Frequency distribution, Histogram) will be used to provide a summary of the sample. Data collected will be stored for a minimum of three years and in accordance with Omaga Graduate School policy. A simple summary of the sample for the study will be provided using descriptive statistics (frequency distribution, histogram) before analyzing the data to test the hypotheses.

# Data Analysis

The study will utilize Pearson’s Product Moment Correlation (PPM) to examine if any and to what extent a relationship exists between psychological health and psychological resilience of direct support professionals (DSPs) in Rice County, Minnesota. PPM is an appropriate statistical procedure since the study seeks to ascertain the magnitude and direction of the relationship between variables of interest that are measured on a continuous scale (interval and or ratio). This assertion is buttressed by Aggarwal and Ranganathan (2016). They see “correlation as a statistical tool used to assess the degree of association of two quantitative variables measured in each member of a group.” The data collected for the study will address the following research questions and hypotheses.

RQ1. What relationship exists if any, and to what extent between the psychological health and psychological resilience of direct support professionals?

H01. A statistically significant relationship does not exist between a DSPs’ self-assessed psychological health and self -assessed psychological resilience.

Ha1: A statistically significant relationship exists between a DSPs’ self-assessed psychological health and self -assessed psychological resilience.

RQ2.What relationship exists if any, and to what extent between self -assessed psychological resilience and self-assessed level of Depression in DSPs?

H02: A statistically significant relationship does not exist between self- assessed psychological resilience and self-assessed level of Depression in DSPs.

Ha2: A statistically significant relationship exists between self- assessed psychological resilience and assessed level of Depression in DSPs.

RQ3.What relationship exists if any, and to what extent between self-assessed psychological resilience and self -assessed level of Anxiety in DSPs?

H03. A statistically significant relationship does not exist between self- assessed psychological resilience and self -assessed level of Anxiety in DSPs.

Ha3: A statistically significant relationship exists between self-assessed psychological resilience and self-assessed level of Anxiety in DSPs.

RQ4: What relationship exists if any between self- assessed psychological resilience and self -assessed level of Stress in DPS?

H04: A statistically significant relationship does not exist between self- assessed psychological resilience and self -assessed level of Stress in DPS.

Ha4: A statistically significant relationship exists between self- assessed psychological resilience and self -assessed level of Stress in DPS.

The study will use both descriptive and inferential statistics to analyze the data obtained. The descriptive statistics will include measures of central tendencies and measures of variability, such as the mean, median, minimum, maximum, range, standard deviation, skewness and Kurtosis (Laerd Statistics, 2018). The demographic information obtained will be analyzed using descriptive statistics and presented as a percentage of the total sample and the frequency obtained.

Cronbach’s alpha will be used to test for reliability and internal consistency (Martin & Bridgmon, 2012). According to Martin and Bridgmon (2012), reliability results greater than .70= good reliability and validity, results greater than .80=better than good, and results greater than .90=even better. The desired reliability parameter for this study will be at least .80. The assumptions testing for this study included testing for normality which assumes a normal distribution and could be tested by conducting a skewness test and a kurtosis test (Martin & Bridgmon, 2012). Other assumptions needed for this study include assumptions related to Pearson r. The final step of the data analysis will be to present the interpretation and the results of the analysis. Tables and charts(scatterplot) will be created using PSPP to exhibit the results of the analysis and to demonstrate the correlations if any between variables.

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# Validity and Reliability

Since psychological resilience is a phenomenon that cannot directly be measured, especially since it is measured via self-report, it is imperative to check validity of any tool used. In other words, does the tool used to measure psychological resilience truly measure it? The instrument chosen to measure psychological resilience is the CD-RISC-25. It has been tested in the general population as well as clinical samples. It has a good psychometric property and differentiates people who are resilient and those who are not (Derakhshanrad et al., 2014). During its development it showed good construct, concurrent, discriminant, and predictive validity (CD manual -2024 unpublished)

Psychological health also relies on self-report and therefore faces the same difficulty in measuring it as psychological resilience. The instrument chosen to measure the psychological health of the participants in this study is DASS-42, which was developed by Lovibond and Lovibond (1995). The DASS-42 has been tested for reliability and validity in various contexts and has been empirically evaluated in diverse cultures. Zawislak et al. (2020) shown construct validity and reliability among medical students not the general population. DASS-42 has been checked for validity with outpatient groups of individuals with anxiety and depressive disorders, myocardial infarction patients, patients with insomnia, and patients undergoing treatment for sexual, menopausal, and depressive disorders (Makara-Stotinka et al., 2022)

Reliability of any instrument is important as it shows consistency and stability of results (Browning et al., 2019). The CD-RISC has demonstrated good reliability (α =. 88 and. 89), test-retest reliability (. 87), and convergent and divergent validity in the development of the scale (Connor & Davidson, 2003; Gucciardi et al., 2011). It has been translated into many languages and has been shown to have transcultural validity. The theoretical foundations of DASS-42 are based on the tripartite model of depression and anxiety (Clark & Watson, 1991) and its reliability of translated version have been assessed for many languages. Internal consistency of the Dari-translated version of DASS-42 questionnaire subscales was high with Cronbach's alpha values of 0.888, 0.866 and 0.833 for depression, anxiety and stress, respectively. Construct validity was further supported with acceptable correlation measures of 0.799, 0.822 and 0.818 for depression, anxiety and stress subscales, respectively, which all were statistically significant (p<0.05). Confirmatory factor analysis gave acceptable goodness-of-fit indices (Shayan et al., 2021).

# Ethical Considerations

Ethical considerations will be applied throughout the study in accordance with Institutional Review Board (IRB) of Omega Graduate School and the Belmont Report (Office for Human Research Predictions, 2018). The following approvals will be sought before data collection; IRB approval, agency site authorization, authorization to use the required instruments, and informed consent from participants. The Belmont Report principles of respect, justice and beneficence will be put into use during the data collection process as well (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978).

Data will be collected anonymously, and an individualized number or unique code will be assigned to each participant to differentiate and match responses while maintaining this anonymity. This anonymity will support the principle of beneficence ensuring minimal to no risk to participants. Regarding respect, participants will decide whether to participate or not to participate in the study. They can also withdraw from the study without any consequences or coercion. The participants will be asked to first sign an informed consent.

To manifest the principle of justice, the participants will be treated fairly and equally. The researcher is affiliated with an agency that works with IDD/MI and therefore will exclude the staff of the agency to avoid selection bias. This avoidance of the researcher’s agency will also help to address any potential conflict of interest. To further enhance anonymity names of agencies from which participants work will not be collected to minimize any potential risk to participants. The proposed study carries no risk; however, the principle of beneficence will be implemented through anonymity.

The surveys, when completed, will be stored in accordance of the Omega Graduate School regulations. Finally, data from the surveys will be maintained and securely stored per the standards of Omega Graduate School.

## Limitations and Delimitations

According to Simon (2011) limitations are weaknesses in a research study which are out of the control of the researcher. Delimitations are the boundaries that the researcher sets to determine what to include and what to exclude from the study and therefore it is within the control of the researcher. Delimiting factors include the choice of purpose, the adoption of the research questions, variables of interest, theoretical perspectives, and the population the researcher chooses to investigate (Simon, 2011).

The following ***limitations*** will be present in the study.

1. Data collection will be based on self-report and therefore there is an element of subjectivity which may influence response bias. It is assumed that participants are going to be honest when completing the surveys.
2. The study will be limited to examining correlation and thus eliminate the ability to draw conclusions about causality (Shaughnessy et al, 2012).
3. The study will rely on convenience samples which make sampling bias unavoidable
4. The focus of the study is on DSPs who work in community residential settings which may hinder the comprehensiveness of the findings.
5. The instruments might not capture every hidden variable. The length of the questionnaire might slow down the completion rate or time.

***Delimitations***- they are boundaries of the research which are established by the researcher. The following delimitations will be present in this study.

1. The research will not look at causal conclusion.
2. Participants will be limited to direct support professionals working in community based residential setting within Rice County
3. To minimize the risk to internal validity in the data collection, the researcher will try all possible efforts to obtain larger samples of participants from the target population.

# Summary and Conclusion

In summary, the chapter provides a detailed description of the study’s methodology. Quantitative correlational design will be employed to examine and to what extent a relationship exists between psychological health and psychological resilience of direct support professionals (DSPs) in Rice County, Minnesota. The participant sample size is 41 selected through convenience sampling technique. An online survey will be used to collect the needed information. The intent of this study is to advance DSPs’ health, safety and well-being. Finally, the chapter will also include a discussion of the assumptions and delimitations of the study. Chapter 4 will introduce the findings of this research framed by each of the research questions.