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Emotional Intelligence, Resilience, and Stress Among Women in Treatment for Substance Disorders

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Walden University
May 2021

Abstract

Emotional Intelligence, Resilience, and Stress Among Women in Treatment for Substance Disorders

By

Zummuna Davis

MA, Capella University, 2005

BS, Chicago State University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

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Abstract

Emotional intelligence (EI) is the ability of an individual to perceive, use, comprehend, and regulate emotions. While relationships between EI and risk of drug abuse have been explored, possible mechanisms through which higher EI may serve as a protective factor remain undefined; there was a need to understand how EI was related to stress among women with substance use disorders. The purpose of this study was to examine resilience as a mediator between EI and stress, a risk factor, among women in treatment for chemical dependency. The theoretical framework for this study was based on Salovey and Mayer's EI model. A sample of 109 women volunteers diagnosed with substance abuse disorders who were in long-term residential treatment completed an online survey. The instruments used for this study were the Self-Rated Emotional Intelligence Scale, the Connor-Davidson Resilience Scale, and the Perceived Stress Scale-4. Multiple linear regression analyses were conducted to test the proposed mediation model. Contrary to predictions, EI was not significantly related to stress. Thus, no mediation was possible. Significant relationships between EI and resilience, as well as between resilience and stress, were present but in directions opposite to predictions. Stress scores were unusually high among this sample. This study has implications to positive social change through understanding how EI and resilience predict stress among women with substance use/dependency disorders. It also may aid in identifying individual risk factors that may be targeted for treatment interventions.

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Dedication

I dedicate this dissertation to my mother Theresa Kyles Pritchard who have always valued education, supported me more than I could have ever imaged and always praised my steadfastness to achieve whatever I set out to do, rest in heaven Momma. I am also dedicating my PhD to my sister Femi Johnson my friend, my motivator, Rest in Heaven Femi, you said I could do it and I promised you I would. Finally, I dedicate this PhD to my Daughter Yamilla Pinkney and spouse Shedrick Pinkney for their unconditional love and support. Love you all immensely.

Acknowledgments

Thank you, God, for giving me the strength to make it through this process. It has been and honor to have Dr. Donna M Heretick as my chair and leading me on this lengthy and arduous journey. I sincerely appreciate and value her prowess, leadership, emboldening and her provision of essential resources. I would like to acknowledge my second committee member Dr. Patti L. Barrows for providing the succor and guidance needed on this journey. Special thank you to my friends and family for your words of encouragement and support, which came in many different shapes and forms. Lastly, to the rest of my support system who provided me with immeasurable moral and emotional support throughout my PhD tenure; Jennifer Graves, Steven Bock, Dr. Linda Vermette, Dr. Dave Arpaia, and Dr. Beverly Fierro.

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Chapter 1: Introduction to the Study

The use of crack cocaine, heroin, and tobacco among women are risky behaviors that often begin in adolescence (Agabio et al., 2016; Jones et al., 2015) and may contribute to health and social consequences, particularly for those who broaden their use beyond experimentation (Fatseas et al., 2015; Woodcock et al., 2015). Social, environmental, and mental health factors associated with substance use among women are well documented (Leite et al., 2019; Romero-Ayuso et al., 2016). Individual differences may create lower or higher risks for substance abuse, as well as success in treatment. For example, one component that has been examined as a possible factor is emotional intelligence (EI) as it is associated with the ability to identify, understand, use, and manage emotions (Baudy et al., 2018; Ouimette & Read, 2014). However, possible mechanisms through which EI may influence risk remain undefined. The purpose of this study was to examine EI as a predictor of resilience, which then mediates stress experiences and management. The basic idea is that impaired EI precludes individuals from developing resilience skills, which then impairs management of stressful situations (Choi et al., 2015; Parke et al., 2015).

This chapter provides a brief background of the study, presents the problem statement, and outlines the purpose of the study. The research questions and hypotheses that guided this study are also presented. The theoretical framework and significance of the study will be also discussed in this chapter. The assumptions, delimitations, and limitations will be presented. A summary concludes this chapter.

Background

The National Association of State Alcohol and Drug Abuse Directors (National Association of State Alcohol and Drug Abuse Directors; 2016) estimated the yearly cost of substance addiction to be at $250 billion. In the United States, substance abuse/dependence is identified as one of 10 health indicators affecting the individual's physical, mental, and well-being, including teenage pregnancy, HIV/AIDS, other sexually transmitted infections, domestic violence, child abuse, motor vehicle crashes, physical fights, crime, homicide, and suicide (Center for Disease control and Prevention, 2020). To date, researchers continue to explore the underpinnings of substance abuse and other risk behaviors among populations, especially among women (e.g., Agabio et al., 2016; Aryanpur et al., 2015; Jones et al., 2015; Westermeyer & Boedicker, 2000). Substance abuse was once considered to be primarily a male problem; however, studies about substance abuse indicate that there are significant differences between men and women in substance-related epidemiology, social factors, biological reactions, medical consequences, progressions to dependence, co-occurring psychological disorders, and barriers to treatment entry, retention, and completion (Evans et al., 2015; Manuel, 2017). Substance use in women contributes to psychosocial impairment, which leads to social consequences and sets the foundation to the potential and subsequent drug and alcohol use in women (Clark et al., 2014; Lewin et al., 2014; Sharma, 2014). The widespread use of crack cocaine, heroin, tobacco, alcohol, and abuse among women continues to increase (Jones et al., 2015), with particular rise in heroin addiction (Mayock et al., 2015).

Researchers have used different theoretical frameworks to examine the predictors of substance use among women: for example, social theories (Cooper et al., 2009), social cognitive theory (Bandura, 1986), self-determination theory (Deci & Ryan, 1985), the theory of reasoned action (Fishbein, & Ajzen, 1975), and the ecological systems theory (Bronfenbrenner, 1979) combined with risk and resiliency frameworks (Dekovic, 1999; Rutter, 1987). The theory of EI (Goleman, 1995; Salovey & Mayer, 1990) has been explored as it relates to substance use and other risky behaviors among women. However, the potential mechanisms through which EI relates to relative risk of substance use are not clear. Two factors are emotional intelligence's relationship to resilience skills (Choi et al., 2015; Parke et al., 2015) and resilience skills' relationship to stress. My study was one of a few to examine resilience as a mediator between EI and stress, which is a key predictor of high-risk behaviors, such as substance use.

Emotional Intelligence

EI has been theorized in divergent ways, creating confusion with the conceptual framework and measures (McKenna & Webb, 2013). To date, EI has been categorized in two ways: the *ability* model and the *mix* model, with each being measured differently. The ability model (Salovey & Mayer, 1990) emphasizes cognitive processes, while the newer mix model (Goleman, 1995) combines emotional ability, personality, motivation, and affective dispositions (McKenna & Webb, 2013). Emotional intelligence, in this study, is seen to be a multidimensional construct, which not only focuses on the cognitive processes but also on emotional processes, personality, motivation, and affective dispositions.

The tenet of EI has been defined as the ability that allows individuals to recognize, to manage, and to understand the emotions in self and others (Salovey & Mayer, 1990). EI principles, such as social competence, self-awareness, impulse control, and empathy, have been identified as necessary characteristics of leaders in the workplace (Goleman, 1995; Mayer & Salovey, 1997; McCleskey, 2014). EI is a predictor of happiness (Cazan & Năstasă, 2015), social competence and positive coping styles (Arghode, 2013), and cooperativeness or disruptiveness in school settings (Chew et al., 2013). Add summary and synthesis to fully conclude the paragraph.

Emotional Intelligence and Stress

There is a body of research that links EI and stress (Espinosa & Rudenstine, 2018; Mohagheghi et al., 2015). Espinosa and Rudenstine (2018) reported on the inverse relationship between trait EI, substance use, and the negative health issues associated with EI trait such as anxiety disorder. Also, "trait EI can moderate the treatment of the treatment of anxiety, depression, and borderline personality disorders that can relate to life trauma" (Mohagheghi, et al., p. 10). Mohagheghi, et al. (2015) conducted a study on EI components in alcohol dependent and mentally healthy individuals. The results of the study indicated that when compared with a control group, the alcohol dependent participants had significantly lower scores in empathy, responsibility, self-esteem, stress tolerance, problem solving, and total scores of EI components. They also noted a significant correlation trait EI and the successful treatment of substance use.

Emotional Intelligence and Resilience

The role of EI in relation to resilience with respect to chemical dependency among women is less clear. Resilience is defined as the maintenance and/or quick recovery of mental health during and after times of adversity (Kalisch et al., 2017). Researchers noted that resilience, as opposed to lasting stress-induced mental and functional impairments, is the result of a dynamic process of successfully adapting to stressors. Individuals change while they cope with different stressors. These changes can take the form of psychological growth processes (Kalisch et al., 2019).

Many environmental factors serve as risks for substance abuse or dependence. Women with a history of childhood maltreatment have a higher risk of being vulnerable to initiation of alcohol use until dependence (Oberleitner et al., 2015). Women are at risk for major depression (Van Loo et al., 2015) and major depression is associated with increased susceptibility to violence (Pettinati et al., 2015). There are higher risks of substance use among women who are exposed to intimate partner violence (Weaver et al., 2015). In terms of poverty, there is a greater likelihood of living in poverty among women (Garcia-Guix et al., 2018). Poverty might influence the decision of women to substance abuse or dependence.

Emotional Intelligence Among Women in Treatment

Researchers have explored various approaches that result in more effective treatment of substance use disorders among women (e.g., Forghani &Abadi, 2016; Price et al., 2018; Tamannaeifar et al., 2015). Price et al. (2018) introduced the concept of interoceptive training for women with substance use disorders with the objective of

supporting and improving substance use disorders treatment. The authors of the study argued that programs and interventions aimed at facilitating interoceptive awareness, such as awareness of inner body sensations, could facilitate regulation and improve substance use disorders treatment outcomes. To better understand the role of interoceptive training in substance use disorders treatment, Price et al. (2018) delved further into this topic with the aim of proving the efficacy of interoceptive training in substance use disorders treatment among women and to bridge the gap in the existing literature with respect to substance use disorders treatment among women. They found that the drug-dependent group differed from the control group by scoring significantly lower on stress tolerance and emotional self-awareness. Similar studies in this concern included reports by Goleman (1995). Goleman concluded that low EI is related to issues such as violence, depression, crime, and addiction, as they are all caused by an individual's inability to cope with emotions and stress. Evidence indicated that those who become dependent on drugs and/or alcohol are not able to understand and speak about their feelings (Sudraba et al., 2012). They are also unable to use their feelings as sensory symptoms or to cope with their old feelings and as a result, they look for drugs. It is proposed that they use drugs to remove their ambiguous and unknown stresses and discomforts and then relax. Therefore, they only have an ambiguous understanding of their feelings and they usually attribute them to irrational factors in their body or environment (Sudraba et al).

The Research Gap

Although there have been numerous studies on stress challenges for women with substance addictions, scholars have not examined the relationship among EI, resilience, and perceived stress among women in treatment for substance use/dependence (see Evans et al., 2015; Goudarzian et al., 2017; Manuel, 2017). Further investigation is needed on how EI is related to stress among women with substance use disorders. Areas for research include whether there is a direct association or if it is mediated by the degree to which resilience skills also have been developed among those with lower and higher trait EI. This includes investigating whether level or trait EI predicts stress among women in treatment for substance use disorders, or if it is the degree of resilience skills that these women with varying level of levels trait EI develop over time that influence their stress management. Researchers recommend further study on the mechanisms that help understand the role of EI in relation to stress, a risk factor for substance abuse (see Garaigordobil & Peña-Sarrionandia, 2015; Kopera et al., 2014; Tuchman, 2010). My study will contribute to filling this gap in understanding and expanding the attention deserved to meet the needs of women in treatment for substance use/abuse.

Problem Statement

There was a need to examine the relationships among EI, resilience, and perceived stress among women in treatment for substance use/abuse (Evans et al., 2015; Goudarzian et al., 2017; Manuel, 2017). The status of women in society and their immediate environment may place them at risk for substance abuse owing to physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles, issues of

poor self-esteem, dead-end employment or no employment, and specific life stressors, such as single parenthood divorce, and loneliness, which are related to the ability of women to recognize, to manage, and to understand their and others' emotions (Fowler & Faulkner, 2011; Manuel, 2017; Tracy et al., 2012). Resilience is a critical factor for women to succeed at recovery from addiction. EI is a key factor in stress management. Thus, it is critical to understand relationships among EI, coping/resilience, and stress among women in treatment for substance use disorders.

Purpose of the Study

The purpose of this correlational study was to examine resilience as a mediator between EI and stress among women in treatment for chemical dependency. Some women's attitudes and reaction to problems and issues in their lives may place them at risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles (Manuel, 2017). The need for better identification of relevant factors of trait EI to be taken as cues for predictors of drug abuse/dependency among women to alleviate drug abuse/dependency and to provide methods on how to deal with the issue proactively (Evans et al., 2015; Manuel, 2017). Stress is the reaction to challenging situations in life, and it often is accompanied with changes with physical, mental, behavioral, and emotional responses. Stress and drug use can lead to a person relapsing to drug abuse (Evans et al; Manuel). It is important to understand how EI and resilience are related to stress because resilience is the ability for a person to keep going despite setbacks when their addiction and other issues become overwhelming, but their resilience keeps them going and fighting to achieve their goal in overcoming drug use

(Mohagheghi et al., 2015; Kalisch et al., 2017; Price et al., 2018). This study may contribute to the understanding of this relationship and inform clinicians working with women in future program development and interventions.

Research Questions and Hypotheses

The purpose of this study was to test the mediational model that is presented inn Figure 1. The research questions and hypotheses follow the steps used in the Baron and Kenny (1986) of testing assumptions for mediation:

(1) Examine the relationship (C) between the independent variable and dependent variable;

(2) Examine the relationship (A) between the independent variable and the mediator variable;

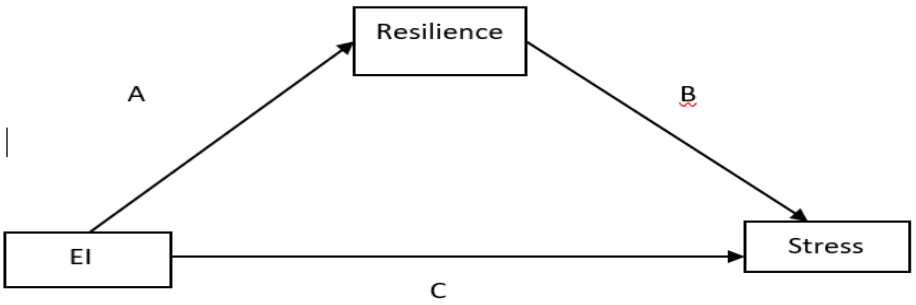
(3) Examine the relationship (B) between the mediator variable and the dependent variable;

(4) Examine the modified relationship between the independent variable and the dependent variable when the mediator variable is added to the predictor of the dependent variable;

The following research questions and hypotheses are set up to follow the Baron and Kenny (1986) method for testing mediation models (see Figure 1 by using a series of separate regression analyses:

Figure 1

Proposed Mediational Model for the Relationship of EI Resilience and Stress



This research study was guided by the following research questions and hypotheses:

RQ1: Does perceived emotional intelligence predict current perceived stress among women in treatment for substance abuse?

$H_0$1: Perceived emotional intelligence does not predict current perceived stress among women in treatment for substance abuse.

H_a1: Perceived emotional intelligence does predict current perceived stress among women in treatment for substance abuse.

RQ2: Does perceived emotional intelligence predict resilience skills among women in treatment for substance abuse?

$H_0$2: Perceived emotional intelligence does not positively predict resilience among women in treatment for substance abuse.

H_a2: Perceived emotional intelligence does positively predict current perceived stress among women in treatment for substance abuse.

RQ3: Does resilience skills meditate the apparent relationship between emotional intelligence and current perceived stress among women currently in treatment for substance abuse?

$H_0$3: The relationship between EI and perceived stress is not mediated by resilience.

H_a3: The relationship between EI and perceived stress is mediated by resilience.

Theoretical Framework for the Study

Salovey and Mayer's (1990) EI model was used as a theoretical framework for the study. This theoretical framework was chosen because it depicts the influence of trait EI on a person's ability to function in everyday life. Salovey and Mayer's EI model is an example of a model that not only focuses on the cognitive processes but also on emotional ability, personality, motivation, and affective dispositions. EI has achieved empirical attention for over three decades, since its inception as an ability model by Salovey and Mayer and later revitalization, as a mixed model by Goleman (1995). The essence of emotional intelligence posits two elements:

> intelligence and emotion, which deals with the ability to perceive emotions, to access and generate emotions, so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (Mayer & Salovey, 1997, p. 5)

Within Mayer and Salovey's ability model, EI is described, measured, and tested as a set of abilities, which impact individual's behavior independent of personality traits.

Goleman (1995) advanced the theory by further dividing these set of abilities into competencies: social and personal, positing that self-awareness, and self-management funnels the individual's ability to understand and manage their own emotions, which serves as the catalyst that influence positive outcomes linked to increased individual's effectiveness and successes in life. With the emergence of empirical research in this area, emotional intelligence has received opponent views pertaining to its measurement methods, practices, and applications (Bitmiş & Ergeneli, 2014; Dixon, 2012; Hess & Bacigalupo, 2013). Critics emphasized the need to further standardize the definition and measurement of emotional intelligence to understand its connections to knowledge regarding emotions, personality, cognition and intelligence, thereby, reducing the perceived overlap between these constructs. However, measures, such as the Self-Rated Emotional Intelligence Scale **(**SREIS), now are available to operationally defined EI in terms of specific theoretical and empirically derived dimensions (Hess & Bacigalupo). This study resulted in an extension of scientific knowledge relative to that of the EI theory framework, and its respective correlation to substance abuse and drug dependency. In line with EI theory framework, the Mayer-Salovey-Caruso EI ability model was used as a supplementary tool along with the EI theory framework given that this model was proven to be best predict intelligent management of emotions in real-world situations (Lam & Kirby, 2002; Mayer et al., 2004).

Nature of the Study

A quantitative correlational nonexperimental design was employed for this study. Quantitative research addresses a specific research question and involves the collection

and analysis of numerical data to answer a research question, with the goal of generalizing findings to a larger population (Farrelly, 2013). According to **Landrum and Garza (2015)** quantitative studies used statistical analysis techniques to restructure complex problems into a limited number of variables. Quantitative studies contain a sample frame representative of the larger population where the subjectivity of the researcher is reduced (Landrum & Garza, 2015). Quantitative studies are generally conducted by collecting empirical data, measurements, and models, and then determining and/or examining the relationships or comparisons between the study variables represented by these data through statistical tests (Landrum & Garza). This quantitative study operationally defined the variables, using survey instruments to collect numerical data to test the research hypotheses.

A correlational design was appropriate for this study, as it allowed me to examine the relationships between the emotional intelligence, resilience, and stress among women in treatment for substance use disorders. Correlational research designs are used to assess to what extent, if any, relationships exist between two or more variables, and in addition to determining the significance of these relationships, the correlational design will allowa researcher to investigate the degree of these relationships (Goertz & Mahoney, 2012; Permanyer, 2014; Ingham-Broomfield, 2014; Leedy & Ormrod, 2013) to determine the degree to which the predictor variables predict the criterion variable. Such design is consistent with the study's research questions since all involves the examination of the relationships between the variables.

I recruited a nonprobability sample (see Creswell, 2017a) of 100 women, 18 years of age, who currently in a treatment for substance use disorders at a treatment center in the Midwestern United States. The data for this quantitative correlational study came from the SREIS, which assesses the perception of emotions experienced by self and others (see Brackett et al., 2004a). The SREIS is a self-report measure with 19 items, which are presented with a 5-point Likert-type scale that ranges from 0 *very inaccurate* to 4 *very accurate*. The Perceived Stress Scale- 4 (PSS-4; Cohen et al., 1983; Cohen and Williamson, 1988) was developed to evaluate the degree to which life situations are perceived as stressful. The PSS-4 examines how unpredictable, uncontrollable, and overloading respondents find their lives, and how they think they felt during the last month. There is a 5-point Likert scale ranging from 0 *never* to 4 *very often* that allows the respondent to indicate frequency for each statement. The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) is used to assess resilience. The authors operationally defined resilience as the ability to thrive in the face of adversity. Resilience may be viewed as a measure of stress coping ability and could be an important target of treatment in anxiety, depression, and stress reactions (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). The CD-RISC is comprised of 25 items, each rated on a 5-point Likert scale from 0 to 4, with higher scores reflecting greater resilience. Data analysis was conducted using the SPSS v.25 software. In alignment with the research design, correlation and regression analysis was conducted to test the study hypotheses and address the research questions (see Creswell, 2017a).

Definitions

The following are the key terms and its definitions that will be used in the study:

Emotional intelligence: EI is defined as "the ability to perceive emotions accurately, to utilize emotions, to understand emotions, and to regulate emotions with the purpose of assisting and guiding thinking and action" (Mayer & Salovey, 1997, p. 1).

*High-risk behaviors***:** High-risk behavior is a pattern of decision-making that favors the selection of courses of action with uncertain and possibly harmful consequences, which often includes activities such as regular alcohol use, regular binge drinking, regular tobacco use, and marijuana use (Ouimette & Read, 2014).

Managing own emotions: A component of EI that refers to the ability to label emotions, to interpret meanings, to understand complex feelings, to manage, to control and to redirect self-impulsive thoughts and moods. It concerns with the ability to think and weigh options before acting. In this regard, self-regulation encompasses concepts such as trustworthiness, comfort with ambiguity, and openness to change (Goleman, 1995; Mayer & Solovey, 1997).

Managing others' emotions: A component of EI that refers to the ability to regulate moods and emotions in oneself and in other people (Brackett & Salovey, 2004). This ability explains a person's capacity to gain knowledge from pleasant and unpleasant experiences and use this knowledge to emotionally connect or disconnect appropriately in similar situations, thus enabling the individual to handle emotions to promote constructive emotions and avoid destructive ones (Brackett & Salovey, 2004).

Perception of emotions: A component of EI that refers to the ability to recognize, understand emotions and moods in oneself; and to be able to depend on one ‘s ability to monitor and correct these emotions, that is, the individual’s ability to do a realistic self-assessment (Goleman, 1995).

Resilience: Resilience is the ability to recover or spring back into shape from difficulties in one’s life (Kalisch et al., 2017).

Stress: Stress is the body’s reaction to any change that requires an adjustment or response. These include physical, mental, and emotional responses (Kalisch et al., 2017).

Substance abuse/dependence: Substance abuse/dependence refers to the maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated use of substances (Ouimette & Read, 2014).

Utilizing emotions: A component of EI that refers to the ability to generate and feel emotions that allows an individual to intellectually think rationally and logically. The individual can anticipate and respond to situational changes through better decision-making and/or evaluating various perspectives (Mayer & Salovey, 1997).

Assumptions

According to Creswell (2017a), assumptions are inevitable in any quantitative study because research involves making inferences about unknown population parameters. First, I assumed that participants would understand the questions included in the survey and responded to all questionnaires truthfully. I assured that participants knew and understood that all information to be collected would be strictly confidential and safeguarded as stated in the protection of human subject’s section of this study. Second, it

is assumed that the volunteer participants, recruited from one treatment facility, may not be a truly representative sample of women in treatment for substance use/dependence at other facilities in the United States.

Scope and Delimitations

Scope refers to the limitations that the researcher imposed to the study (Creswell, 2017b). Meanwhile, delimitation is a factor that the researcher intentionally imposes to constrain the scope of the study to make it manageable (citation). The study's scope was to only involve participants who are women, 18 years and above, clinically diagnosed with substance abuse/dependence, and in a treatment center in the United States. The study was delimited to only one treatment center that I had access to in the United States, thus limiting the demographic sample. It is important to delimit the scope of a study to ensure that the study can be completed in a time manner (Creswell, 2017b). Though there are various treatment centers spread around the country, the chosen one has the greatest number of women diagnosed with substance abuse/dependence, which may increase my discovering diverse views and experiences from women. I wanted to have more in-depth insights from relevant population rather than choosing a wider population but a higher possibility of inconclusive insights. Other factors that may contribute to the relationship between emotional intelligence, resilience, stress, and substance abuse/dependence among women such as financial support, educational background, race, etc. will not be considered for the study. Creswell (2017a) noted that the researcher needs to set controls for the study to ensure is feasible.

A limitation is a factor that is beyond the control of the researcher and can potentially impact the external or internal validity of the study (Creswell, 2017a). As I will not be able to randomly sample for participants and will only be studying women in one treatment program, generalization of the results to women in other treatment programs will be limited. Another limitation is that results from correlational studies are not definitive in causation between the study variables. Babbie (2013) asserted that there could be several reasons why variables behave the way they do. It is only through experimental study that a researcher can have certainty regarding the true causation between variables as such design involves random assignment, which correlational studies do not possess (Creswell, 2017a). In addition, self-report information is subjective. Participants may exaggerate the responses in revealing private details (Creswell, 2017a). Further, I will not have access to other sources of data to evaluate other indicators of emotional intelligence, resilience, or stress.

Significance

This study contributes to the generation of knowledge to assists us in understanding and gaining a new perspective on the issue of women and emotions; and whether these emotions correlate to erratic behaviors (Breda, 2018). EI theorists posited a person's abilities related to emotion perception, emotion appraisal, emotion expression, emotion understanding, and emotion regulation that generate feelings and facilitate thought to promote emotional and intellectual growth (citation). EI has been linked to decreased risk behaviors, improved relationships, and feelings of well-being (Evans et al., 2015; Breda, 2018). Understanding how EI and resilience predict stress among women

with substance use/dependency disorders may aid in identifying individual risk factors that may be targeted for treatment interventions. Therefore, this new knowledge may be used in public health to create and promote interventions aimed at supporting change in attitudes, beliefs, aspiration, and motivation that will lead to changes in the way women interact, communicate, accept, and work to resolve conflict. These qualities appear to make an ideal fit with the constructs of emotional and social intelligence (Evans et al., 2015; Goudarzian et al., 2017; Manuel, 2017) and are promising threads to connect innovative approaches that endorse social change.

Summary

Although others have examined stress challenges to women with substance use disorders, scholars have not examined the possible role of resilience as a mediator between demonstrated relationships of trait EI and stress among women with substance use disorders (Evans et al., 2015; Goudarzian et al., 2017; Manuel, 2017). The purpose of this quantitative correlational study is to address that gap in our knowledge by exploring the proposed relationships among emotional intelligence, resilience, and stress among women in a treatment center located in the United States.

Chapter 2 will present the relevant literature about EI, substance abuse in general, and substance abuse or dependence among women. Chapter 3 will present the methodology for the study. Add a sentence or two about Chapters 4 and 5.

Chapter 2: Literature Review

In the United States, substance abuse/dependence is identified as one of the 10 health indicators affecting an individual's physical and mental health and is correlated with an increased risk of teenage pregnancy, HIV/AIDS and other sexually transmitted diseases, domestic violence, child abuse, motor vehicle crashes, physical fights, crime, homicide, and suicide (Jones et al., 2015). Among the substances that are abused are tobacco, alcohol, and heroin (Jones et al; Mayock et al., 2015).

Although substance abuse was primarily considered to be a male problem in the past (Clark et al., 2014), substance abuse in women have increased over the past decade, contributing to psychosocial impairment and social consequences (Clark et al; Fowler & Faulkner, 2011; Lewin et al., 2014; Sharma, 2014). Indeed, there is evidence that there are significant differences in gender with regards to substance-related epidemiology, social factors, biological reactions, medical consequences, progressions to dependence, co-occurring psychological disorders, and barriers to treatment entry, retention, and completion (Evans et al., 2015; Manuel, 2017). To understand these factors of substance abuse, Cooper et al. (2009) examined linkages of theoretical predictors of substance use among women and found that previous researchers focused on the application of social theories.

It is not empirically known to what extent EI relates to the substance use or dependence among women (Manuel, 2017; Sudraba et al., 2012). Therefore, the purpose of this quantitative correlational study was to explore the relationship between EI, resilience, and stress among women in a treatment programs for substance use disorders.

If EI is related to resilience and reduced stress, treatment programs may wish to focus on activities that support and enhance EI, resilience, and reduced stress.

Literature Search Strategy

The following online databases and search engines were used for my literature review: Google Scholar, Educational Resource Information Center (ERIC), Global Health, Ingenta Connect, JSTOR: Journal Storage, EBSCOhost Online Research Databases, and Journal Seek. The key search terms and combination of search terms that were included in several online databases were the following: *substance abuse, substance dependence, sobriety, Schutte Self Report Inventory, Substance Abuse Subtle Screening Inventory, EI, emotional quotient, substance use disorder treatment, resilience, stress,* and *women on drugs.* The majority (85.5%) of the literature included in my review was published between 2014 and 2017. Recent findings were crucial to keep the study as up to date as possible; however, it is worth nothing that studies on drug dependence that are specific to women are limited. Therefore, during this study, older studies (14.5% of 76 sources) were included as part of the references, such as those related to the framework, which is the EI model.

In this chapter, I present the theoretical framework of the study, followed by discussions centered on the relationship of EI to problematic behaviors and positive traits. I discuss the relationship between women abusing drugs and EI, providing a historical perspective substance abuse among women in the United States. Next, I provide a synthesis of findings on the relationship between women abusing drugs and EI, use of EI factors for treatment among women. I then discuss EI and stress management among

women, followed by a synthesis of the research findings of EI and resilience. Finally, I clarify the specific gap in the professional literature that I address through this research study.

Theoretical Foundation

Mayer-Salovey-Caruso EI Ability Model

To understand the theoretical framework of Salovey and Mayer's (1990) EI model, it is vital to define EI in reference to previous studies. According to Mayer and Salovey, EI is the ability of an individual to perceive, utilize, comprehend, and regulate emotions. EI is also the ability to manage emotions, with the main purpose of assisting and guiding thinking and action (Mayer & Salovey, 1997; Mayer et al., 2004). EI has also gained popularity among researchers of social sciences and has been studied as a predictor of social interactions and competence (Casale et al., 2012; Choi et al., 2015). Given this definition of EI, I used Salovey and Mayer's EI model as a theoretical framework for the study to provide an understanding of the link between factors of EI and substance abuse/dependence among women. Researchers have used the EI model for over 2 decades, followed by the ability model by Salovey and Mayer and later as a mixed model by Goleman (1995). A study by Goleman (1995) outlined the concept of EI as being encapsulated by four elements: "(a) self-awareness, (b) self-management, (c) social awareness or empathy, and (d) social skills/relationship management" (p. 1). The author posited that these four elements funnel the individual's ability to understand and manage their own emotions, which served as the catalyst that influence positive outcomes linked

to the individual's increased effectiveness and successes in life (Casale et al., 2012; Choi et al., 2015).

Results from studies in which the Mayer-Salovey-Caruso EI ability model was used document the ability of the model to best predict intelligent management of emotions in real-world situations (Lam & Kirby, 2002). Mayer and Salovey (1997) further constructed and clarified the model of EI to include the idea that emotions provide information that plays a role on how we connect and interact with other people and objects (Lyusin, 2006). That is, specifically included in this model are the four essential elements of EI: (a) identifying emotions, (b) using emotions to make thinking more effective, (c) understanding emotions, and (d) guiding emotions (Mayer et al., 2004). Furthermore, analysis of emotion-related abilities resulted in a conception of EI as comprising of four branches or abilities: the perception, understanding, and management of emotions, which involves reasoning about emotions, and the use of emotions to facilitate thought, which involved using emotions to enhance reasoning (Mayer et al., 2004). The Mayer-Salovey-Caruso EI ability model, then, may serve as a framework for understanding the role of EI in predicting stress, which is a risk factor for drug use/abuse among women (Mayer et al., 2004).

Theory of Psychological Resilience

The theory of psychological resilience considers the ability to emotionally or mentally cope with crises in one's life or return to the precrisis level quickly. Resilience exists when a person uses behaviors and mental processes to protect their personal assists and self from the potential negative effects of stressors (Fletcher & Sarkar, 2013; Yates &

Masten, 2004). Psychological resilience involves psychological and behavioral capabilities that allow individuals to remain calm during chaos or crisis in their lives and move on from the incident without long-term negative consequences (Fletcher & Sarkar; Yates & Masten).

Resilience is a counterforce against stress. Daily stressors can disrupt an individual's internal and external sense of balance, and present various challenges, as well as opportunities (Fletcher & Sarkar, 2013; Yates & Masten, 2004). In many cases, coping with the routine, manageable stressors in a person's daily life can promote resilience. Some people can handle large amounts of stress in their lives and still cope with their everyday problems (Yates & Masten). However, great challenges come when stress creates an imbalance between needs for coping and abilities and/or resources to do so. For example, Yates and Masten noted that stress is experienced during life transitions or moving from one focus of one's life to another focus. These points may coincide with developmental and social changes, including traumatic life events, grief and loss, environmental pressures, poverty, and community violence (Fletcher & Sarkar). Resilience is the adaptation of mental, physical, and spiritual aspects to bad or good circumstances, a sense of self that can maintain developmental tasks that occur at various stages in life (Fletcher & Sarkar). Resiliency allows the person to rebound from adversity and become more resourceful in their quest to overcome their problems (Fletcher & Sarkar.

It is important to understand the process of resiliency. When people are faced with adverse situations, they may react in three ways. These include: (a) erupt with anger, (b)

implode with overwhelming negative emotions and become unable to react, and (c) become upset about the disruptive change in their lives (Breda, 2018). Many times, people adopt the victim role by blaming others and rejecting any coping methods even after the situation is over. Many people just react, rather than responding positively to the situation. Those who respond to the adverse situation by adapting themselves tend to cope, halt the crisis, and can spring back. Negative emotions involve, anger, fear, distress, helplessness, and hopelessness with can decrease the person's ability to solve the problems they face and weaken the person's resilience (Breda; Fletcher & Sarkar).

The Folkman-Lazarus Theory of Stress

Stress is the response to events and environments in a person's life that are appraised as relevant to well-being and that tax current resources (Folkman & Lazarus, 1985). Some life events that produce stress include deaths, births, marriage, work, health issues, and drug use. The experiences of stress are influenced by an individual's cognitive appraisals of the situation, and these cognitive appraisals are guided by the individual's accumulated experiences with life events and characteristics in one's environment (Folkman & Lazarus).

Folkman and Lazarus (1985) defined cognitive appraisal as the way in which an individual respond to and interprets stressors in life (p. 8). According to this theory, there are two forms of cognitive appraisal that must occur for an individual to feel stress in response to an event: primary appraisal and secondary appraisal. In primary appraisal for stress, an event is interpreted as dangerous to the individual and threatening to the individual's personal goals. Secondary appraisal is the individual's perception of

insufficient resources to overcome the event in their lives. The degree of the stress response follows from these two cognitive assumptions.

Researchers have noted that certain environmental pressures and demands can produce a stress response in a substantial number of people (Friedman, 1991; Mayer & Salovey, 1997). There are individual differences in the degree of stress, as well as the kinds of emotional and behavioral reactions. Friedman (1991) noted that a person may have triggers that lead to higher risk of drinking or use of drugs in response to stress. He further observed that a combination of mental illness and inability to cope with stressors are particular risk factors for substance abuse. The most self-disciplined person can fall prey to drug addiction with the right mixture of adversity and stress. Thus, taken together, theories of EI and resilience would suggest that these are important constructs for understanding risks of responses to stressors, including substance abuse among women. Further, theoretically, EI and resilience should predict more effective management of stress, which then reduces risk of maladaptive coping, such as through substance use.

Emotional Intelligence

EI is defined as "the ability to perceive emotions accurately, to utilize emotions, to understand emotions, and to regulate emotions with the purpose of assisting and guiding thinking and action" (Mayer & Salovey, 1997, p. 1). Mayer et al. (2004) further indicated that EI is the ability to perceive emotions, which includes reading expressions and interpretation of the nonverbal perceptions communicated through facial cues. EI is also the ability to manage emotions, which includes not only understanding emotions but

also reflecting the ability to evaluate emotions, to assess their probable changes over time, and to appreciate the various outcomes (Charlet et al., 2018).

Mayer and Salovey (1997) added that the essence of EI posits two vital elements: intelligence and emotion. There is a need to focus on the importance these elements, which highlighted how one can deal with their perceive emotions. Also, "to access and generate emotions, a person needs emotional knowledge and the ability to understand emotions, and to reflect their emotions in order to regulate emotions "(Mayer & Salovey, 1997, p. 11). The main points of the research study focused on how emotional and intellectual can grow to assist thought processing. Mayer et al. (2004) concluded that EI is the ability to reason about emotions, and that emotions enhance thinking. Also, in connection to the focus of this paper on EI and its correlation to drug dependency among women, Mayer et al defined EI as the key to being resilient in the face of stress or adversity. Lower levels of trait EI result in reduced emotion regulation, which thereby prevents individuals from effectively managing negative feelings, leading to inadequacy in dealing with stressful or adverse situations (Claros & Sharma, 2012; Parke et al., 2015). This underscores the need for better identification of relevant factors of trait EI to be taken as cues for predictors of drug abuse/dependency among women to alleviate drug abuse/dependency and to provide methods on how to deal with the issue proactively (Evans et al., 2015; Manuel, 2017). Another important element of EI is trait EI (e.g., trait EI or trait emotional self-efficacy), which is defined as "a constellation of emotional self-perceptions, which can be assessed by questionnaires and rating scales" (Aslanidou, et al., 2018, p. 1). Furnham and Christoforou (2007) indicated that people with high EI can

effectively function in the face of pressure and adversity. Add summary and synthesis throughout the paragraph to connect back to your study. Develop a strong conclusion for the section.

Relationship Between EI and Positive Traits and Problematic Behaviors

With the objective to determine the relationship between EI and traits and behaviors of individuals, Furnham and Christoforou (2007) conducted a study regarding trait EI (trait EI or trait emotional self-efficacy) and aimed to examine the predictors of self-reported trait happiness through the measurement of the Oxford Happiness Inventory (OHI) as well as the predictors of various happiness types. With the employment of 120 randomly selected participants, four questionnaires (namely, OHI, Eysenck Personality Questionnaire [EPQ], Trait Emotional Intelligence Questionnaire [TEIQue-SF], and Morris Multiple Happiness Inventory) were used to derive data on specific individual difference variables that would be predictive of different happiness conditions or motivations that is, extraversion, trait EI, religiousness, and neuroticism. Results of this study showed that overall, high trait EI and extraversion are predictive of overall happiness (Furnham & Christoforou; Walque, 2013).

In relation to the finding that trait EI is predictive of overall positive behaviors and happiness, trait EI has also been found to have an inverse correlation when it comes to predicting deviant behaviors such as violence and substance use (Mayer et al., 2004). Mayer et al reported positive correlations of substance use with factors such as suicide, depressive symptoms, behavior related disorders, school dropout, and poor scholastic achievement. Nabiei (2014) attempted to further the association of trait EI and negative

or deviant behavior by conducting a study and comparing the EI and hardiness in addicts and non-addicts. Nabiei et al. noted that substance abuse is a chronic phenomenon necessitating various physical, psychological, social, familial, and economic damages. The authors also observed that these damages could come to a point where the addicted person's social and individual actions are severely reduced. The study consisted of a sample size of 80 drug addicts and 80 nonaddicts from an addiction treatment center of Kermanshah, Iran. They matched members of the two groups based on the factors of age, education level, number of family members, and family income. They collected scores on Petrides and Furnham's (2006) EI questionnaire 80-item hardiness questionnaire. The results of the study showed that there existed a significant difference between addicts and non-addicts in terms of EI and hardiness so that the EI and hardiness of addicts are lower than the nonaddicted group. Add summary and synthesis throughout the paragraph to balance out the use of information from the literature with your own analysis.

Furthermore, Nabiei (2014) were able to objectively identify differences on specific dimensions of EI, including optimism, understanding one's own and others' emotions, controlling emotions, and social skills. All these components were found to be significantly lower in addicts compared to nonaddicts. Relatedly, the addicted participants obtained lower scores in all hardiness components, namely commitment, challenge, and control (Nabiei et al). Furthermore, the results of this study demonstrated a significant and inversely proportional relationship between the duration of addiction and level of EI, as well as between the duration of addiction and hardiness.

Goudarzian et al. (2017) also came to a similar conclusion when they conducted a study to determine the relationship of EI, specifically controlling one's emotions, to illicit drug use potential. Goudarzian et al. grounded their study on previous studies, noting that a low level of EI is associated with self-destructive behaviors, such as deviant behavior or smoking (see Nabiei et al., 2014). The study employed a quasi-experimental method, which was conducted on a random sample of 70 hospital nurses. Consequently, half of the 70 experimental subjects attended EI training session. Results of the study showed that illicit drug use potential in the experimental group had significant negative changes in comparison with that of the control group after the completion of the training sessions, and that those with lower trait EI had more tendency to perform negative acts such as drug use/abuse (Goudarzian et al). As such, these findings not only support predictions that EI is a risk factor for illicit drug use/abuse, but that training in EI may be a possible intervention strategy to aid individuals in avoiding risky behaviors.

Other work also has demonstrated the relationship between EI and drug use/abuse. Nabiee (2014) found that drug abuse is related to an impaired ability of an individual to decode complex emotional states, whether positive and negative. Mohagheghi et al. (2015) reported a similar finding through studying various factors of emotional difficulties and personality characteristics in drug addicts. The objective of the study by Mohagheghi, et al. was to test the hypothesis that emotional components of a drug addicted individual are vital parts and signals of personality that play a role as risk factors for drug abuse/dependency and perpetuation of this behavior. With the usage of statistical cross-sectional analysis, 268 drug dependent individuals who were visiting

medical centers for treatment were tested through convenience sampling technique. The results from this study showed that drug dependent people were significantly different from nondependent individuals in five elements of response: nonacceptance of emotional responses, difficulty engaging in goal-directed behaviors, difficulty in impulse control, limited access to emotion regulation strategies, and lack of emotional clarity (Chew et al., 2013; Frederickson et al., 2012; Mohagheghi et al). This is in line with the findings of the studies done by Goudarzian et al. (2017) and Nabiei (2014). Mohagheghi, et al. also found that these nonaddict and addict groups did not differ on emotional challenges; however, drug addicts suffered more. Therefore, there is a clear necessity for treatment centers to provide programs in alleviating emotional difficulties for individuals, such as programs for drug abusers to better handle emotions. As such, this body of findings also underscores the need for future research to focus of the importance of emotion in etiology, prevention, and treatment of addiction.

Trait EI and its Relationship to Health

Other studies have demonstrated that trait EI has a strong relationship or association when it comes to mental, emotional, and psychological health, which manifests in various ways (Knopp, 2016). Knopp (2016) argued that individuals with a low EI were characterized by a significantly worse condition of mental health than participants with an average or high EI. Several researchers have revealed that there is strong associations of trait EI with other important variables other than with mental health issues such as “pro-social behavior, acceptance, pro-social behavior, socialization, and body satisfaction in children and adolescents” (Gugliandolo et al., 2015; Mohagheghi

et al., 2015). With respect to trait EI, there are "negative relationships have been found in both adults and adolescents" (Gugliandolo et al, p. 1). In order to delve further into such negative associations, Mohagheghi et al. examined analyses that indicated that emotional intelligence has an important role to play in the onset and persistence of various psychopathologies or mental health. The authors of the study investigated the relationship between EI and substance dependence. With the use of a case-control study, the authors included 40 participants who were alcohol dependent individuals and mentally healthy inpatients. After completion of the Bar-On emotional intelligence test, analysis from the results showed that patients with alcohol dependence have deficits in components of EI. With the association found in trait EI and mental health factors, Knopp (2016) further concluded in his study that women are found to be more susceptible to other risk factors such as mental and psychological health disorders and substance use disorders than men.

This relationship of EI to health could provide justification that through identifying and training individuals with lower scores in components of EI, prevention, or at least reduction in or recovery from, substance abuse/dependence could be attained (Mohagheghi et al., 2015). Mohagheghi et al provided outlines on programs that should be included as preventive measures for treating addicted persons to avoid relapse, such as programs on how to effectively regulate emotions, and how to better manage impulse and outward behavior specifically targeted for substance use disorders patients. Elmquist et al. (2016) showed that generalized anxiety disorder co-existed with substance use disorders at an alarmingly high rate. In addition to this, the authors found that the presence of anxiety is associated with an increased risk for relapse to substance use

following treatment, with is often accompanied with lower levels of trait EI components. This finding is also in line with studies done by Price and Smith-Dijulio (2016) who found that lower trait EI was associated with more drug usage, as well as higher probability of drug relapse.

With the aim of the study to examine whether the presence of symptoms and lower trait EI were associated with leaving treatment in substance use disorders populations, Elmquist et al. (2016) examined a sample of 122 women in residential treatment for SUDs. The results confirmed that generalized anxiety disorder symptoms were significantly associated with the decision to leave treatment after considering controls for various factors such as age, education, problematic alcohol and drug use, and depression symptoms. Mohagheghi et al. (2015) reported that lower trait EI together with the presence of generalized anxiety disorder symptoms were associated with higher likelihood of drug dependency, as well substance abuse relapse after treatment.

Furthering this finding, Aslanidou et al. (2018) aimed to gain more empirical evidence by examining the relationship between trait EI and general health. The sample used for the study was random sampling of individuals with and without addiction problems. “The findings from the study showed that some individuals with drug addiction problems had lower levels of trait EI and they had poorer general health issues than individuals without drug addiction” (Aslanidou, et al., 2018). In addition, the study also found that global trait EI and two of its subscales had significant predictor correlations with depression (Aslanidou et a). Given that well-being was found to be a significant predictor of general health, its subscales were broken down by the authors in

order to provide in-depth, detailed information on which factors are to be seen as predictors for drug abuse, namely: “somatic symptoms, anxiety/insomnia, social dysfunction, and severe depression. In conclusion, people with drug addiction exhibited lower levels of trait EI (well-being and emotionality) and poorer general health than peers” (Aslanidou et al., p. 3).

Espinosa and Rudenstine (2018) reported that there is a link between trait EI, substance use disorders, and negative health concerns which can cause anxiety disorder. “Also, the researchers reported that trait EI can contribute to the treatment of anxiety, depression, and borderline personality disorders which is related to life trauma in some people” (Espinosa & Rudestine). Previous research conducted by Mohagheghi et al. (2015) investigated the link between deficits in components of EI and substance abuse by surveying 40 drug dependent respondents on the Bar-On EI test. Drug dependent individuals had significantly lower scores in empathy, one of the main factors of EI, than the non-drug dependent control group.

Kroll (2018) investigated the multiple effects of poly-substance use (PSU) on social cognition with the consideration of risk-factored cumulative effects. Performing a comparison of socio-cognitive performances of 47 participants and using EI tools such as Multifaceted Empathy Test, the Movie for the Assessment of Social Cognition and the Social Network Questionnaire, the authors found that individuals with those with higher PSU had lower emotional empathy and a smaller social network. The number of substances used was the best predictor for deteriorating or substandard performance in emotional empathy. Taken together with previous findings, there may be a two-way

interaction between reduced empathy and substance use, as both a predictor of risk for substance abuse and as an effect of substance abuse.

Substance Use Disorder and Using EI Factors for Treatment Among Women

More attention should be placed on building EI skills as components of treatment of substance use disorders because of their importance to daily-life functioning (Kroll (2018). Also, with the aim of bridging EI factor deficits of emotional empathy, emotional-awareness, and impulse control, this body of knowledge could act as guidance on the specific methods that would be effective for treating substance use among drug-dependent individuals, providing backbone to future programs on the relevance of reinforcing specific components of EI, and therefore, could act as referential guidance for future treatment interventions and rehabilitations for individuals with substance use disorders.

Several researchers have explored incorporation of other supplementary forms of training to enhance self-awareness, impulse control, and related dimensions of EI among women in substance use disorders treatment (Tamannaeifar et al., 2015). Price et al., (2018) introduced the concept of interoceptive training for women with substance use disorders with the objective of supporting and improving substance use disorders treatment. The authors of the study argued that programs and interventions aimed at facilitating interoceptive awareness such as awareness of inner body sensations could facilitate regulation and improve substance use disorders treatment outcomes. In order to better understand the role of interoceptive training in substance use disorders treatment, Price et al., (2018) delved further into this topic with the aim of demonstrating the

efficacy of interoceptive training in substance use disorders treatment among women and to bridge the gap in the existing literature with respect to substance use disorders treatment among women. They conducted a focus group with participants of the National Institute on Drug Abuse randomized clinical trial to examine Mindful Awareness in Body-oriented Therapy for women in substance use disorders treatment. Specifically, participants were asked to respond to multiple questions regarding their current use of interoceptive awareness skills, perceived benefit, learning processes, and suggestions for program development. Results of the study showed that participants consistently used interoceptive awareness self-care skills learned in MABT. Such interoceptive awareness training and daily practice were perceived as critical for emotional awareness, regulation, and relapse prevention. In addition to this, findings highlighted the relevance of MABT educational strategies such as touch and individual delivery to teach interoceptive awareness and self-care skills for women in substance use disorders treatment.

Furthering the objective for identifying effective supporting programs for substance use disorders treatment improvement, Price et al. (2018) examined the immediate pre-post effects of the mind-body intervention MABT as an addition to women's substance use disorders treatment. Participants were women in intensive outpatient treatment for chemical dependency at three community clinics in the Pacific Northwest of the United States who were selected randomly and assigned to one of three conditional settings for the purpose of the study. These three conditions were: (a) Mindful Awareness in Body-oriented Therapy together with treatment as usual, (b) women's health education together with treatment as usual (active control condition), and (c)

treatment as usual only. The results of the study evidenced significant improvements in interoceptive awareness and mindfulness skills, emotion dysregulation (self-report and psychophysiology), and days abstinent for women who received MABT compared with the other conditions/groups. The authors also found that participants who completed the major components of MABT revealed these same improvements as well as reductions in depressive symptoms and substance craving. That is, interoceptive training was associated with positive health outcomes in substance use disorders treatment and promoted self-care and emotional regulation among women. Namely, improvements were noted in emotion regulation (self-report and psychophysiological measures), reduced symptomatic distress (depression and trauma-related symptoms), and decrease in substance use (days abstinent) and craving (Price et al., 2018).

Other researchers have argued for the inclusion of treatment activities specifically focusing on components of EI (Kroll, 2018; Raisjouyan, 2014). Cibulskytė and Zajančkauskaitė-Staskevičienė (2017) studied 101 addicted persons undergoing treatment at a county center for addictive disorders. They administered multiple questionnaires, such as the Coping Self-efficacy Scale, Refusal Self Efficacy Questionnaire, Multidimensional Scale of Perceived Social Support, and The Balanced Inventory of Desirable Responding Short Form. Results from the linear regression model in the study indicated that the more EI factors, such as social support and self-efficacy methods, were put in place throughout the program, the better the substance use disorders inpatients responded to the treatment, thus resulting to a higher effectiveness and completion rate (Cibulskytė & Zajančkauskaitė-Staskevičienė, 2017). Others also have noted that the

higher the levels of trait EI components, such as self-efficacy and perceived social support, the less likelihood of drug relapse and more success rate for drug dependency treatment (Casale et al., 2012; Choi et al., 2015; Cibulskytė & Zajančkauskaitė-Staskevičienė, 2017; Frederickson et al., 2012).

Di Pierro et al. (2015) also explored effective treatment methods that suggested the consideration or identification of emotion regulation difficulties – that is, through the analysis of the effects of mature defense mechanism. The authors of the study reviewed the relationship between SUDs and emotion regulation, specifically, to identify difficulties in emotion regulation encountered by SUD patients with the use of defense mechanisms. Di Pierro et al. (2015) evaluated 58 SUD inpatients and 73 members of a non-SUD control group in order to determine the mediating effect of mature defense mechanisms in regulating emotions. Results of the study showed that whenever negative emotions appeared, individuals with SUDs were having trouble in accessing emotion regulation strategies. That is, the more difficulties appeared in accessing regulation strategies, the less mature defenses were used, and consequently higher presence of SUDs in individuals.

Axelrod (2012) arrived at a similar conclusion when they aimed to provide an objective assessment of a correlation of emotion regulation to SUD symptoms among women. With the use of the Difficulties in Emotion Regulation Scale in assessing and measuring emotion regulation skills in SUD patients, the authors of the study found that an improvement in emotion regulation resulted to an increase of overall positive mood, and consequently, a decrease in substance use frequency. Furthermore, the results from

the data showed that it was the improvement in emotion regulation, and not in overall mood, that explained decreased in substance use frequency among SUD patients. The result of this study demonstrated correlation and outcome of improved emotion regulation in SUD women patients, linked to increased behavioral control (Axelrod).

Aside from findings showing the efficacy of adding EI specific factors with methodologies for increasing with emotion regulation, psychotherapeutic interventions have been shown to improve emotional skills in the treatment of substance-dependent patients (Kopera et al., 2014). As such, it is important to have a systematic identification process of discrete emotional problems and dynamics in the treatment duration in order to better relate to the root causes of substance dependency. Forghani and Abidi (2016) conducted a study with the similar objective in mind of identifying emotional problems linked to drug abuse during treatment duration; thereby the authors conducted a systematic analysis through evaluating the effect of group psychotherapy with transactional analysis (TA) approach on EI, executive functions and substance dependency. This type of group psychotherapy incorporated the factors of discrete emotional problems and dynamics among women SUD patients. With a sample of 30 drug-addicts at rehabilitation centers in Mashhad city, this quasi-experimental study performed pretest, posttest, case-control stages, wherein the case group received 12 sessions of group psychotherapy with transactional analysis approach. Then the effects of group psychotherapy with TA approach on EI, executive function, and drug dependency were assessed. The following tests were used for evaluating these various facets of the treatment process: Bar-On test for EI, Stroop test for measuring executive function, and

morphine test, methamphetamines, and B2 test for evaluating drug dependency (Forghani et al., 2016). Authors of the study found that group psychotherapy with the TA approach was effective in improving EI, executive functions, and decreasing drug dependency. That is, teaching methods of TA provided positively significant changes on EI, and ultimately, TA has significant effects on reducing drug dependency in addicts. This finding is in line with previous studies conducted by Moradi et al. (2018) of the relationship between EI, interpersonal communications/skills brought about by TA, and its interdependent relationship with the mental and psychological health of dependent patients. Furthermore, analysis from the data showed that there is direct correlation of group learning and TA to interpersonal skills and EI, respectively.

Additionally, in the evaluation of effective treatment methods for SUD among women, the concept of emotional quotient (EQ) was studied in past literature in order to determine its effect/correlation on the number of addiction relapses after substance abuse treatment (Khanmohammadi et al., 2009; Nadalinezhad & Abbasalipour, 2017). Khanmohammadi et al. (2009) revealed low EQ as a predictor of tendency towards addiction, and correspondingly, a higher EQ was correlated to a lower number of relapses in the first six months post-quitting. This meant that having more EQ training or treatment methods incorporating increase of EQ brought about more positive, stable changes in emotion regulation for the SUD patients.

Van Rooy et al. (2005) argued that teaching SUD patients how to handle emotions has been proven to be helpful in managing negative emotions or behavior, and therefore, one’s capacity to resist drug abuse. Through the utilization of meta-analytic techniques,

the authors found that EI is considered a valuable predictor of performance or capacity for mental control or strength. That is, there is a significant correlation between EI and willpower performance in drug addicts (Van Rooy et al., 2005). Raisjouyan (2014) aimed to provide more in-depth information of the link of EI factors serving as predictors for substance use. The sample population for this study consisted of 160 who were randomly selected due to being treated at chemical dependency rehabilitation centers. the authors used Persian version of Bar-On EQ questionnaire for the participants to complete. the results of the study indicated that there was a significant inverse correlation between EQ score and the number of relapses. Also, the results of the study indicated that that there was no significant correlation between type of abused substance and the number of relapses with the participants. The authors concluded that EQ has a positive impact on preventing addiction relapse. Therefore, increasing EQ with respect to educational programs, psychotherapy interventions, and supplementary methodologies such as effective EQ or EI management methods could serve as a preventive measure for treating addict persons and avoid relapse among SUD patients (Moradi et al., 2018; Van Rooy et al., 2005).

Nadalinezhad and Abbasalipour (2017) conducted a study on the inclination of smoking and the acquiring certain skills related to EQ. The authors found similar results for EQ and EI with respect to low EQ is related to the inclination towards smoking in some of the participants Also, if the participants acquired certain skills to promote EQ, then this would positively lead to the decrease in the tendency to abusing drugs. Therefore, the research on EQ and EI could serve as research proof that with teaching EQ

components, people's capacity to resist drug abuse could be enhanced. Also, there is a need for EI training which could have a positive stable change in emotional performance indicators for people.

Lea et al. (2018) research study indicated that higher levels of trait EI can play an important role with respect to mental health symptomatology. Tamannaeifar et al. (2015) argued that destructive behavior, aside from mental health, of drug addicts could be improved through means of training towards higher levels of EI and mental strength. Diving deeper in understanding this phenomenon, Tamannaeifar et al. (2015) investigated EI and irrational beliefs in drug addicts and non-addicts. Using the methodology of causal-comparative (Post-event) tools, data were derived using a sample of 160 patients (80 addicts, 80 normal individuals). The survey results obtained showed that levels of EI among addicts were significantly lower than those among nonaddicts. This body of findings provides empirical evidence on the importance of having training programs for EI. Thus, with the consideration of EI variables linked to influence behavioral changes in SUD patients, and the ability of individuals to change their own behavior, this study proves that destructive behavior of drug addicts can be improved through means of training in order to have higher levels of EI and rational beliefs (Goudarzian et al., 2017; Tamannaeifar et al).

Alaei et al. (2017) argued that the promotion of EI, spiritual intelligence, and self-esteem are useful in control and avoidance of substance abuse among women. The authors of the study investigated EI factors among individuals with SUD in rehabilitation centers of Tehran. A cross-sectional study was conducted using a sample size of 200

individuals with at least two years of addiction history. With the utilization of systematic instruments such as Eysenck Self-esteem Scale (ESI), Bradbury-Greaves EI test, Abdullah Zadeh Spiritual Intelligence test, and the Personal Control Scale (PCS), the results of the study showed that there existed a positive relationship between EI, spiritual intelligence, self-esteem, and substance abuse self-control.

In sum, various supplementary training methods that have been incorporated with substance abuse treatment protocols have proven to be effective in helping individuals with substance use disorders increase their emotional regulation and other components of EI, which, in turn, has resulted in more positive prognoses for their general mental and emotional well-being and reduced substance use. However, these findings only invite additional questions, such as, what are the mechanisms through which these changes in components of EI may improve outcomes? The model to be evaluated in the current study examines the possible role of increased resilience in relation to higher EI as predictors of lower experiences of stress and/or better stress management. Relationships between these factors will be reviewed in the sections to follow.

Stress, Coping, and Substance Abuse

There is substantial evidence concerning the relationships between trauma, stress, and substance abuse. Stressors are events that throw off balance and challenge an individual's resources to regain homeostasis (Burke & Miczek, 2014). When stressors are recurrent and frequent, individuals may develop maladaptive coping behaviors, which then put them at risk of further stress and maladaptive coping responses. As noted by Altintas and Bilici (2018) in an integrative review of the literature, there are significant

relationships in incidences of childhood trauma, such as physical and/or sexual abuse, among individuals with drug use problems. Physical, social, and psychological stressors, such as those related to poverty, loss of a loved one, disruption in daily patterns and/or identity, physical threats, difficult relationships, disappointments, social inequities, also occur in adulthood and can be chronic. Espinosa and

Espinosa and Rudenstine (2017) examined relationships between childhood and adult trauma and trait EI in predicting personality organization scores in a clinical sample. The participants in the study consisted of 160 males and females in a mental health clinic facility in an urban low-income setting. Patients with high childhood and adult trauma histories showed lower EI and more personality disorganization on two of the three dimensions that were measured, when compared with patients with lower trauma histories. Further, there are some indications of gender differences in effects of stress and trauma. Altintas and Bilici (2018) noted women who experienced trauma during childhood, such as through child abuse, neglect, sexual abuse, or maltreatment, are significantly more likely to use alcohol and/or illicit drugs than men with similar childhood experiences. In addition, adult women victims of sexual assault who experience other types of interpersonal abuse show increased risk of attempts to cope through substance use.

Emotional Intelligence, Resilience, and Stress Management

There is a body of research that links EI and stress. For example, “A study was conducted a study on the link between trait EI, SUDs, and negative health concerns with respect to GAD which showed that trait EI can moderate the treatment of anxiety,

depression, and borderline personality disorders related to life trauma: (Espinosa & Rudenstine, 2018). In addition, Hosseini and Anari (2011) conducted a study on the correlation of EI and personality instability among substance abusers. The sample for this study consisted of 80 males and females in a treatment center. EI and personality were evaluated by the Bar-On Questionnaire and the Eysenck personality questionnaire for adults. There was a significant negative correlation between EI and personality instability in substance abusers. Instability was related to lower levels of problem solving, optimism, interpersonal relations, self-esteem, and dealing with realities, all protective factors for productive coping and resilience to stress (Reich et al., 2010).

Coping entails thought processes and behaviors that can modify a problematic situation and/or minimize or escape harm related to stress or trauma (Weinberg et al., 2014**)**. As described by Folkman and Lazarus (1985), cognitive responses to stressors may be active, such as changing perceptions of the situation through cognitive restructuring, or passive, such as avoiding the situation through wishful thinking. Folkman and Lazarus also described reactions in terms of whether they are focused on problem-solving or on the individual's own emotional experiences. In general, research has supported Folkman and Lazurus' proposal that problem-solving responses, including reaching out for support, are much more productive than emotion-focused reactions, both in terms of immediate and long-term effectiveness.

Contemporary trauma theory focuses on how trauma impacts an individual's functioning in relation to coping. Specifically, dissociation becomes a main defense mechanism; there are impairments in trust and reaching out to others; the victim engages

in behaviors that reenact the original trauma, causing familiar, intense emotions that masquerade as a sense of control or attachment; there is a threat to the basic sense of self and interpersonal abilities; there are reduced abilities to regulate moods and emotional responses (Goodman, 2017).

As Goodman (2017) noted,

> Emotional capacities and advanced coping are significantly and positively correlated with the ability to regulate emotions. Higher resilience is related to lower levels of substance use, fewer alcohol problems, and a delayed onset of substance abuse (Goodman, 2017). Similarly, enhanced resilience plays a significant protective role in successful recovery from SUDs (Roberts et al., 2002). Researchers provide compelling evidence in support of the association between emotional capacities and resilience, and of resilience as a mediating factor among advanced emotional capacities, affect, balance, and well-being. As such, enhanced resilience is tied to enhanced abilities to tolerate stress and to regulate emotions despite adversities, reducing the person's need to self-medicate with substances. (pp. 190-191)

The role of EI in relation to resilience and stress management with respect to chemical dependency among women is less clear. Resilience is defined as the maintenance and/or quick recovery of mental health during and after times of adversity (Kalisch et al., 2019). Researchers noted that resilience, as opposed to lasting stress-induced mental and functional impairments, is the result of a dynamic process of successfully adapting to stressors, "of effectively negotiating, adapting to, or managing

significant sources of stress or trauma" (Kalisch et al., 2017, p. 2). Individuals change while they cope with different stressors. These changes can take the form of psychological growth processes (Kalisch et al).

Many environmental factors serve as ongoing risks for substance abuse or dependence, including among those who are in treatment. For example, women are at risk for major depression (Van Loo et al., 2015). There are higher risks of depression and substance use among women who are exposed to intimate partner violence (Pettinati et al., 2015; Weaver et al., 2015). Other environment factors such as poverty continue to exist for many women during treatment, (Garcia-Guix et al., 2018).

Roustaei et al. (2017) conducted a study on the effectiveness of resilience training on ego control and hardiness of illicit drug use. The sample consisted of 240 men and women who were referred to a methadone treatment facility. The instruments used to collect the data were the Self-Restraint Scale and the Kobasa Hardiness Questionnaire. The resilience training included ten sessions. Ego-control and hardiness of the participants were improved significantly by resilience training. The authors noted that resilience training can improve suppressing anger, impulse control, consideration of others, and responsibility in drug abusers. Also, resilience training increases the hardiness in these patients and their challenge, commitment, and control are strengthened.

Rudzinski et al. (2017) conducted study on substance use and the concept of resilience in the substance abuse use for some people. The authors sampled a total of 77 studies were identified for analysis. Their review noted that there is limited, but expanding, interest in studying resilience as part of the recovery process from substance

abuse, with a focus on health-related behaviors, recovery related factors, and harm reduction strategies. They also observed that there are challenges in this area of research, such as varying definitions and measures of resilience, this type of research is critical for creating new programs, policies, and interventions that can benefit individuals who use drugs.

Summary

In addition to the effects of prior trauma, ongoing environmental stressors continue to put women at higher risk for substance use and relapse. The social and individual challenges of substance abuse among women continue to demand more research into processes that may support recovery. Considerable research and clinical applications have supported relationships between EI and substance use and substance use recovery. Although conceptually related to EI, there is limited, but expanding, interest in studying resilience as part of the recovery process from substance abuse. Further, both EI and resilience are conceptually related to coping and stress management, that is, the day-to-day functioning in the face of stressors during treatment.

The current study will advance the understanding of these relationships among women who are in treatment for substance use disorders. In an effort to respond to these gaps in the literature and expand understanding of the possible relationship between EI, resilience, and stress among women in a treatment for substance use disorders, I will apply a quantitative, correlational study using surveys to explore three key research questions.

Research Question 1: Does perceived EI (as measured by the Self-Rated EI Scale; Brackett, 2004) predict current perceived stress (as measured by the Perceived Stress Scale-4; Cohen et al., 1983; Cohen and Williamson, 1988) among women in treatment for substance abuse?

Research Question 2: Does perceived EI (as measured by the Self-Rated EI Scale; Brackett 2004) predict resilience skills (as measured by the Connor-Davidson Resilience Scale; Connor & Davidson, 2003) among women in treatment for substance abuse?

Research Question 3: Do resilience skills (as measured by the Connor-Davidson Resilience Scale; Connor & Davidson, 2003) meditate the apparent relationship between EI (as measured by the Self-Rated EI Scale; Brackett 2004) and current perceived stress (as measured by the Perceived Stress Scale-4; Cohen et al., 1983; Cohen and Williamson, 1988) among women in treatment for substance abuse?

Chapter 3 include details of of the research design and methodologies, including sampling, instrumentation, procedures, planned analyses, and ethical considerations. In Chapter 4, I present results of the analyses. Chapter 5 include a summary and discussion of the results.

Chapter 3: Research Method

The purpose of this correlational study was to explore the relationship between perceived emotional intelligence, perceived stress, and resilience among women in a treatment center located in the United States. The status of women in society and their immediate environment may place them at risk for substance abuse owing to physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles, issues of poor self- esteem, dead-end employment or no employment, and specific life stressors such as single parenthood, divorce, and loneliness, which are related to the ability of women to recognize, to manage, and to understand their own and others' emotions (Baudy et al., 2018; Ouimette & Read, 2014). This study may contribute to the understanding of this relationship and inform clinicians working with women in future program development and interventions.

EI, as a predictor variable, is defined as the ability to perceive emotions accurately, to use emotions, to understand emotions, and to regulate emotions to assist and guide thinking and action (Mayer & Salovey, 1997). Emotional intelligence was measured in terms of its four elements: perception of emotions, utilizing emotions, managing own emotions, and managing others' emotions, using the SREIS (Brackett et al., 2004). A second predictor variable, resilience, is conceptualized in terms of how to deal with whatever comes, ability to adapt to change in the last month, how a person felt about the change (Campbell-Sills & Stein, 2007). Resilience will be measured by the CD-RISC (Campbell-Sills & Stein). The criterion variable, perceived stress, is conceptualized as how predictable, uncontrollable, and overloading respondents find their lives, and how

they think they felt during the last month (Campbell-Sills & Stein; Cohen & Williamson, 1988). Perceived stress will be measured using the PSS-4 (Cohen et al., 1983; Cohen & Williamson, 1988). The participants of the study were women diagnosed with substance abuse/dependence in a treatment center in the United States. Data were collected using an online survey containing the measurement instruments. Correlation and regression analysis was conducted to determine the relationships between the variables.

Chapter 3 presents the research design and its appropriateness to the study. Description of the population, sampling procedures, recruitment and data collection procedures will be outlined next. Operationalization of constructs and data analysis plans are presented afterward. Threats to validity as well as ethical procedures will also be discussed. A summary of the important details about the proposed methodology will conclude the chapter.

Research Design and Rationale

The nature of the study was a quantitative study. Quantitative research was suited to examining questions of "what or to what extent" in determining the relationships between the variables (Creswell, 2017b; Lundrum & Garza, 2015; Rawbone, 2015). The purpose of this study was to determine the relationship between variables emotional intelligence, perceived stress, and resilience using quantitative measurement techniques. By contrast, qualitative research is descriptive, focusing on issues of "why" or "how" (Creswell, 2017b), and deals with the experiences of individual participants rather than the statistically aggregated experiences of a larger sample. Thus, qualitative research was a poor fit for the purpose of this study.

A correlational research design was employed for the study. Correlational research design allows for the examination of relationships between variables with the use of statistical tests (Goertz & Mahoney, 2012; Permanyer, 2014), which coincides with the purpose of the study. Correlation analysis and regression analysis of the data were done using SPSS. Although, correlational research design cannot provide inferences about the causal relationships between variables, providing statements of correlation are still meaningful results for policy and future research (Ingham-Broomfield, 2014; Leedy & Ormrod, 2013). As such, there was no manipulation of variables or comparisons of existing groups. I used cross-sectional data in this study that provided a broad picture of a population at a single point in time (see Ingham-Broomfield, 2014).

Methodology

Population

The target population for the study were women diagnosed with substance abuse/dependence in a treatment center located in the United States. This center was chosen because it treats only females. As of the first quarter of 2019, there were 190 recorded cases of female patients diagnosed with substance abuse/dependence in the selected treatment center.

Sampling and Sampling Procedures

In quantitative studies, a power analysis should be conducted to determine the required sample size (citation). Four factors were considered in the power analysis: (a) the effect size, (b) the level of significance, (c) the power of test, and (d) the statistical technique (Faul et al., 2013). Effect size refers to the degree of relationship between the

independent and dependent variables (Cohen & Williamson, 1988). There are three categories of effect size: small, medium, and large and medium effect size is usually used to strike a balance between being too strict (small) and too lenient (large) (Berger et al., 2013). Moreover, most studies involving EI used a medium effect size (Bitmiş & Ergeneli, 2014; Casale et al., 2012), which is what I followed. The intended statistical techniques for the study were correlation analysis and multiple linear regression analysis. Using an alpha level of 0.05, a medium effect size, 80% power of test, and correlation analysis, the minimum sample size is 65. Meanwhile, using multiple linear regression analysis with two predictor variables results in a minimum sample of 90. Therefore, the minimum sample size for the study would 100. G*power was used in the calculation of the minimum sample size.

I used nonprobability sampling for the study. The inclusion criteria for this study were as follows: (a) 18 years old above, (b) have been diagnosed with substance abuse/dependence, and (c) current treatment for substance abuse/dependence in the selected treatment center.

Procedures for Recruitment, Participation, and Data Collection

Institutional review board (IRB) approval from the university was secured first before any data collection activities commence. I asked the administrators of the selected treatment center to allow me to post posters and provide flyers for potential participants. The posters and flyers contained the background of the study, the purpose of the study, and other responsibilities of the potential participants. These posters and flyers also

contained a link to the survey. Interested participants used an online link and a tablet to complete the survey.

When a participant enters the online survey site, the informed consent form was presented on the first page, before the actual survey materials. The potential participant was asked to indicate whether she agrees to participate. If the individual selected, “I agree,” she was advanced to the first page of the survey. If she chose, “I do not agree,” she was directed to another page that thanks them for their consideration and then exited from the survey. The sample size was complete with 109 participants.

Instrumentation and Operationalization of Constructs

The data collection was accomplished by a quantitative survey package. The first questionnaire collected demographic information: gender, age, race/ethnicity, and educational level (see Appendix B). Survey items were drawn from the three instruments using existing studies of related variables, including those noted in the literature for measuring perceived EI (SREIS), the perceived stress (PSS-4), and the resilience scale (CD-RISC). Information on the research instruments used in the study is presented next.

Self-Rated Emotional Intelligence Scale

The SREIS (Brackett et al., 2004) assesses both oneself and others on the perception of emotions (e.g., by looking at people's facial expressions, recognizing the emotions they are experiencing), use of emotions (e.g., when making decisions, listen to one's feelings to see if the decision feels right), understanding emotions (e.g., having a rich vocabulary to describe their emotions), and management of emotions (e.g., can handle stressful situations without getting too nervous). The SREISS is a self-rating

measure with 19 items, which are presented with a 5-point Likert-type scale that ranges from 0 *very inaccurate* to 4 *very accurate*. This allows the participants to describe in their own views the perceptions of emotions (Brackett et al., 2004). The total SREIS score ranges from 0- meaning low emotional intelligence to 76 which means high emotional intelligence. Brackett et al. (2006) conducted several research studies to determine the overall Cronbach's alpha for the SREIS, which were as follows: Study 1 was 0.84, Study 2 was 0.77, and Study 3 was 0.66. The full-scale test-retest reliability: 0.75 and 0.81 for the United States. The following are the Cronbach's alphas for each of the four subscales of the SREIS: perception of emotions was 0.75, facilitation of emotions was 0.67, understanding of emotions was 0.84, and regulation of emotions was 0.75 (Brackett et al., 2004).

The Perceived Stress Scale-4

The PSS-4 (Cohen et al., 1983; Cohen & Williamson, 1988) was developed to evaluate the degree to which life situations are perceived as stressful. The PSS-4 asks participants about how unpredictable, uncontrollable, and overloading respondents find their lives, and how they think they felt during the last month. There is a 5-point Likert scale (ranging *from 0 = never to 4 = very often*) that allows the respondent to indicate frequency for each statement. The four items are *In the last month, how often have you felt that you were unable to control the important things in your life*?, *In the last month, how often have you felt confident about your ability to handle your personal problems?*, *In the last month, how often have you felt that things were going your way?*, and *In the last month, how often have you felt difficulties were piling up so high that you could not*

overcome them. The total psychological stress score ranges from 0 to 16, with higher scores suggesting higher psychological perceived stress. The four-item version of the PSS-4 presents good reliability and validity (Cohen et al., 1983). The Cronbach's alpha for the abbreviated scale was 0.72 for the United States sample (Cohen et al., 1983).

The Connor-Davidson Resilience Scale

The CD-RISC (Connor & Davidson, 2003) is used to assess resilience. The authors operational definition of resilience is the ability to thrive in the face of adversity. Resilience may be viewed as a measure of stress coping ability and could be an important target of treatment in anxiety, depression, and stress reactions (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). The CD-RISC is comprised of 25 items, each rated on a 5-point Likert scale from 0 to 4, with higher scores reflecting greater resilience. The total score ranges from 0 to 100, with higher scores reflecting greater resilience. “The CD-RISC has been administered to subjects such as community samples, primary care outpatients, clinical trial of generalized anxiety disorder, and two clinical trials of PTSD” (Connor & Davidson, 2003, p. 2). The reliability, validity and factor analytic structure of the scale were administered with several groups of participants. The Cronbach’s alpha for the full scale was 0.89 for the first group of participants and the item total correlations ranged from 0.30 to 0.70. The test-retest reliability was assessed in 24 subjects from the clinical trials participants and demonstrated a high level of agreement, with an intraclass correlation coefficient of 0.87 (Connor & Davidson, 2003). The CD-RISC scores were positively correlated with the Kobasa hardiness measure in psychiatric outpatients (Connor & Davidson, 2003). Also, the CD-RISC significantly negatively correlated with

both the Perceived Stress Scale and the Sheehan Stress Vulnerability Scale. This indicated that the resilience scores obtained from the CD-RISC correspond to lower levels of the perceived stress and the perceived stress vulnerability. These findings indicated that there was good convergent validity of the CD-RISC (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003)

Data Analysis Plan

Data from the online survey site was downloaded in spreadsheet form and then transferred to an SPSS data file. Data from incomplete surveys or with participants who do not meet the eligibility requirements will be excluded from data analysis. The data analysis was conducted in the following order:

In order to describe the sample, I summarized frequencies of cases in various categories, based on those presented in the demographic questionnaire.

Data Cleaning and Screening

Prior to proceeding with tests of the research hypotheses, I examined the data for random responding and missing values. The data were visually inspected for data entry errors and any errors were corrected before data analysis. I used SPSS's (Version 25) function to identify missing values and outliers. Further, cases with more than 20% of responses missing for a given research scale will be eliminated (Creswell, 2017b). Where there are fewer missing values, I used SPSS procedures for imputation of the mean score based on other responses to replace the missing value(s) for that case (Creswell, 2017).

I also evaluated score distributions for outliers. Using box plots, I identified any data points that are more than three standard deviations from the distribution mean. I used

the Winsor method to modify these outlier values and retain the data for further regression analyses (Pusparum et al., 2017).

Testing Assumptions for Statistical Tests

Regression analysis serves three purposes: description, control, and prediction (Nimon & Reio, 2011). In this study, two variables, emotional intelligence and resilience, will be evaluated as predictors of perceived stress, with resilience evaluated as a possible mediator variable between emotional intelligence and perceived stress. I tested each of these assumptions to verify that my data satisfy the assumptions for use of multiple linear regression:

There must be a linear relationship between the outcome variable and the independent variables. I used scatterplots to examine whether there is a linear or curvilinear relationship.

I examined the Q-Q plot of residuals to test the assumption that residuals are normally distributed.

Multiple regression assumes that the predictor variables are not highly correlated with each other. I evaluated this using Variance Inflation Factor (VIF) values.

It is assumed that the variance of error terms is similar for the values of the predictor variables. I plotted the standardized residuals versus predicted values to assess whether there is equal distribution across all values of the independent variables.

Testing Research Questions and Hypotheses

The purpose of this study was to test the mediational model that is presented inn Figure 1. The research questions and hypotheses follow the steps used in the Baron and Kenny (1986) of testing assumptions for mediation:

(5) Examine the relationship © between the independent variable and dependent variable;

(6) Examine the relationship (A) between the independent variable and the mediator variable;

(7) Examine the relationship (B) between the mediator variable and the dependent variable;

(8) Examine the modified relationship between the independent variable and the dependent variable when the mediator variable is added to the predictor of the dependent variable;

The following research questions and hypotheses are set up to follow the Baron and Kenny (1986) method for testing mediation models (see Figure 1 by using a series of separate regression analyses:

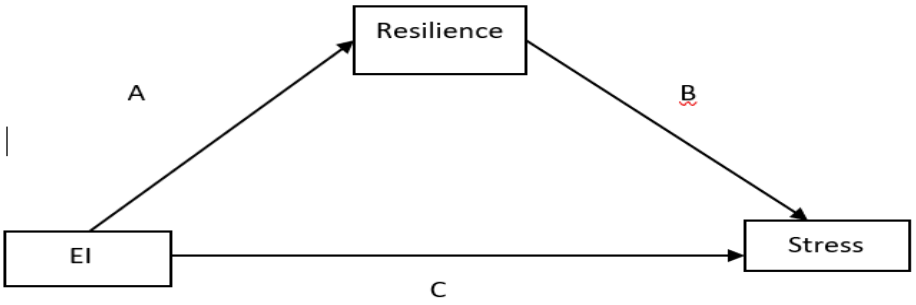


Figure 1. Proposed mediational model for relationship of EI resilience and stress

This research study was guided by the following research questions and hypotheses:

RQ 1: Does perceived emotional intelligence predict current perceived stress among women in treatment for substance abuse?

$H1_0$: Perceived emotional intelligence does not predict current perceived stress among women in treatment for substance abuse.

$H1_a$: Perceived emotional intelligence does predict current perceived stress among women in treatment for substance abuse.

RQ 2: Does perceived emotional intelligence predict resilience skills among women in treatment for substance abuse?

$H2_0$: Perceived emotional intelligence does not positively predict resilience among women in treatment for substance abuse.

$H2_a$: Perceived emotional intelligence does positively predict current perceived stress among women in treatment for substance abuse.

RQ 3: Does resilience skills meditate the apparent relationship between emotional intelligence and current perceived stress among women currently in treatment for substance abuse?

$H3_0$: The relationship between EI and perceived stress is not mediated by resilience.

$H3_a$: The relationship between EI and perceived stress is mediated by resilience.

I tested the first two research hypotheses using linear regressions predictor. The third hypothesis was tested using a multiple linear regression with EI and resilience as the predictor variables. If resilience does act as a mediator, then the strength of the relationship between EI and perceived stress should be reduced with the introduction of the resilience term.

Threats to Validity

External Validity

The external threats to validity in a research study affect the degree to which the results can be generalized to other members of the population. Randomized sampling would support the generalization of the findings to other participants in the population. However, because the participants were volunteers and I recruited only from one site, generalizability of the results may be limited. (Creswell, 2017a)

Internal Validity

Internal validity relates to the study's research design. A possible threat to validity was that I used only one source of data collection, self-report surveys with the participants. There were no other sources of information for cross-validation. Another

possible source of threat to validity was the reliability and validity of measures for a particular sample or population. These instruments were selected to be the most appropriate as they have been used with similar populations of participants in drug treatment centers across the United States.

It was assumed that the participants had sufficient understanding and reading ability to complete the instruments. Further, because there were three surveys to complete, fatigue might be a factor. The participants might start and stop completing the surveys several times before completing each item in order to decrease fatigue in completing the surveys. There was a concern that the participants might have carryover effect when moving from one survey to the other (Creswell, 2017a).

Assumptions

According to Cohen et al. (1983) assumptions are inevitable in any quantitative studies are such kind of research involves making inferences about unknown population parameters. First, it was assumed that participants would respond to all questionnaires truthfully. I assured that participants know and understand that all information collected was strictly confidential and safeguarded as stated in the protection of human subject's section of this study. Second, it was assumed that the volunteer participants who was recruited to participate for the study from one treatment facility may not be a truly representative sample of women in treatment for substance use/dependence at other facilities in the United States (Burke & Miczek, 2014).

Limitations

A limitation is a factor that is beyond the control of the researcher and can potentially impact the external or internal validity of the study (Creswell, 2017a). A limitation for this study was that I would not random sample the participants in the women treatment center, therefore, generalization of the results to women in other treatment programs will be limited. Another limitation was that results from correlational studies are not definitive in causation between the study variables. Babbie (2013) asserted that there could be several reasons why variables behave the way they do. It is only through experimental study, a researcher can have certainty regarding the true causation between variables as such design involves random assignment, which correlational studies do not possess (Rottman & Hastie, 2014). In addition, self-report information is subjective, and interpretations based on self-report data because the participants may exaggerate the responses in revealing private details (Creswell, 2017a). Also, due to the limited number of participants in this study, generalization to other setting is limited.

Delimitations

The scope refers to the limitations that the researcher imposed to the study (Creswell, 2017a). Meanwhile, delimitation is a factor that the researcher intentionally imposes to constrain the scope of the study to make it manageable. The study's scope only involved participants who are women, 18 years and above, clinically diagnosed with substance abuse/dependence in a treatment center in the United States. The study was delimited to only one treatment center that the researcher has access to in the United States thus limiting the demographic sample. Though there are various treatment centers

spread around the country, the chosen one has the greatest number of women diagnosed with substance abuse/dependence, which may give a better chance for this study in getting diverse views and experiences from women. The researcher wanted to have more in-depth insights from relevant population rather than choosing a wider population but a higher possibility of inconclusive insights. Other factors that may have contributed to the relationship between EI and substance abuse/dependence among women such as financial support, educational background, race, was no considered for the study.

Ethical Procedures

According to Creswell (2017a), participants should be advised of all ways the information they provide is kept, analyzed, and published. For the study, participants will be notified of the following parameters about the information they provide. The participants can withdraw from the study at any time even if the survey is not finished. Participants' personal information will be kept confidential and pseudo-coded to ensure anonymity. Data were stored in a locked area for five years and then destroyed. In the same way, all information published within the dissertation will be presented in such a way that the identity of the participants will not be revealed.

Summary

The purpose of this correlational study was to explore the relationship between perceived emotional intelligence, resilience, and perceived stress among women in a treatment center located in the United States. Ethical protection provided for all the participants in the study. A total of 109 participants in the study were women diagnosed with substance abuse/dependence in a treatment center in the United States. Data were

collected using a quantitative survey employing validated survey instruments and hosted through SurveyMonkey. Multiple linear regression analysis was conducted to determine the relationships between the variables.

Chapter 4: Results

Introduction

The purpose of this correlational study was to examine resilience as a mediator between EI and stress among women in treatment for chemical dependency. Some women's attitudes and reactions to problems and issues in their lives may place them at risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles (Evans et al., 2015; Manuel, 2017). There was a need for better identification of relevant factors, such as trait EI and resilience as predictors of perceived stress, as possible factors associated with drug abuse/dependency among women. The better these are understood, be better the chances to alleviate drug abuse/dependency and to provide methods on how to deal with the issue proactively (Evans et al., 2015; Manuel, 2017). Stress is the reaction to challenging situations in life, and it often is accompanied with changes with physical, mental, behavioral, and emotional responses. Stress and drug use can lead to a person relapsing to drug abuse (Evans et al., 2015; Manuel, 2017). It is important to understand how EI, the awareness of one's own and others' feelings, and resilience are related to stress. Resilience is the ability for a person to keep going despite setbacks when their addiction and other issues become overwhelming while still reaching for the goal of overcoming drug use. (Mohagheghi et al., 2015; Kalisch et al., 2019; Price et al., 2018). This study may contribute to the understanding of this relationship and inform clinicians working with women in future program development and interventions.

This research study was guided by the following research questions and hypotheses:

RQ1: Does perceived emotional intelligence predict current perceived stress among women in treatment for substance abuse?

$H_0$1: Perceived emotional intelligence does not predict current perceived stress among women in treatment for substance abuse.

H_a1: Perceived emotional intelligence does predict current perceived stress among women in treatment for substance abuse.

RQ2: Does perceived emotional intelligence predict resilience skills among women in treatment for substance abuse?

$H_0$2: Perceived emotional intelligence does not positively predict resilience among women in treatment for substance abuse.

H_a2: Perceived emotional intelligence does positively predict current perceived stress among women in treatment for substance abuse.

RQ3: Does resilience skills meditate the apparent relationship between emotional intelligence and current perceived stress among women currently in treatment for substance abuse?

$H_0$3: The relationship between EI and perceived stress is not mediated by resilience.

H_a3: The relationship between EI and perceived stress is mediated by resilience.

This chapter presents the findings of the data analyses. Descriptive statistics were used to describe the characteristics of the participants, and I also evaluated assumptions for planned inferential analyses. The Cronbach's alphas are reported for the scales. I used linear regressions predictor and a multiple linear regression to test the research hypotheses. Significance was evaluated at the conventional level, $\alpha = .05$.

Data Collection

The sample was drawn July 2, 2020 to August 21, 2020 from a pool of African American women in a treatment center in a northcentral state in the United States. A flyer was posted at the treatment center to seek potential participants for this study. The posters and flyers contained the background of the study, the purpose of the study, and other responsibilities of the potential participants. These posters and flyers also contained a link to the survey. Interested participants used an online link and a tablet to complete the survey. When a participant entered the online survey site, the informed consent form was presented on the first page, before the actual survey materials. The potential participants were asked to indicate whether they agreed to participate. If the individual selected, "I agree," they were advanced to the first page of the survey. If they chose, "I do not agree," the participant was directed to another page that thanks them for their consideration and then exited from the survey. The total sample for this study was 114. The response rate was 93%.

Participant Demographics

A total of 122 surveys were collected from the African American women in the treatment center. Of these, 114 participants completed all requirements of the online self-

report survey, five participants did not meet all inclusion criteria for the study, and three participants started but did not finish the online survey. There were very limited missing data among the final participants because I set up the online survey so that the participant had to complete each question before proceeding to the next.

Frequencies and percentages were used to describe the characteristics of the research sample. Table 1 presents a summary of participant demographics. The table presents demographics such as participants age range, age at the start of using drugs, type of drugs for which receiving treatment, number of previous treatment programs, current relationship status, and ages of participants' children. The treatment consisted of all women and had a large population of African American women which, was representative of the population of interest. According to the Substance Abuse and Mental Health Services Administration (2018), the statistics for opioid use in women has significantly increased to 39.0%, meaning two in five women aged 18 or older had a substance use disorder issue. Also, the Illinois Department of Human Services (2021) reported that heroin abuse and addiction continue to be a major problem in Illinois. The department noted that 19,245 people who entered treatment in 2019 for heroin dependence were 41.2% being female (Illinois Department of Human Services, 2021).

Table 1

Participant Demographics

Variables	Frequency	Percent
Age		
18-20	0	0
21-29	11	9.8
30-39	4	3.6
40-49	51	44.8
50+	31	27.3
Sex		
Male	0	
Female	114	100
Race		
Black	91	80.0
White	4	4.0
Hispanic/Latino	1	.9
Asian	1	.9
Age Started using Drugs		
14-18	54	47.4
19-22	32	28.0
23-27	10	8.9
28-32	1	.9
Type of Drug in Treatment		
Crack cocaine	8	7.0
Heroin	87	76.3
Methamphetamine	2	1.8
Type of Drug Treatment in the Past		
Crack cocaine	8	7.0
Heroin	87	76.3
Methamphetamine		
Number of Previous Treatment Program		
0	17	14.9
1	45	39.5
2	20	17.5
3	10	8.8
4	4	3.5
5	1	.9
Current Relationship Status		
Single, not in Relationship	14	12.3
Single, in Relationship don't live Together	8	7.0
Single, in a Relationship Live Together	8	7.0
Married, live Together	19	16.7

Married, Separated		
Divorced, not in Relationship	19	16.7
Divorced, in Relationship Don't Live Together	8	7.0
Divorced, in Relationship Live together	2	1.8
Ages of Children		
0-10	17	9.5
11-20	72	2.25
21-32	73	2.21
Living Arrangements for Children		
Live along with me	2	1.8
Live with me and another adult	20	17.5
Live elsewhere and I visit regularly	9	7.9
Live elsewhere and I visit irregularly	47	41.2
Live elsewhere and I do not visit them	19	16.7

Evaluating for Missing Responses to Individual Scale Items

Prior to evaluating the responses on the various research scales, I examined the data for random responding and missing values. The data were visually inspected for data entry errors. There were no data entry errors as the data from their survey responses were directly entered into the survey site's spreadsheet. My plan was to eliminate any cases with more than 20% of responses missing for a given research scale (see Creswell, 2017a). Where there were fewer missing values, I planned to use SPSS procedures for imputation of the mean score based on other responses to replace the missing value(s) for that case. There were no cases with missing values.

Internal Reliability Checks

Cronbach's alpha values were examined for the series of items composing the scales. The value of the coefficients was interpreted through incremental thresholds described by George and Mallery (2016), in which $\alpha \geq .9$ Excellent, $.9 < \alpha \geq .8$ Good, $.8 < \alpha \geq .7$ Acceptable, $.7 < \alpha \geq .6$ Questionable, $.6 < \alpha \geq .5$ Poor, and $\alpha < .5$ Unacceptable.

The results for all the scales met the acceptable threshold, $< \alpha \geq .7$ except items on the Emotion Intelligence Scale (use of emotion), as generally recognized in the social sciences. The Cronbach's alpha statistics are reported in Table 2.

Table 2

Internal Reliabilities for Research Scales

Scale	Cronbach's Alpha	Number of Items
Perceived Stress Scale	.903	14
Perceived Stress Scale	.926	25
Emotional Intelligence Scale	.506	19

Data Cleaning and Screening

The ratings were computed for each of the scales (i.e., overall EI total scores, perceived resilience scores, and final perceived stress scores) for the three measures. I used the SPSS explore function to evaluate the distribution of scores for outliers and normality by examining computed values for skewness and kurtosis as well as histograms, q-q plots, and box plots. Results of the analyses are shown in Appendix C. Using box plots, I identified any data points that were more than three standard deviations from the distribution mean (see Appendix C). I used the Winsor method to modify these outlier values and retain the data for further regression analyses (see Pusparum et al., 2017).

There were five outliers for the perceived stress total scores and eight for the EI scale scores. There were no outliers for the resilience total scores (Appendix C). The revised distributions of scores, following adjustment of outlier values using the Winsor method, were used for all further analyses.

Evaluation of Assumptions for Analysis

In this study, two variables, emotional intelligence and resilience, were evaluated as predictors of perceived stress, with resilience evaluated as a possible mediator variable between emotional intelligence and perceived stress. I tested each of these assumptions to verify that my data satisfied the assumptions for use of multiple linear regression.

Assumption of Normality

Before conducting the parametric statistical test, I evaluated the descriptive statistics of the variables that would be used for the regression analyses. Initial results are summarized in Table 3.

Table 3

Descriptive Statistics for Research Variables

Research Variables	Mean	Standard Deviation	Skewness	Kurtosis
Resilience Total Scores	79.43	12.47	-.61	1.45
EI Total Scores	69.30	5.20	-1.22	1.07
Perceived Total Scores	38.23	7.92	-.37	-.41

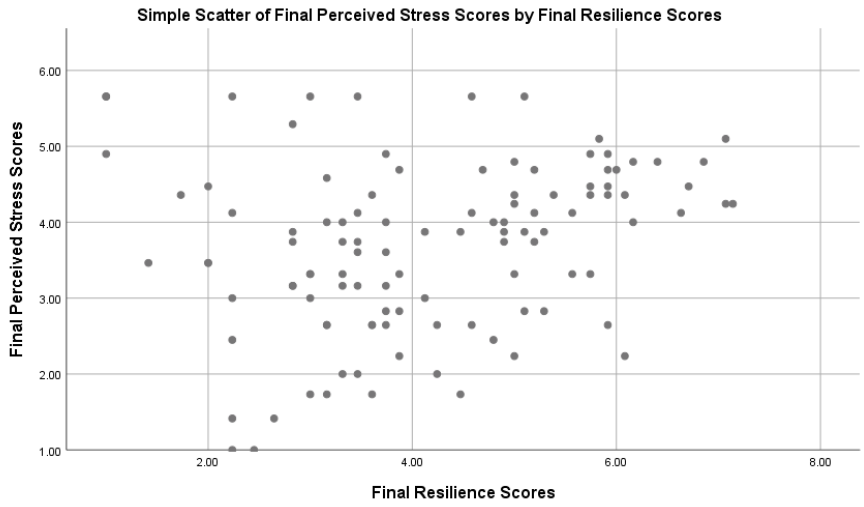
Note: N=109

Assumption of Linearity for Bivariate Correlations

I examined a scatterplot of the bivariate combination between the two continuous variables. Although the scatterplot was not tightly aligned around a line, I believe that the assumption of linearity was met because the spread did not suggest a curve (Creswell, 2017) (See appendix C).

Figure 1

Scatterplot of Linearity for Bivariate Correlations



Assumption of Homoscedasticity of Variance

It is assumed that the variance of error terms would be similar for the values of the continuous variables. There were two continuous variables: resilience and perceived stress. I tested this assumption by examining a scatterplot of final perceived stress scores against the related regression standardized residual (Creswell, 2017b). As may be seen in Appendix B, the points did not deviate very much from the line across the values of perceived stress scores. Thus, it did not appear that this assumption was violated.

Hypotheses Testing

The main research question for this study was whether resilience serves as a mediator of the relationship between EI and perceived stress among a sample of African American women who currently are receiving inpatient treatment for substance abuse, particularly heroin. Four research questions were advanced that reflect the mediational analysis following Baron and Kenny (1986). Results are reported separately for each

research question. In preparation for the research questions, bivariate correlation coefficients were computed for all pairs of variables. The results are presented in Table 5.

Table 4

Pearson Bivariate Correlations Between Scores on the Three Research Variables

Variables		Final EI Total Scores (Split:0 (7.5)	Final Perceived Stress Scores	Final Resilience Scores
Final EI Total Scores Group (Split: 0=7.7)	Pearson/Point Biserial Correlation	-------	-0.209*	-.567**
	Sign (2-tailed)		0.029	0.000
	N	114	109	110
Final Perceived Stress Scores	Pearson Correlation	-0.209*	-------	227*
	Sig. (2-tailed)	0.029		0.018
	N	109	109	109
Final Resilience Scores	Pearson Correlation	-.567**	.227*	-------
	Sig. (2-tailed)	0.000	0.018	
	N	110	109	110

** Correlation is Significant at the 0.01 level (2-tailed)

Research Question 1: Does perceived emotional intelligence predict current perceived stress among women in treatment for substance abuse?

$H1_0$: Perceived emotional intelligence does not predict current perceived stress among women in treatment for substance abuse.

$H1_a$: Perceived emotional intelligence does predict current perceived stress among women in treatment for substance abuse.

As noted in Table 5, the results of the bivariate, point-biserial/Pearson's correlation between EI and Final Stress scores was statistically significant: r (109) = -.209, p = .015. The negative correlation was in the predicted direction (higher EI, lower stress). While this tentatively supports rejection of the null hypothesis for RQ1, results must be interpreted with caution because of questions about internal reliability of items on the EI measure for this sample.

Research Question 2: Does perceived emotional intelligence predict resilience skills among women in treatment for substance abuse?

$H2_0$: Perceived emotional intelligence does not predict resilience among women in treatment for substance abuse.

$H2_a$: Perceived emotional intelligence does predict current perceived stress among women in treatment for substance abuse.

The results of the analysis indicated that trait EI scores were a significant predictor of Resilience scores, r (110) = -.567, $p < .001$ (see Table 5). However, the direction of the association was not as expected from theory or previous research. The negative correlation means that higher EI would predict lower resilience. Again, due to questions concerning internal reliability of the items on the EI, these results must be interpreted with caution.

Research Question 3: Is there a relationship between resilience and perceived stress among women currently in treatment for substance abuse?

$H3_0$: There is not a relationship between resilience and perceived stress among women currently in treatment for substance abuse.

$H3_a$: There is a relationship between resilience and perceived stress among women currently in treatment for substance abuse.

The results of the analysis indicated that resilience scores were a significant predictor of perceived stress scores, r (109*)* = .227, p = .009 (See Table 5). However, here also, the direction of relationship was not as predicted: higher resilience was related to higher perceived stress.

Research Question 4: Does resilience mediate the relationship between EI and perceived stress among women currently in treatment for substance abuse?

$H4_0$: The relationship between EI and perceived stress is not mediated by resilience.

$H4_a$: The relationship between EI and perceived stress is mediated by resilience.

This research question was tested using a hierarchical linear regression. For this analysis, the categorical scores for EI and the continuous scores for Resilience were examined as predictors of the continuous scores for Perceived stress. The hierarchical regression entered EI only in step 1 (model 1) and then added Resilience in step 2 (model 2). The R^2 values were R^2 = .044, p = .029, for model 1 and R^2 = .061, p = .036, for model 2, respectively. The amount of R^2 change for model 2 was .043, which was not a statistically significant change, p = .164. The resulting coefficients indicated that the standardized Beta coefficient for EI was reduced from b = -.209 (p = .020) in model 1 to b = - .119 (p = .299) in model 2, and b = .160 for resilience was not statistically significant, p = .164 (see Tables 6 and 7). Thus, resilience did not appear to act as a mediator between EI and Perceive Stress.

Table 5

Hierarchical Linear Regression Evaluating Resilience as a Mediator Between Emotional Intelligence and Perceived Stress

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	5.773	1	5.773	4.879	029[b]
	Residual	126.593	107	1.183		
2	Total	132.365	108			
	Regression	8.079	2	4.039	3.445	.036[c]
	Residual	124.286	106	1.173		
	Total	132.365	108			

a. Dependent Variable: Final Perceived Stress Scores

b. Predictors: (Constant), Median = 71

c. Predictors: (Constant), Median = 71, Final Resilience Scores

Table 6

Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	STD Error of the Estimate	*R* Square Change	*F* Change	*df*1	*df*2	Sig. *F* Change
1	.209[a]	.044	.035	1.08771	.044	4.879	1	107	.029
2	.247[b]	.061	.043	1.08283	.017	1.967	1	107	.164

a. Predictors: (Constant), Median=71

b. Predictors: Median=71, Final Resilience Scores

c. Dependent Variable: Final Perceived Stress Scores

Summary

The results of this study showed that when controlling for resilience, EI was statistically significant as a sole predictor of perceived stress, and that this relationship actually was suppressed with the addition of resilience as a mediator. In addition, the actual effect size of the relationship between EI and perceived stress was quite small, falling below $\pm$ .29, with r^2= .044; thus, EI predicted only 4.4% of the variance in

perceived stress scores. A discussion of the results and the findings will follow in chapter 5 along with a discussion of the limitations of the study, how these results relate to current research literature, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this correlational study was to examine resilience as a mediator between EI and stress among women in treatment for chemical dependency. Some women's attitudes and reaction to problems and issues in their lives may place them at risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles. It is not known whether certain factors may serve as predictors of success and/or relapse from treatment for drug abuse/dependency among women; gaining more knowledge may inform methods on how to deal with the issue proactively (see Evans et al., 2015; Manuel, 2017). Also, levels of stress, and related factors that may or may not mitigate them, can influence the odds of a person relapsing to drug abuse (Evans et al., 2015; Garami et al., 2018; Manuel, 2017).

It is important to understand how EI and resilience are related to stress. This is because many African American women are at a high risk for risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression (Manuel, 2017). EI is defined as the ability to recognize and deal with emotional reactions, both one's own and those of others (; Kalisch et al., 2019; Mohagheghi et al., 2015; Price et al., 2018). Resilience is the ability for a person to keep going despite setbacks when their addiction and other issues become overwhelming (2015; Kalisch et al., 2019; Mohagheghi et al., 2015; Price et al., 2018). The focus of my study was to evaluate EI as a predictor of current stress, and resilience as a possible mediator between EI and stress among women in treatment for chemical dependency. This chapter will discuss the findings of my study and their meaning in the context of background theory and research and will conclude with a

discussion on the limitations of the study, implications for future research, and a discussion for the final conclusions from this study.

Interpretation of the Findings

Four research questions were posed to examine resilience as a mediator between EI and stress among women in treatment for chemical dependency. The order of the research questions follows the sequential steps for testing mediation following the Baron and Kenny (1986) model. Results, and their interpretation, will be presented for each research question.

RQ1: Does trait EI predict current perceived stress among women in treatment for substance abuse?

The results of the analysis of this correlation suggest a negative, but not statistically significant relationship, between EI and perceived stress for this sample. It is not clear why there was not a significant inverse relationship between EI and stress for this study. Perhaps it was due to the limitations in internal reliability of the trait EI measure when used for this sample of women undergoing inpatient treatment for substance abuse.

There may be other reasons for the lack of relationship besides the measurement tool Previous studies have demonstrated that trait EI has a strong relationship or association when it comes to mental, emotional, and psychological health, which manifests in various ways (Knopp, 2016). Knopp (2016) argued that individuals with a low EI were characterized by a significantly worse condition of mental health than participants with an average or high EI. In fact, previous research has revealed strong

associations of trait EI with other important variables aside from mental health such as peer acceptance, pro-social behavior, socialization, and body satisfaction in children and adolescents **(**Gugliandolo et al., 2015; Kaye et al., 2015; Mohagheghi et al., 2015). With respect to trait EI specifically, negative relationships were found in both adults and adolescents (Gugliandolo et al., 2015). To delve further into such negative associations, Mohagheghi et al. (2015) examined analyses that indicated that emotional intelligence has an important role to play in the onset and persistence of various psychopathologies or mental health. Add summary and synthesis to fully conclude the paragraph.

However, my results are inconsistent with those of these previous studies; the most likely reason may be that they considered trait EI to examine relatively stable attitudes and skills and maybe due to a small sample size. My results may be different because I was examining women from a clinical population who are experiencing physical, mental, and emotional effects of withdrawal from substance use during a less stable process of recovery. In this case, trait EI may be less predictive of their state of stress and/or ability to process information in a less reactive manner. In fact, high trait EI has been found to be related to greater vigilance for threat-related or negative emotional cues when the individual is undergoing moderate to high stress, especially among clinical groups (Davis, 2018). Also, lack of a statistically significant relationship between EI and stress may be a biproduct of the very process of treatment (Knopp, 2016) and/or of assessment in the time of COVID-19 and in a location with high COVID-19 infection, hospitalization, and death rates. DeJong et al. (2020) and Volkow (2020) have discussed the challenges of COVID-19 to treatment and recovery for patients with substance use

disorder, noting additional stressors such as isolation, separation from family and other contacts, concern about relapsing, increased stress, and substance use risks among other patients.

RQ2: Does trait EI predict resilience skills among women in treatment for substance abuse?

The results of the analysis indicated that trait EI scores were a statistically significant predictor of resilience scores. However, the direction of the relationship was contrary to the conceptual relationship between EI and resilience, as well as research-based observations.

The unexpected direction of the relationship between EI and resilience may again be an artifact of the choice and/or reliability of the trait EI measure. The results of this study do not agree with previous research on measuring the relationship between EI and resilience using EI measure. These findings as noted above heightened the sensitivity to stressors among those with higher trait EI when undergoing moderate to high stress (Davis, 2018; Kesmodel, 2015), there also may be a depletion of resilience skills related to trait EI among these women currently in ongoing inpatient treatment for substance abuse, particularly with heroin. Once again, the results also may be a byproduct of the assessment in the time of COVID-19 and in a location with high COVID-19 infection, hospitalization, and death rates (see DeJong et al., 2020; Volkow, 2020). Therefore, further research should be conducted to assess this relationship.

RQ3: Does resilience predict current perceived stress among women in treatment for substance abuse?

The results of the study indicated that resilience scores were a significant predictor of perceived stress scores. However, here also, the direction of relationship was not as predicted: higher resilience was related to higher perceived stress. Previous research noted that the role of EI in relation to resilience and stress management with respect to chemical dependency among women is less clear. Resilience is defined as the maintenance and/or quick recovery of mental health during and after times of adversity (Kalisch et al., 2017). Researchers noted that resilience, as opposed to lasting stress-induced mental and functional impairments, is the result of a dynamic process of successfully adapting to stressors, "of effectively negotiating, adapting to, or managing significant sources of stress or trauma" (Kalisch et al., 2017, p. 2). Individuals change while they cope with different stressors. These changes can take the form of psychological growth processes (Kalisch et al., 2019).

Although conceptualized as a process, this research, like many others, evaluated resilience at only one point in time (see Rudzinski et al., 2017). This approach did not appreciate the possible changes in stressors and challenges during the process of recovery from substance abuse, and in the time of COVID, that heightened stress and required development of new resilience skills beyond those evaluated in a single resilience measure. Once again, it will remain to future researchers to explore this relationship in the context of the process of treatment and/or in times other than during the COVID-19 pandemic.

RQ4: Does resilience meditate the apparent relationship between trait EI and current perceived stress among women currently in treatment for substance abuse?

The results of the study indicated that the apparent relationship trait EI and current perceived stress among women currently in treatment for substance abuse was not statistically significant. Thus, resilience could not serve as a mediator if there was no initial significant relationship between EI and perceived stress.

The result of these findings does not agree with previous research whether reliance mediate the apparent relationship between trait EI and perceived stress. Hosseini and Anari (2011) conducted a study on the correlation of EI and personality instability among substance abusers. The sample for this study consisted of 80 males and females in a treatment center. EI and personality were evaluated by the Bar-On Questionnaire and the Eysenck personality questionnaire for adults. There was a significant negative correlation between EI and personality instability in substance abusers. Instability was related to lower levels of problem solving, optimism, interpersonal relations, self-esteem, and dealing with realities, all protective factors for productive coping and resilience to stress (Reich et al., 2010).

This finding probably reflects the issues that I have discussed with respect to RQs 1-3. First, the unreliability of the trait EI measure for this small sample size. In addition, there is a need to suspect that trait EI and general resilience skills are less protective during the process of recovery to challenges for physical, emotional, and social adaptation. Further, these women were inpatients while COVID was threatening all groups, including those in residential living situations (see DeJong et al., 2020; Volkow, 2020).

The conceptual framework supported the research questions behind the research questions. Results from studies in which the Mayer-Salovey-Caruso EI ability model was used documented the ability of the model to best predict intelligent management of emotions in real-world situations (Larson, 2019; Lam & Kirby, 2002). Mayer and Salovey (1997) further constructed and clarified the model of EI to include the idea that emotions provide information that plays a role on how we connect and interact with other people and objects (Mayer et al., 2004). The model has the four essential elements of EI: (a) identifying emotions, (b) using emotions to make thinking more effective, (c) understanding emotions, and (d) guiding emotions (Mayer et al., 2004). Furthermore, analysis of emotion-related abilities resulted in a conception of EI as comprising of four branches or abilities: the perception, understanding, and management of emotions, which involves reasoning about emotions, and the use of emotions to facilitate thought, which involved using emotions to enhance reasoning (Salovey & Sluyter, 1997). The Mayer-Salovey-Caruso EI ability model may serve as a framework for understanding the role of EI in predicting stress, which is a risk factor for drug use/abuse among women (Salovey & Sluyter, 1997), for future research endeavors.

Limitations of the Study

A limitation is a factor that is beyond the control of the researcher and can potentially impact the external or internal validity of the study (Vogt, 2011). As I was not able to randomly sample for participants and only studied women in one treatment

program, generalization of the results to women in other treatment programs were limited by possible sample bias. Babbie (2013) asserted that there could be several reasons why variables behave the way they do. It is only through experimental study that a researcher can have certainty regarding the true causation between variables as such design involves random assignment, which correlational studies do not possess (Rottman & Hastie, 2014).

In addition, self-reported information is subjective, and interpretations based on self-reported data are subsequently affected because the participants may exaggerate the responses in revealing private details (Creswell, 2017b). In addition, social desirability bias was minimized by allowing the participants to complete the surveys individually on the computer (Larson, 2019). Also, due to the limited number of participants in this study, generalization to other settings were limited. These potentially confounding factors warrant further exploration and consideration of methods of research in their area. It should be noted that self-reported information may have some biases and limitations. The participants may make the socially acceptable answer rather than being truthful in answering the questions (Creswell, 2017b). Also, the participants may not be able to assess themselves accurately (Creswell, 2017b).

An unexpected limitation is the psychometric issues that were presented for the trait EI scale. It is difficult to know whether this was just an aberration or whether the reliability, and possibly validity, of that measure is related to the specific sample that was evaluated in this study. There are limited numbers of trait EL measures when considering possible relationships with stress as a possible intervention for change. One such test

could be the Multifactor Emotional Intelligence Scale. The Multifactor Emotional Intelligence Scale measures four areas of EI. These include identify emotions, using emotions, understanding emotions, and managing emotions (Mayer et al., 2004). In fact, the governor of Illinois issued a "stay at home order" on March 21, 2020, "which stated that all individuals must stay at home, with exceptions for essential activities, essential government functions, and essential businesses and operations. Gatherings of more than 10 people were prohibited" (Coronavirus Illinois 2020). Add summary and synthesis to fully conclude the paragraph.

Every effort was taken to reduce bias in this research study. The research questions and hypotheses were written in a natural tone so that the participants were not led to believe that there were correct answers. Also, the survey questions were short and to the point, and I avoided using leading survey questions (see Creswell, 2017). In addition, a cofounding variable was that I was unable to use randomization of the African American women in the treatment which limited the generalization of the results to other treatment centers. Also, another confounder was that the African American women were inpatients while COVID was threatening all groups, including those in residential living situations (see DeJong et al., 2020; Volkow, 2020).

Recommendations

Researchers may need to try to anticipate willingness to participate for their target groups. It may be advisable in some cases to consider some type of incentive for participation in completing the surveys (Evans et al., 2015; Manuel, 2017). I considered providing an incentive such as a $5 gift card when designing this study decided that it

would be too expensive. I used self-report online survey measures. Using an online survey is a convenient method to collect data especially with college students (Evans et al., 2015; Manuel, 2017). However, this method may affect participation rate and/or produce results that differ from data collected in face-to-face interactions and using paper-and-pencil surveys. For example, Manuel (2017) used paper-and-pencil surveys, which they noted was a possible reason for lower participation among college students. I used the computer for participants to complete the surveys because the treatment center would not allow anyone to conduct an in-person study due to COVID-19.

My participants answered questions from three instruments that were offered in a consistent order. It is difficult to know if possible, carryover effects or fatigue might have influenced responses (Creswell, 2017). In addition, it is recommended that future researchers approach the process of treatment and recovery as dynamic, requiring changing skills to confront changing challenges: thus, EI should be conceptualized and measured in ways to assess situational EI. In addition, repeated measurements across time would be preferred to a limited cross-sectional observation for consideration of all factors of interest, including EI, stress, and resilience (Rudzinski et al., 2017).

Finally, future research must take into consideration the additional impact of major environmental stressors that may be present at the time of the research. Indeed, the COVID-19 pandemic has changed the environment of women who are going through extended inpatient treatment for addictions (American Society of Addiction Medicine, 2020). Living conditions change, contact with staff, family, and friends is limited. The location where my data were gathered is in an inner-city area of a major midwestern

metropolis that has had extremely high COVID-19 infection, hospitalization, and death rates. Although I adjusted my initial plan to have in-person data collection to online surveys, this modification still did not eliminate the probability that the responses of participants were confounded by the circumstances related to COVID-19 (DeJong et al., 2020; Volkow, 2020). The degree and nature of the impact of these types of environmental stressors on women in residential treatment for addiction could be the focus of future research. Finally, a qualitative study should be conducted to learn about the lived experiences of participants in a treatment facility.

Implications for Positive Social Change

This study provides attention to the well-being of African American women in an inpatient treatment program for substance abuse, particularly heroin. This is a unique population that has been under-researched. Although the findings are not clearly in line with previous research, the report offers many suggestions for future follow-up research to better understand personality variables that may affect stress, a major predictor of substance use/abuse and relapse after treatment (Manuel, 2017).

Continuing attention to these kinds of factors can contribute to the generation of knowledge to assist in understanding and gaining a new perspective on the issue of African American women and emotions, and whether these emotions correlate to erratic behaviors (Breda, 2018). Emotional intelligence theory posits abilities related to emotion perception, emotion appraisal, emotion expression, emotion understanding, and emotion regulation that generate feelings and facilitate thought to promote emotional and

intellectual growth. EI has been linked to decreased risk behaviors, improved relationships, and feelings of well-being (Breda, 2018).

Considering the relationships between EI and resilience in relation to stress among women with substance use/dependency disorders may aid in identifying individual risk factors that may be targeted for treatment interventions. Therefore, such knowledge may be utilized in public health to create and promote interventions aimed at supporting change in attitudes, beliefs, aspiration, and motivation that will lead to changes in the way women interact, communicate, accept, and work to resolve conflict. These qualities appear to make an ideal fit with the constructs of emotional and social intelligence (Goudarzian et al., 2017; Manuel, 2017) and are promising threads to connect innovative approaches that endorse social change.

Some women's attitudes and reaction to problems and issues in their lives may place them at risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression resulting from multiple roles. The need for better identification of relevant factors of trait EI to be taken as cues for predictors of drug abuse/dependency among women in order to alleviate drug abuse/dependency and to provide methods on how to deal with the issue proactively (Manuel, 2017). Stress is the reaction to challenging situations in life, and it often is accompanied with changes with physical, mental, behavioral, and emotional responses. Researchers noted that stress and drug use can lead to a person relapsing with abusing drugs (Manuel, 2017). It is important to understand how EI and resilience are related to stress because resilience is the ability for a person to keep going despite setbacks when their addiction and other issues become overwhelming,

but your resilience keeps you going and fighting to achieve your goal in overcoming drug use (Kalisch et al., 2019; Mohagheghi et al., 2015; Price et al., 2018).

Even though the results were not as predicted, this study kept the focus on consideration of individual factors that may influence recovery of African American women in inpatient treatment programs for substance addiction. This literature review and discussion may be useful to professionals and other stakeholders who promote, develop, and offer treatment protocols for this population of women.

This study has empirical implications to positive social change through continuing to focus on understanding how EI and resilience predict stress among women with substance use/dependency disorders. It also may encourage further efforts to identify individual risk factors that may be targeted for treatment interventions. This type of knowledge may be useful to public health efforts to create and promote interventions aimed at supporting change in attitudes, beliefs, aspiration, and motivation that will lead to changes in the way women interact, communicate, accept, and work to resolve conflict. These qualities appear to make an ideal fit with the constructs of emotional and social intelligence (Goudarzian et al., 2017; Manuel, 2017) and are promising threads to connect innovative approaches that endorse social change.

Conclusions

The purpose of this correlational study was to examine resilience as a mediator between EI and stress among women in treatment for chemical dependency. Some women's attitudes and reactions to problems and issues in their lives may place them at risk for substance abuse, physical and sexual abuse, poverty, anxiety, and depression

resulting from multiple roles. There is a need for better identification of relevant person factors, such as EI and resilience skills, that may predict drug abuse/dependency among African American women, as well as their process of recovery. By greater understanding, methods may be developed to help those at risk to deal with challenges proactively (Evans et al., 2015; Manuel, 2017).

There were unexpected findings from this study. First, there was a lack of a predicted significant relationship between trait EI and stress. However, due to questions concerning internal reliability of the items on the EI, these results must be interpreted with caution. As there was no statistically significant relationship between EI and stress, resilience could not be considered as a mediator of the relationship. Further, although statistically significant, counterintuitive directions of relationships were observed between EI and resilience, and between resilience and stress. Possible reasons for these observations were discussed and recommendations for future research have been offered.

Increased understanding of cognitive-emotional factors and processes, such as EI, resilience, and stress, among African American women may result in more effective treatment of substance use disorders among this group (Forghani et al., 2016; Price et al., 2018; Tamannaeifar et al., 2015). For example, Price et al (2018) found that a drug-dependent group differed from the control group by scoring significantly lower on stress tolerance and emotional self-awareness. Relatedly, they argued that programs and interventions for substance abuse should focus on individual interoceptive awareness, such as awareness of inner body sensations that may could facilitate regulation and improve substance use disorders treatment outcomes.

This study contributes to the general literature that attempts to identify personality factors in relation to substance abuse and outcomes from treatment. This approach can help those who are involved in treatment planning and services to gain a new perspective on the issue of women and emotions, and whether these emotions correlate to erratic behaviors (Lazowski & Geary, 2016; Breda, 2018). Emotional Intelligence theory posits abilities related to emotion perception, emotion appraisal, emotion expression, emotion understanding, and emotion regulation that generate feelings and facilitate thought to promote emotional and intellectual growth. EI has been linked to decreased risk behaviors, improved relationships, and feelings of well-being (Evans et al., 2015; Breda, 2018). Understanding how EI and resilience predict stress among women with substance use/dependency disorders may aid in identifying individual risk factors that may be targeted for treatment interventions. Therefore, this kind of new knowledge could be utilized in public health to create and promote interventions aimed at supporting change in attitudes, beliefs, aspiration, and motivation that will lead to changes in the way women interact, communicate, accept, and work to resolve conflict.

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Appendix A: Flyer

Your opinion matters and I would like to hear it!

My name is Zummuna Davis. I am a doctoral candidate at Walden University. As part of my doctoral degree in Psychology, I am conducting a research quantitative study to explore stress and resilience among women in treatment for drug use. I am acting only as a doctoral student. Your participation in (or not participating in) this study will have no impact on your position at the treatment center. I invite you to participate!

If you participate in this research, you will be asked to:

- ➔ Agree to participate.
- ➔ Sign an informed consent form
- ➔ Agree to complete a 30-minute survey online confidentially.
- ➔ You will be given a $5.00 gift card from McDonalds for completing the survey.

You may participate in this research if you:

➔ You have been using heroin, crack or any other drugs for at least 6 months, and that you have been in the program for at least 3 months or more.

If you are interested you can meet in the cafeteria on January 15, 2020 @12pm
If you have any questions or concerns, I can be reached at the following:
Phone Number:

Appendix B: Participant Demographics

Participant Demographics
Please answer each of the following questions. We would like to know a little about you. You are not asked to provide name or other information that can identify you.

What is your age? _____ Years

Please indicate your Race/Ethnicity?

___ Asian
___ Black
___ Hawaiian/Pacific Islander
___ White
___ Native American
___ Hispanic/ Latina
___ Black/Hispanic
___ Latina/Non-Black

Your age when you started using drugs? _____
Please indicate your length of time of current treatment activities: ____
Please indicate what type of drug use you currently are in treatment to address (check all that apply).

____ Marijuana
____ Crack Cocaine
____ Heroin
____ Methamphetamine
Other (Please describe all: _____)

Number of previous drug use treatments/programs you have attended in the past? _____
What type of drug used where you treated for in the past (check all that apply)?

____ Marijuana
____ Crack Cocaine
____ Heroin
____ Methamphetamine
Other (Please describe all: _____

Current Relationship Status

____ Single, not in a relationship
____ Single, in a relationship but don't live together
____ Single, in a relationship and live together
____ Married, live together

____ Married, separated
____ Divorced, not in a relationship
____ Divorced, in a relationship but don't live together
____ Divorced, in a relationship and live together

Children: Ages _____
Living arrangements for children:
____ Live alone with me
____ Live with me and another adult
____Live elsewhere and I visit regularly
____ Live elsewhere and I visit infrequently
____ Live elsewhere and I do not visit them

Employment: Current
____Not employed
____Part-time (number of hours per week: ____)
____Full-time (number of hours per week: ____)

Appendix C: Initial Distributions of Scores on Three Measures

Figure F1

Histogram of Initial Perceived Stress Scores

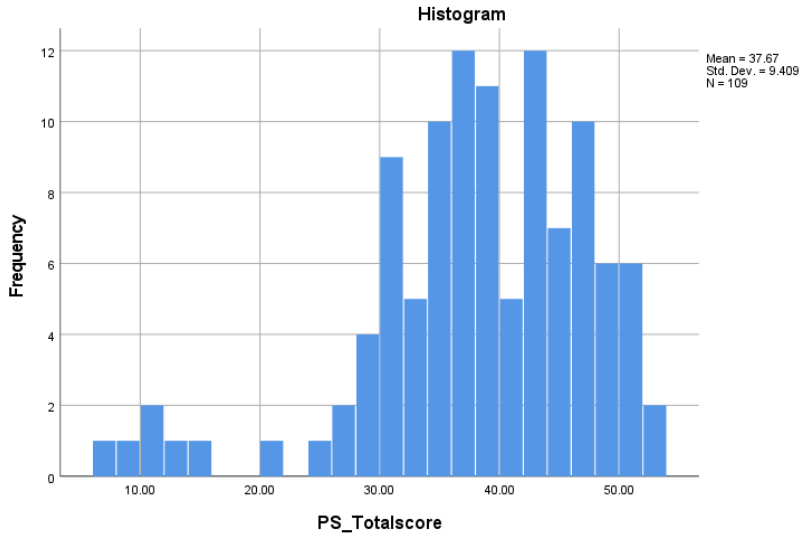


Figure F2

Q-Q Plot for Initial Perceived Stress Scores

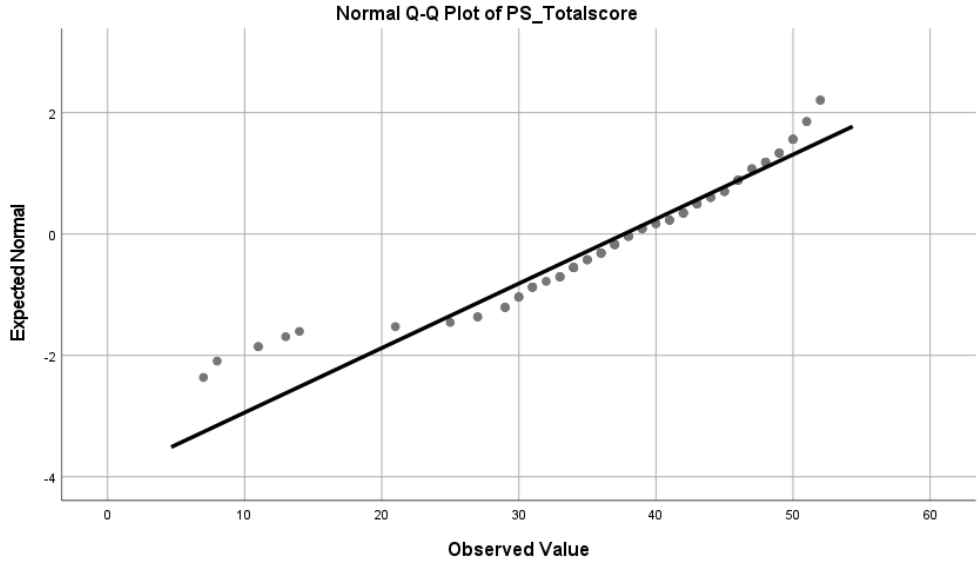


Figure F3

Detrended Normal Q-Q Plot for Initial Perceived Stress Scores

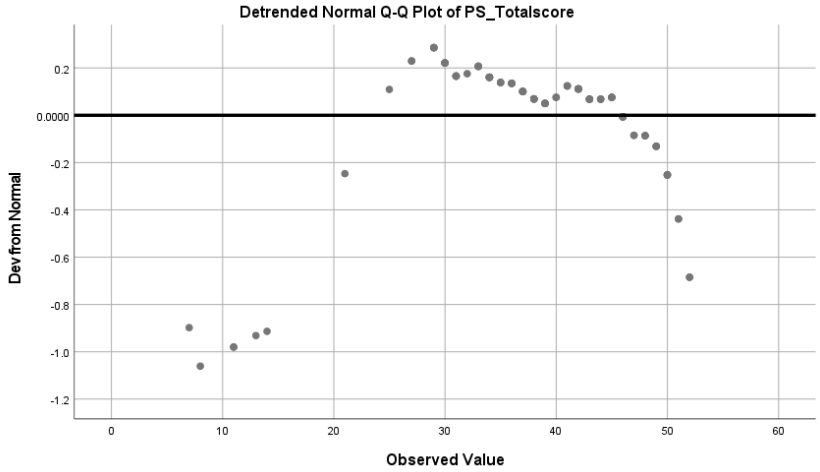


Figure F4

Outliers for Initial Perceived Stress Scores

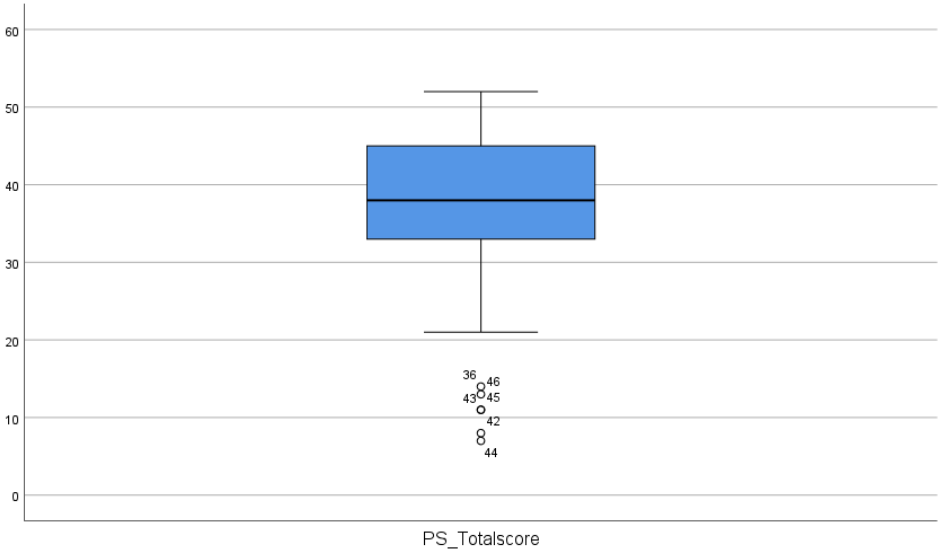


Figure F5

Histogram of Frequency Resilience Total Scores

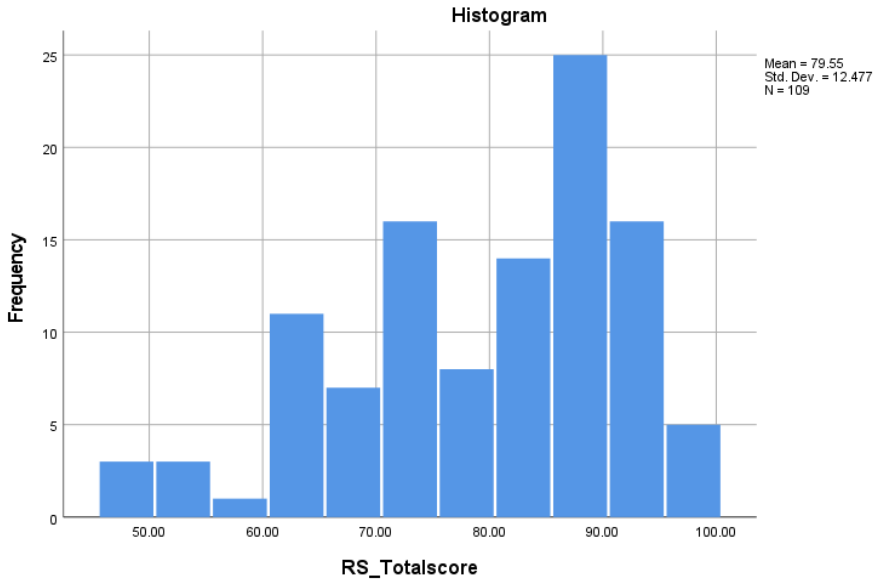


Figure F6

Q-Q Plot of Resilience Total Scores

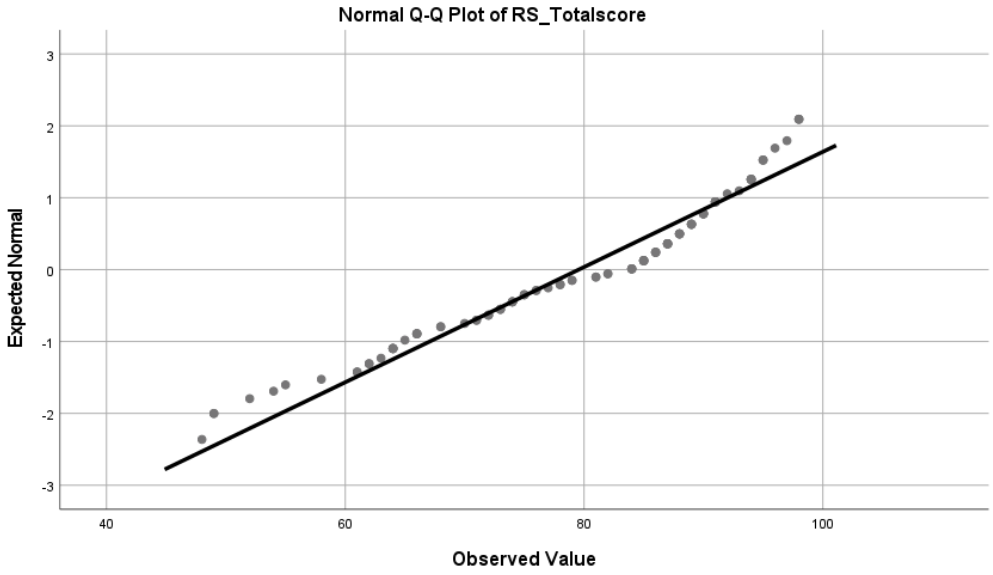


Figure F7

Detrended Normal Q-Q Plot for Initial Resilience Scores

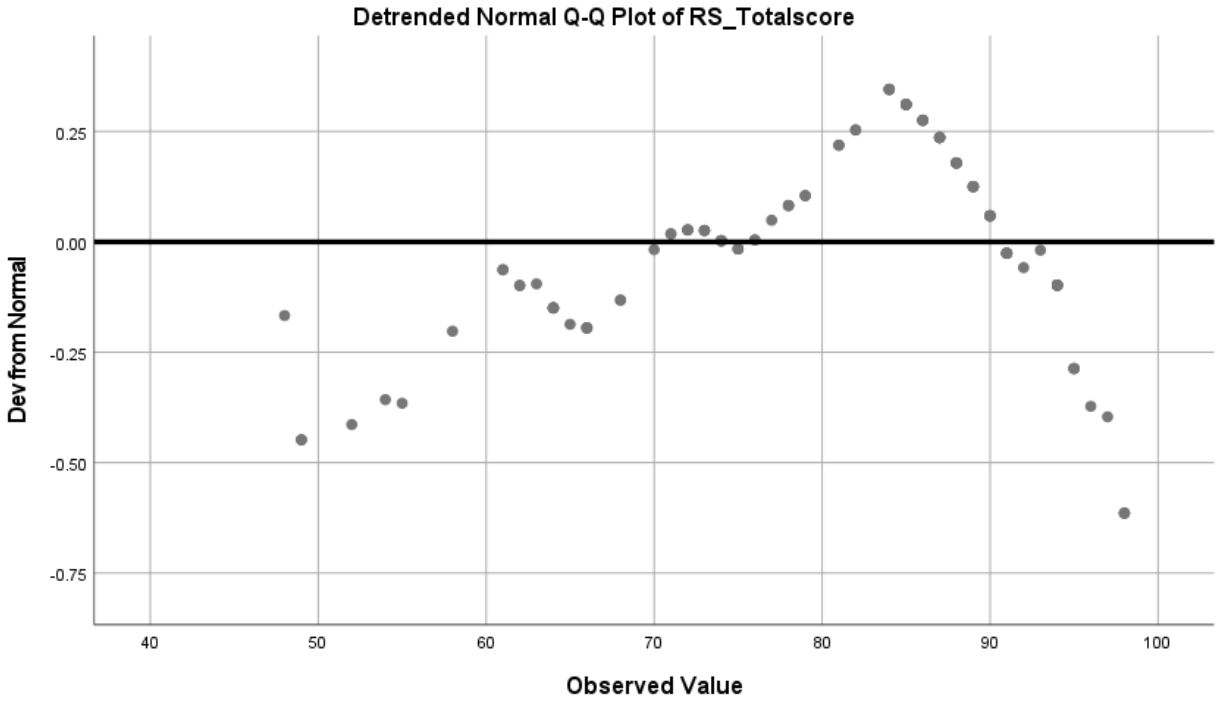


Figure F8

Outliers for Initial Resilience Scores

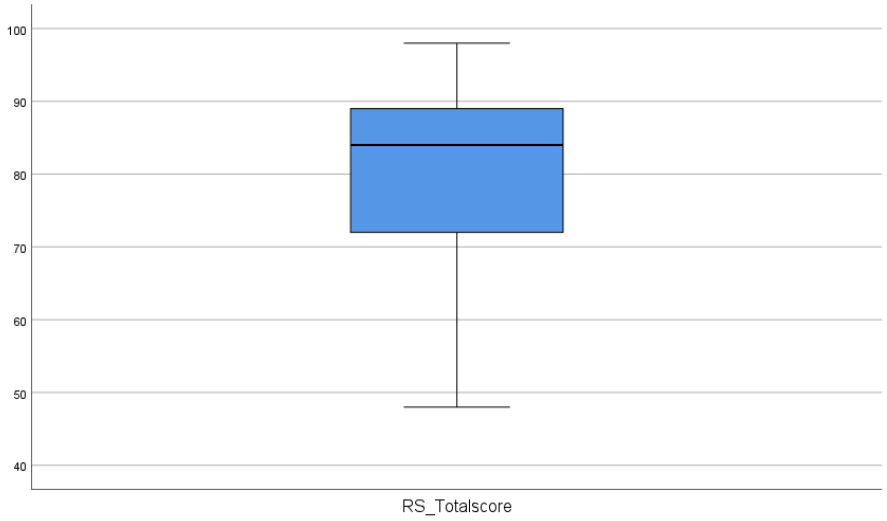


Figure F9

Histogram of Resilience Mean Scores

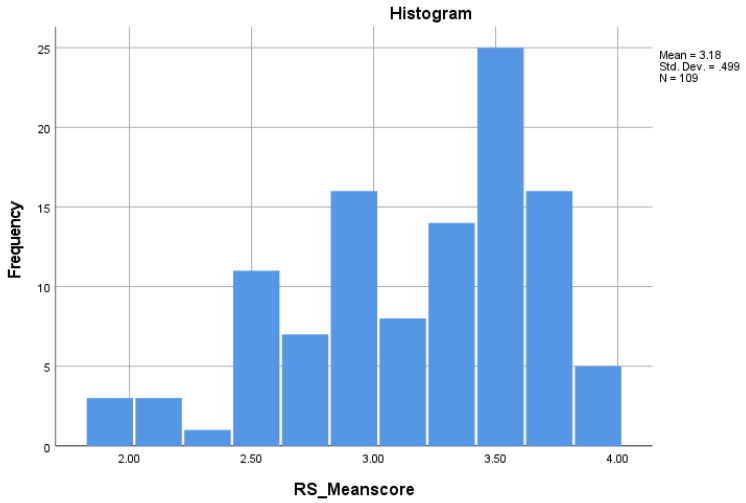


Figure F10

Histogram Frequency of EI Total Scores

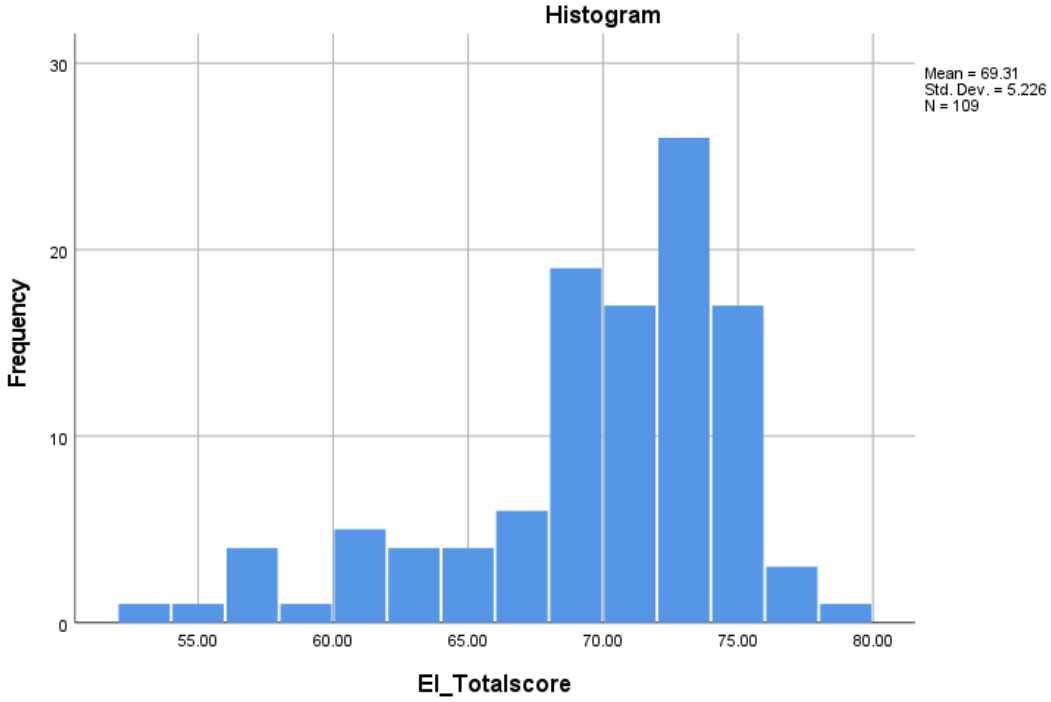


Figure F11

Q-Q Plot of EI Total Scores

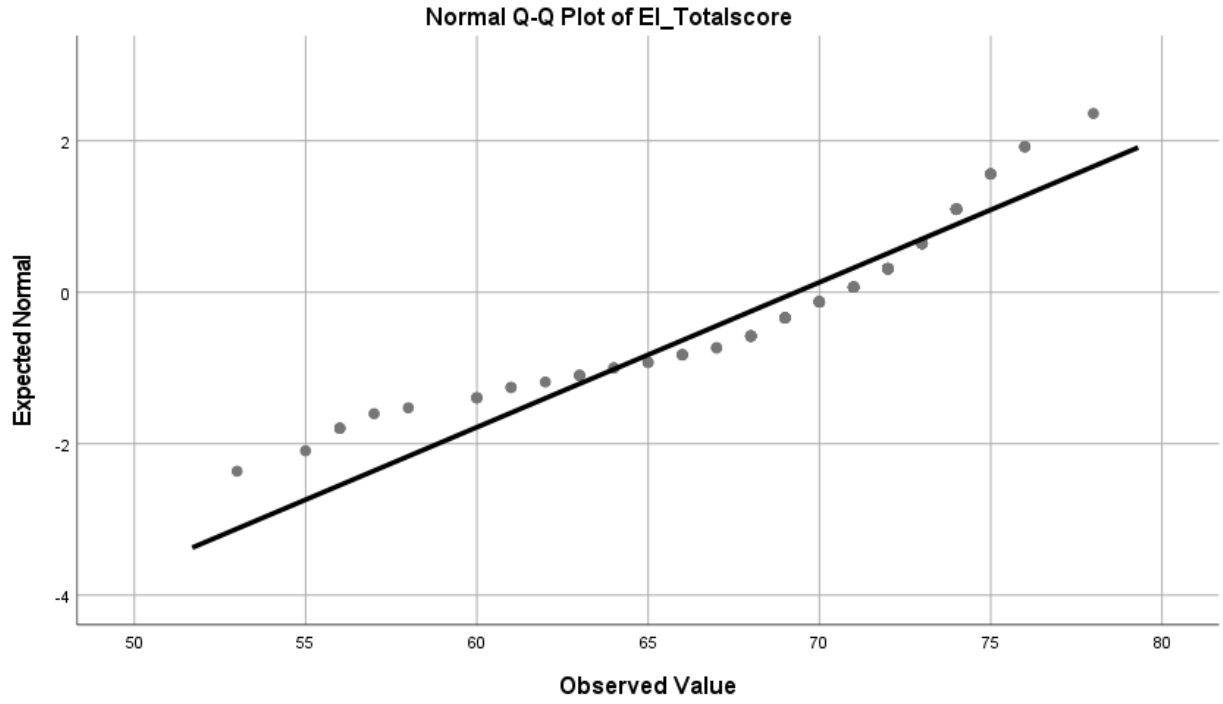


Figure F12

Detrended Normal Q-Q Plot of EI Total Scores

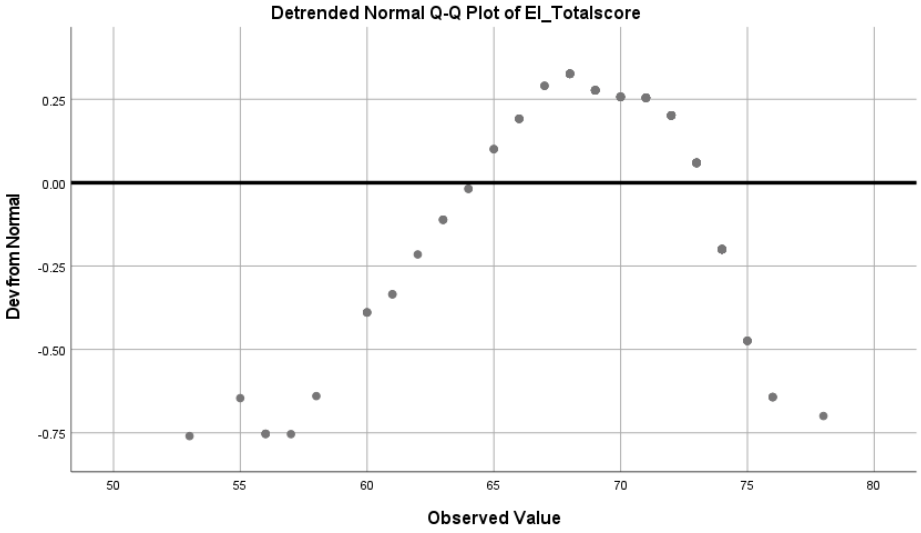


Figure F13

Outliers of EI Total Scores

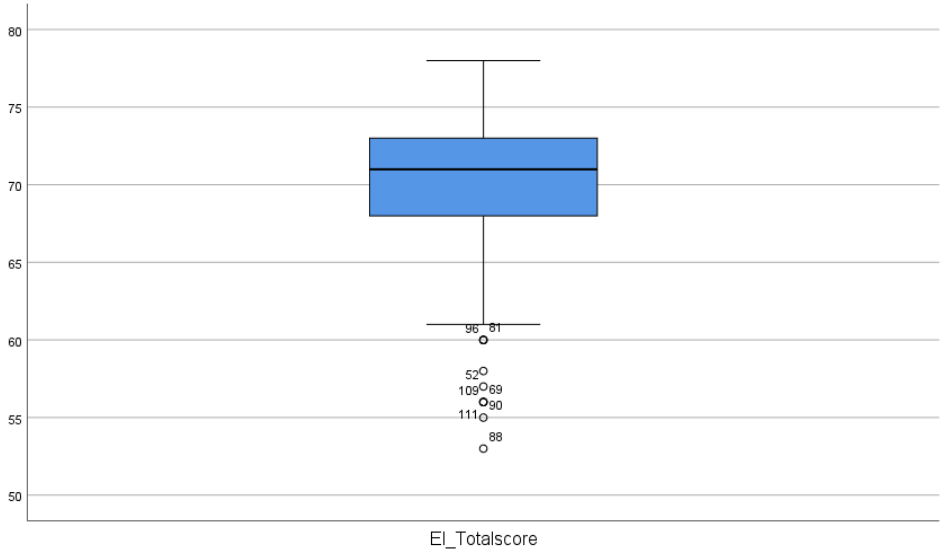
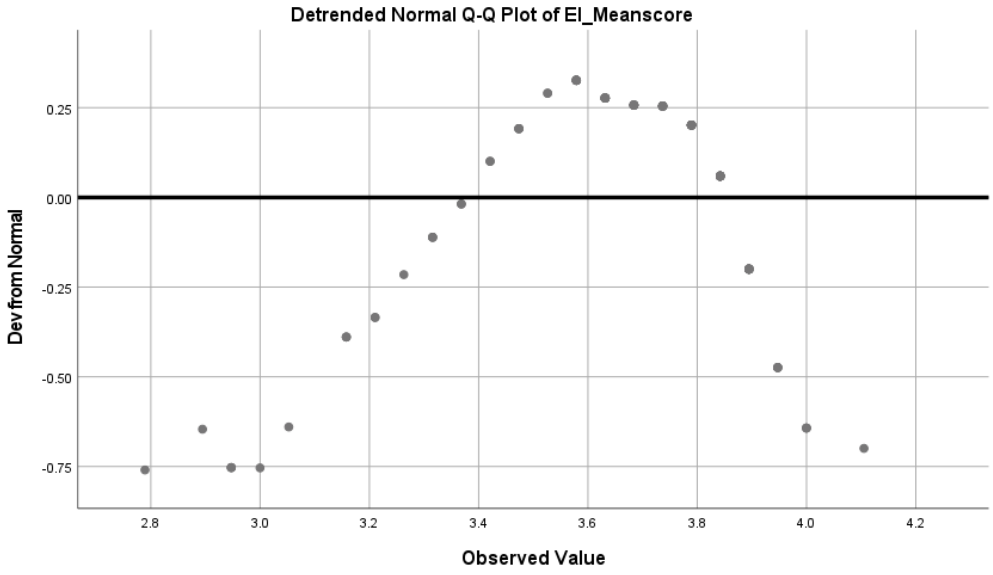


Figure F14

Detrended Normal Q-Q Plot of EI Mean Scores



Appendix G: Evaluations of Assumptions – Linearity and Homogeneity of Variances

Figure G1

Bivariate Scatter Plot for Final Perceived Stress and Resilience Scores

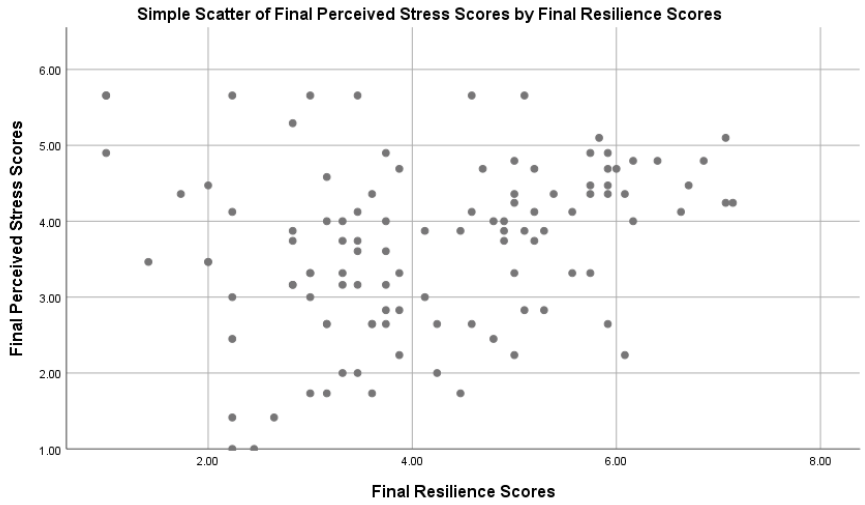


Figure G2

Plot of Standardized Residual for Prediction of Final Perceived Stress Scores by Resilience Scores