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# Moderating Effect of Psychological Hardiness on the Relationship Between Occupational Stress and Self-Efficacy Among Georgia School Psychologists

Jennifer B. Crosson  
*Walden University*

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# Walden University

College of Social and Behavioral Sciences

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Jennifer Crosson

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Walden University  
2015

Abstract

Moderating Effect of Psychological Hardiness on the Relationship Between  
Occupational Stress and Self-Efficacy Among Georgia School Psychologists

by

Jennifer B. Crosson

EdS, Georgia State University, 1999

MEd, Boston College, 1992

BA, University of Michigan, 1988

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Psychology

Walden University

May 2015

## Abstract

School psychologists have unique advisory, consultative, interventional, and therapeutic leadership functions within schools. Consequently, they are confronted with increased levels of occupational stress, which test their cognitive appraisal, coping mechanisms, and feelings of self-efficacy. Although studies have included school psychologists, none have examined the moderating effect of psychological hardiness on the relationship between occupational stress and self-efficacy. A cross-sectional, nonexperimental, and quantitative design used convenience, single-stage, and self-administered web-based surveys with 112 Georgia school psychologists. Using a framework structured by the theory of psychological hardiness, self-efficacy theory, and transactional model of stress and coping, sequential multiple linear regression revealed that occupational stress was not related to self-efficacy, psychological hardiness was related to self-efficacy, and psychological hardiness moderated the relationship between occupational stress and self-efficacy. Noting levels of increasing stress for American educators, these findings underscore the importance that school psychologists incorporate self-care techniques into their practice to maintain efficacious service. Future research might investigate other psychological constructs, which affect school psychologists' perceptions of occupational stress, psychological hardiness, and self-efficacy. Given school psychologists' important functions and responsibilities within communities and schools, the study endorsed positive social change with explication of the multidimensional influence of psychological health as a means to ensure the well-being of children, families, and schoolhouse personnel.

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## Dedication

This dissertation would not have been possible without a lifetime of inspiration, support, and love from my parents, Rhoda and Judah Bauman, and my brother, David Bauman. From a young age, my acquired value system identified the worth of books and education, thus planting the seeds for a lifetime spent reading and learning. I only wish that my father could have lived to see this day and that my mother and brother might have attended my graduation with their respective health intact. It is to you, Mom, Dad, and David, that I dedicate this dissertation.

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The following dissertation could not have been completed without the constant support and guidance of different individuals who figure prominently in my academic, professional, and personal worlds.

Firstly, I would like to express sincere gratitude to my dissertation committee, Dr. Tom Diebold, Dr. Jessica Tischner, and Dr. Stephen Rice, without whose support, guidance, patience, and wisdom, this work would never have come to fruition. Your critical feedback has been instrumental towards attaining a product, which I hope increases the corpus of current literature and is something that makes each of you proud.

Next, genuine thanks to the Georgia Association of School Psychologists for their participation in this study. In addition, I am ever grateful for my colleagues' continuous interest in my graduate studies. Additionally, I am extraordinarily appreciative for my supportive and loving extended family and dear friends whose continued encouragement and validation helped me to stay the course.

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## Chapter 1: Introduction to the Study

Implied social beliefs intimate that some jobs involving emotionality are thought to as stressful as jobs involving the potential for physical harm (Sulsky & Smith, 2005). A human service helping professional is one such occupation in which professionals provide emotional support, compassionate care, and useful advice to develop healthy behaviors in others; consequently, an individual working in this sector is susceptible to negative consequences from their work (Hasenfeld, 2010; Kahn, 2005; Maslach, Schaufeli, & Leiter, 2001; Miller, Birkholt, Scott, & Stage, 1995). The tasks that helping professionals perform often cause vulnerability to the mitigating effects of occupational stress and burnout (Hochschild, 1983; Huber, 2000; Sulsky & Smith, 2005). Maslach, Jackson, and Leiter (1996) described that burnout is a pattern of diminished personal success, profound emotional exhaustion, and depersonalization (i.e., negative or indifferent response to care recipients), which can arise in professionals who work with others (Korunka, Tement, Zdrehus, & Borza, n.d.).

School psychologists are a subset of human service helping professionals and agents of social change who are susceptible to burnout as they work to ameliorate the cognitive and emotional health of students and school employees (Ruff, 2011; Worrell, 2012). They often experience challenges from exposure to occupational stress, derived from their advisory, consultative, interventional, and therapeutic leadership functions within schools (Worrell, 2012). Occupational stress can diminish school psychologists' ability to provide quality comprehensive services to those individuals they are directed to serve (Ruff, 2011).

In general, there is a growing concern about the increasing levels of occupational stress faced by American educators (American Psychological Association, American Institute of Stress [APAAIS], 2013; U.S. Bureau of Labor Statistics [USBLS], 2013). Correspondingly, this challenge applies to school psychologists whose daily roles, functions, and responsibilities involve stressful interactions and situations, which can negatively influence their health and well-being (Williams, 2001). Feelings of ineffectiveness can adversely impact school psychologists' occupational stress and their subsequent capacities to meet job expectations (Erhardt-Padgett, Hatzichristou, Kitson, & Meyers, 2004; Gilman & Gabriel, 2004; Huebner, 1992; Maltzman, 2011; Ruff, 2011; Wise, 1985).

The analysis of occupational stress moderators and cognitive appraisal methods has implications for social change among school psychologists. The influence and positive effects of psychological hardiness on occupational stress, self-efficacy, and subjective well-being (i.e., individual's affective and cognitive evaluations of life) is evidenced in the literature (Bartone 1999, 2000; Diener, Oishi, & Lucas, 2002; Funk, 1992; Jex & Bliese, 1999; Kobasa, Maddi, & Kahn, 1982; Maddi, 1999; Maddi & Khoshaba, 2005; Schwarzer & Hallum, 2008; Subramanian & Nithyanandan, n.d.). Given the increase in occupational stress observed in school psychologists and the constant impact of stressors on their work attitudes, it is practical to investigate features, which promote prohealth resilient behaviors (Harrison, 2010).

It is these prohealth behaviors that lend support and help sustain comprehensive mental, physical, and social well-being, not only the lack of infirmity or disease



(Harrison, 2010). Prohealth behaviors, such as the usage of positive cognitive appraisal tools to manage stress, can positively impact school psychologists' personal and professional quality of life (Harrison, 2010). These behaviors ultimately could help school psychologists apply research based interventions to help achieve growth opportunities for children, families, and schools (Harrison, 2010).

In Chapter 1, I include a summary of the existing literature regarding the influences of occupational stress and psychological hardiness on the self-efficacy of school psychologists. The problem statement provides an argument for the association between the variables of interest and reveals relevant gaps in the literature associated with the health, expectancies, and perceptions of school psychologists. I also provide important structural information regarding the theoretical and conceptual frameworks, research design and rationale, variables of interest, and assumptions, which grounded and supported the objectives of the study. In addition, I offer information about the study's scope, delimitations, limitations, and significance, which yielded insights about how occupational stress, psychological hardiness, and self-efficacy relate to school psychologists.

### **Background**

Fiscal and social stressors affect school systems (Harrison, 2010). Harrison (2010) described that the changeable national economy influences school budgets. Other issues also affect schools and communities such as events associated with mental health including shootings and bomb threats (Harrison, 2010). Furthermore, Harrison observed that school personnel are asked continually to do more with fewer resources. It is

because educators face these daunting challenges that occupational stress has become a significant topic related to the health and wellness of all school system employees (Harrison, 2010).

Up to 76% of Americans report that work is their greatest font of stress (APPAIS, 2013). Likewise, school psychologists report noteworthy levels of occupational stress, burnout characteristics of emotional fatigue, depersonalization, and mitigated perception of professional success (Huebner, Gilligan, & Cobb, 2002). In fact, more than 33% of school psychologists have reported a desire to leave the profession within a five-year period of beginning their careers (Huebner et al., 2002). School psychologists' experiences of occupational stress have guided researchers' questions about the confidence school psychologists feel about their patterns of prohealth work behaviors, which might impact their abilities to complete work tasks and fulfill job responsibilities (Huebner et al., 2002).

School psychologists are neither administrators nor teachers; nevertheless, they face occupational stress ensuing from their advisory, consultative, interventional, and therapeutic leadership duties (Williams, 2001; Worrell, 2012). In some cases, school psychologists' little-understood schoolhouse roles have generated perceptions that school psychologists are unnecessary or expendable employees (Harrison, 2010; Worrell, 2012). In actuality, school psychologists have vital knowledge and proficiency, which can be used to assist school system personnel, students, and families (Harrison, 2010; Worrell, 2012).

Specifically, school psychologists help enhance students' academic, behavioral, emotional, social, and physical wellness (Erhardt-Padgett et al., 2004; Harrison, 2010; Holt & Kicklighter, 1971; National Association of School Psychologists [NASP], 2003; Ruff, 2011; Weir, 2012; Williams, 2001; Worrell, 2012). They also design plans that augment the broad mental health, competence, and wellness of school system personnel (Erhardt-Padgett et al., 2004; Harrison, 2010; Holt & Kicklighter, 1971). Furthermore, school psychologists offer essential services such as teacher advisement, psychoeducational assessment, grief counseling, and family consultation (Weir, 2012; Williams, 2001; Worrell, 2012).

School psychologists' occupational stress often stems from insufficient support; inadequate satisfaction at work; demanding interactions with administrators, teachers, parents, supervisors, and colleagues; and lack of power in schoolhouse situations (Huebner et al., 2002; McGourty, Farrants, Pratt, & Cankovic, 2010; Weir, 2012; Worrell, 2012). Disproportionate caseloads, federal and state statutory time lines, greater accountability standards, deficiency of recognition, inadequate work spaces, and isolation from colleagues also cause feelings of occupational stress (Clair, Kerfoot, & Klausmeier, 1972; Harrison, 2010; Huebner et al., 2002; Reiner & Hartshorne, 1982). Furthermore, Lee, Lim, Yan, and Lee (2011) commented that school psychologists are vulnerable to feelings of occupational stress from providing psychological assistance to individuals who participate in self-harm activities, threaten suicide, and sustain abuse (Voss Horrell, Holohan, Didion, & Vance, 2011).

In addition, while school psychologists can be fundamental to problem-solving in schools, they have little power to initiate change within educational settings (Starkman, 1966). The emphasis on assessment-oriented job responsibilities can threaten opportunities for school psychologists to act as agents of change and offer school-based prevention and intervention services (Daniels, Bradley, & Hays, 2007; Erhardt-Padgett et al., 2004; Jackson, 2001; Ruff, 2011; Starkman, 1966). While the existing literature revealed a myriad of psychosocial issues related to occupational stress, the primary import of this study reflected how perceptions of occupational stress and dispositional appraisal attitudes such as psychological hardiness were integral to the self-efficacy of school psychologists and, consequently, to the health and well-being of students, families, and school personnel.

### **Problem Statement**

A review of the existing literature revealed a dearth of information about the association between the occupational stress, psychological hardiness, and self-efficacy of school psychologists who are members of the Georgia Association of School Psychologists (GASP). Feelings of psychological hardiness can enhance school psychologists' abilities to engage in a broad spectrum of services, which subsequently bolster schools' responsiveness to the welfare of students, families, and school personnel (Harrison, 2010). Psychological hardiness involves attitudes, behaviors, and beliefs comprised of commitment, control, and challenge, which can influence feelings of positivity and competence (Lambert & Lambert, 1993). The extent that occupational stress affects the self-efficacy of GASP school psychologists is unclear. It is also unclear

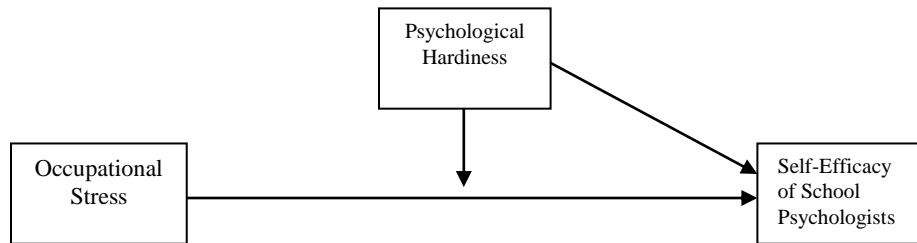
whether psychological hardiness moderates the influence of occupational stress on GASP school psychologists' self-efficacy. If these associations can be established, the emphasis of self-care coursework for practicing and student school psychologists can be underscored.

### **Purpose of the Study**

In this quantitative study, founded on a cross-sectional nonexperimental design, I utilized a convenience, single-stage, survey-based, and self-administered method. Within this method, I attempted to determine whether association existed between the predictor variable of occupational stress and outcome variable of self-efficacy moderated by the moderator variable of psychological hardiness in a sample of GASP school psychologists. No variables were manipulated. I chose this methodology due to the successful and historic usage of self-report web-based questionnaires in the study of occupational stress, psychological hardiness, and self-efficacy (Bartone, 1999; Frazier, Tix, & Barron, 2004; Maddi & Khoshaba, 1994; Maddi, Kahn, & Maddi, 1998).

The purpose of this study was to apply the theory of psychological hardiness, self-efficacy theory, and transactional model of stress and coping to study the moderating relationship of psychological hardiness on the relationship between occupational stress and self-efficacy in a sample of GASP school psychologists. First, I determined whether occupational stress related to self-efficacy while controlling for psychological hardiness. Second, I identified whether psychological hardiness related to self-efficacy while controlling for occupational stress. Last, I clarified whether psychological hardiness

moderated the relationship between occupational stress and self-efficacy. The moderation model depicted in Figure 1 was tested.



*Figure 1.* Moderating influence of psychological hardiness on the relationship between the occupational stress and self-efficacy of school psychologists.

### **Research Question and Hypotheses**

In this study, I identified associations between the variables of concern using one distinct research question and six hypotheses.

RQ: Does the theory of psychological hardiness and self-efficacy theory explain the relationships between occupational stress, psychological hardiness, and self-efficacy in a sample of school psychologists limited to a particular organization?

$H_{01}$ : Occupational stress will not be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

$H_{11}$ : Occupational stress will be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

$H_{02}$ : Psychological hardiness will not be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

*H<sub>12</sub>*: Psychological hardiness will be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

*H<sub>03</sub>*: Psychological hardiness will not moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will not be significant) in a sample of GASP school psychologists.

*H<sub>13</sub>*: Psychological hardiness will moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will be significant) in a sample of GASP school psychologists.

### **Theoretical Foundation**

I used the theory of psychological hardiness (Kobasa, 1979) and self-efficacy theory (Bandura, 1997) to provide structure for the study. As a means to investigate the impact of psychological hardiness on school psychologists' occupational stress, the psychological hardiness theory (Kobasa, 1979) was central to discussion associated with how perceptions or attitudes of commitment, challenge, and control affected school psychologists' feelings of occupational stress and self-efficacy. In addition, self-efficacy theory (Bandura, 1977) explicated how, when faced with occupational stressors, the dynamic interaction of personal characteristics (e.g., cognitions, affects, and biological events) and behavioral and environmental influences affected school psychologists' perceptions, knowledge, skills, and actions (Pajares, 2002). The theories I selected helped to explain the relationship between personality and perception and its impact on the health, wellness, and service of GASP school psychologists.

## Conceptual Framework

In conjunction with theoretical perspectives, I utilized the transactional model of stress and coping to illuminate the relationship between the occupational stress, cognitive appraisal attitude (i.e., psychological hardiness), and self-efficacy of GASP school psychologists (Lazarus & Folkman, 1984). The transactional model of stress and coping suggests that stress is a transactional experience (Lazarus & Folkman, 1984). Using transactions between cognition and emotion, individuals cognitively appraise threats (e.g., risk to one's goals, self-esteem, or life) and determine whether they have the necessary resources to cope with real or perceived threats (Antonovsky, 1979; Dewe, 1991; Lazarus 1966; Lazarus & Folkman, 1984; Reizenzein & Rudolph, 2008).

There are two feedback loops in the transactional model of stress and coping (Lazarus & Folkman, 1984). The primary feedback loop helps individuals to evaluate the characteristics of stressors and judge susceptibility to potential threats or stress (Cohen, 1984; Dollard, 2003; Evers et al., 2001; Lazarus, 1966; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984). The secondary feedback loop facilitates the evaluation of one's capacity for coping and what sort of action should be undertaken to deal with the stressor (Glanz & Schwartz, 2008). In sum, experiences of stress can be understood as a transaction between individuals and their environments (Cohen, 1984; Lazarus & Cohen, 1977).

Researchers identified that psychological hardiness was the central principle of resilience, which allowed individuals to cope and flourish when faced with stressful circumstances (Funk, 1992; Kobasa et al., 1982; Maddi & Khoshaba, 2005; Subramanian



& Nithyanandan, n.d.). Psychological hardiness also mitigated adverse physiological and psychological health outcomes (Bartone, 2006; Beasley, Thompson, & Davidson, 2003; Kobasa, 1979; Nathawat, Desai, & Majumdar, 2010) and enhanced self-esteem (Gito, Ihara, & Ogata, 2012). In addition, psychological hardiness was found to boost courage, competence, and humor (Kobasa, 1979); augment openness (Bartone, 2006; Roberts & Levenson, 2001); and inspire active, transformational, and problem-focused coping strategies. Each of these improvements can convert situations of stress into less threatening experiences (Kobasa, 1982b). The transactional model of stress and coping served as a framework to examine the attitudes and perceptions affecting the well-being and self-efficacy of GASP school psychologists.

### **Nature of Study**

I used three survey instruments to study the relationship of GASP school psychologists' occupational stress, psychological hardiness, and self-efficacy. Participants completed the unpublished School Psychologists and Stress Inventory (Wise, 1985) to assess stressors related to occupational occurrences (Burden, 1988). I surveyed participants' beliefs about commitment, challenge, and control (Bartone, Ursano, Wright, & Ingraham, 1989) using the Dispositional Resilience Scale-15, v.3 (Bartone, 2010). In addition, I measured school psychologists' self-efficacy with the unpublished Huber Inventory of Self-Efficacy for School Psychologists (Huber, 2006). Finally, I created a brief demographic questionnaire, which asked respondents questions about gender, age range, degree held, number of years employed as a school psychologist, and description of primary assignment (i.e., urban, suburban, or rural).

I collected the data using email-based surveys accessed through individualized uniform resource locator (URL) links generated for each respondent (SurveyMonkey [SM], 2014b). All hypotheses were examined with sequential multiple linear regression using the International Business Machines SPSS Statistics Standard version 22.0 program for Windows (International Business Machines [IBM], 2014). Specifically, I evaluated the first and second hypotheses to identify associations between GASP school psychologists' occupational stress and self-efficacy and psychological hardiness and self-efficacy (Geiß & Einax, 1996). I assessed the third hypothesis to determine whether psychological hardiness moderated the influence of occupational stress on GASP school psychologists' self-efficacy (Slinker & Glantz, 2008).

### **Definitions**

*Occupational stress:* Occupational stress is a psychological or physical disorder related to work environments (Canadian Association of University Teachers [CAUT], 2003). The psychological and physical consequences of occupational stress can occur when workers perceive disparities between individual personality resources, job requirements, and environmental reserves (CAUT, 2003). For example, occupational stress can occur when work demands exceed abilities, skills, knowledge, or coping capacities (CAUT, 2003). Contributing factors to school psychologists' occupational stress can include interpersonal relationships, physical or emotional threats, time management, legal compliance, or insufficient institutional support (Wise, 1985).

*Psychological hardiness:* Psychological hardiness is the elementary principle of resilience and is comprised of the personality attitudes of commitment, control, and

challenge (Kobasa et al., 1982; Maddi, 2004; Maddi & Khoshaba, 2005). It is a stable personality facet, attitude toward living, and comprehensive cognitive appraisal mechanism nurtured early in life, teachable under certain conditions, and reactive to change (Bartone, 2006; Kobasa, 1979; Maddi & Kobasa, 1984). Maddie and Kobasa (1984) explained that psychological hardiness can be used to moderate weaknesses, cope with stress, and confront challenges.

*School psychologist:* A school psychologist is a skilled educational professional who has completed graduate training in psychology and education and applies the principles of educational and clinical psychology to assist school-aged children and adolescents (NASP, 2014). School psychologists work in partnership with administrators, teachers, parents, and other educational specialists to develop healthy, safe, and supportive learning environments, which can nurture students' academic, behavioral, emotional, and social successes (NASP, 2014). School psychology training includes preparation in the areas of assessment; behavior management theory; child development; consultation and collaboration; and curriculum and instruction (NASP, 2014). Additionally, school psychologists are trained to gather and analyze data to inform educational decisions and provide educational as well as behavioral prevention and intervention services (NASP, 2014). The coursework for school psychology also includes training in learning and motivational theory, mental health services, educational law, and systems thinking (NASP, 2014).

*School psychologist self-efficacy:* School psychologist self-efficacy is the appraisal or feeling a school psychologist has about his or her abilities to complete the

duties and responsibilities associated with the profession of school psychology (Huber, 2006). Huber (2006) identified five domains relevant to the self-efficacy of school psychologists. The five domains of school psychologist self-efficacy include counseling, intervention and consultation, multidimensional assessment, professional interpersonal, and research skills (Huber, 2006).

### **Assumptions**

One assumption of the study involved whether school psychologists would answer web-based surveys in a forthright manner (Leedy & Osmond, 2010; Simon, 2011). The anonymity of the study encouraged school psychologists' honesty when responding. Another assumption involved whether all GASP professional school psychologists would have the opportunity to participate in a web-based survey (Leedy & Osmond, 2010). The GASP membership directory provided GASP school psychologists' most current email addresses; therefore, all professional GASP school psychologists received the request for study participation.

Other underlying assumptions involved conjecture that the job of a school psychologist would continue to be perceived as relevant and necessary, not superfluous to the health and well-being of students, families, and school system personnel (Worrell, 2012). Another assumption involved school psychologists' abilities to recognize feelings of occupational stress, as human service helping professionals can develop work-associated exhaustion, thus becoming unaware of their personal needs (Daniels et al., 2007; Jackson, 2001). A further assumption involved whether school psychologists cognitively appraised their feelings of occupational stress (Lazarus & Folkman, 1984).

A final assumption involved the notion that school psychologists experienced occupational stress as a result of their myriad roles, responsibilities, and functions (Williams, 2001; Worrell, 2012).

### **Scope and Delimitations**

From a general perspective, occupational stress issues are of growing concern (Simon & Goes, 2013). There is an increasing preponderance and trajectory of unhealthy levels of work stress, which can cause chronic biological, psychological, and social (i.e., biopsychosocial) issues for American workers (APAAIS, 2013; Engel, n.d.; USBLS, 2013). Likewise, the economic, psychological, and social problems observed in public education increase occupational stress and mitigate school personnel's attention to personal biopsychosocial wellness (Johnson, 2014). As school psychologists encounter pressures from federal and state legislatures, colleagues, families, and students, self-efficacy becomes more critical for the maintenance of school psychologists' subjective health and well-being (Erhardt-Padgett et al., 2004; Gilman & Gabriel, 2004; Huebner, 1992; Maltzman, 2011; Ruff, 2011; Wise, 1985).

The current study was delimited to school psychologists who are professional members of GASP. Membership in GASP offers school psychologists support and professional training to assist students to be intellectually, personally, emotionally, and socially equipped to take advantage of personal and professional opportunities (GASP, 2013). Kapavik (2011) proposed that membership in professional educational organizations enables members to remain responsive and current with research, assessment, and intervention.

School psychologists benefit from collaboration and continuing education to maintain efficacy in practice (NASP, 2010a). In fact, school system psychological service departments and state and federal organizations arrange for periodic fraternization (Branstetter, 2012) and training opportunities for school psychology professionals. Because GASP school psychologists are thought to be representative of the general population of American school psychologists (Lynch, 2011), delineation was not believed to minimize generalizability to school psychologists who were not members. However, it is possible that these points could have posed variable influence on school psychologists and affected results of the study.

Lastly, while the study centered on GASP school psychologists, possible generalizability to the greater cohort of human service helping professionals is noteworthy. Jackson (2001) asserted that work-related exhaustion, depersonalization, burnout, and psychological wounds produce human service helping professionals vulnerable to becoming wounded healers. It could be the biopsychosocial characteristics of the professionals themselves, not necessarily their vocational pursuits, which facilitate challenges associated with occupational stress. Consequently, the constructs of occupational stress, psychological hardiness, and self-efficacy could be projected beyond GASP school psychologists to the general cohort of human service helping professionals with particular applicability to the importance of self-care coursework for practicing and student human service helping professionals.

### **Limitations**

There were several conceivable limitations to outcomes of the study, including but not limited to, the selection of the sample, time designated for data collection, web-based survey design of the study, age of measurement tools, and subjective or hidden characteristics of the variables of interest (Simon, 2011). I used convenience volunteer sampling (i.e., purposeful or nonprobability) of school psychologists who were members of GASP. Because I used a sample of convenience, as compared to a random sample, the results of the study can only be suggested and not broadly applied to a larger population (Simon, 2011).

When designing the study using a convenience, self-selected, and volunteer sample, I considered the advantages of limited generalizability versus random sampling. I believed that email invitations sent to each possible respondent with a thorough explanation of the study would augment respondents' decisions to participate (de Vaus, 2002). Additionally, I considered GASP school psychologists to be illustrative of the larger population of American school psychologists. I hoped that findings resulting from the study would produce helpful insights pertinent to all American school psychologists (Lynch, 2011).

The time frame designated for data collection was another limitation (Simon, 2011). Simon (2011) explained that a survey completed at a particular time was simply a glimpse influenced and shaped by circumstances occurring during that given period. In order to capture more generalizable data, I designed the research study to address realistic situations commonplace to the everyday work experiences of school psychologists

(Aronson & Carlsmith, 1968). While answering survey questions, I requested that school psychologists consider actual daily stressors and personal coping techniques (Aronson & Carlsmith, 1968; Aronson, Wilson, & Brewer, 1998).

The usage of a web-based survey design presented another potential limitation. Porter and Whitcomb (2007) explained that web-based and paper surveys could yield inconsistent participant satisfaction and discrepant response rate. Inconsistent participant satisfaction and discrepant response rates could involve matters associated with each respondent's technological proficiencies (Porter & Whitcomb, 2007). More specifically, web-based surveys have produced varied successes with different populations (Carini, Hayek, Kuh, Kennedy, & Ouimet, 2003; Leece et al., 2004).

In particular, Carini et al. (2003) investigated college students and examined whether usage of web-based surveys influenced response rates. When contrasted with paper-based surveys, Carini et al. found that web-based survey design used with college students produced more favorable responses. In contrast, Leece et al. (2004) noted that medical professionals responded more promisingly to paper surveys than to web-based surveys. Although the aforementioned studies suggested discrepant results, school psychologists have historically demonstrated readiness and motivation to complete web-based surveys in studies designed to investigate self-efficacy (Huber 2006), bullying (Lund, Blake, Ewing, & Banks, 2012), crisis intervention (Bolnik & Brock, 2005), professional practice (Castillo, Curtis, & Gelley, 2012), response to intervention (Brady & Christo, 2009), supervision (Phifer, 2013), locus of control (Reece, 2010), personality



characteristics (Williams, 2001), and usage of the NASP database (Castillo, Curtis, Chappel, & Cunningham, 2011).

The age of measurement tools was another potential limitation. A 2010 NASP national study of the field school psychology indicated that, although a call for modifications to school psychologists' overall job tasks and responsibilities was issued in 2002, little has changed (Castillo et al., 2012). Thus, while the age of survey instruments was important to consider, the relevance of survey questions as measures of the variables of interest was vital to the outcome of the study (Check & Schutt, 2012). If the selected instruments were older than what was commonly desired for research, scrutiny of questions and understanding about the job responsibilities of today's school psychologists revealed that the instruments' questions were still relevant to the daily issues faced by school psychologists (NASP, 2010a; Reece, 2010; Williams, 2001).

Finally, and equally important, I assessed school psychologists' subjective feelings or perceptions of occupational stress, psychological hardiness, and self-efficacy, not necessarily observable and measurable behaviors related to such awareness. Consequently, the results should be interpreted carefully when pondering the relationships between school psychologists' perceived feelings of occupational stress, psychological hardiness, and self-efficacy. While the existing literature suggested the reliability and validity of the selected assessment tools, it was not certain if the variables of interest possessed hidden features, which might appear in the context of survey responses. For instance, if there were hidden features, then selected survey instruments might have been unsuccessful at capturing the characteristics of the variables of interest.

Although, the previously noted factors were pertinent and vital to the veracity of the study, the degree to which school psychologists held the possible costs and benefits of positive active coping strategies depended on school psychologists' abilities to face the challenges related to their daily roles, functions, and responsibilities.

### **Significance**

The significance of maintaining biopsychosocial health is demonstrated through current statistics, which reflect the growing prevalence of stressed American workers and mounting cases of comorbid health concerns such as anxiety, cardiovascular disease, depression, diabetes, and senescence (Aloha et al., 2012). American workers' perceptions of occupational stress negatively influence their biopsychosocial health as well as their assessments about coping with challenges in disparate life domains (American Psychological Association [APA], 2013). Increasingly, American workers are not concentrating their efforts towards mitigating and altering unhealthy lifestyle behaviors as a means to augment their health and manage occupational stress (APA, 2013). The relationship between occupational stress, psychological hardiness, and self-efficacy serves to demonstrate the mind body connection and underpins the significance of occupational stress management as a means to promote subjective well-being.

In this same way, analyses of workers' general abilities to maintain optimism and use coping strategies when faced with adverse cognitive and emotional experiences indicated the necessity for investigation of occupational stress, psychological hardiness, and mental health within school system personnel. Even though Rogers (1975) noted the importance of coping appraisals in human behaviors, Rosenstock, Strecher, and Becker

(1988) stated that vulnerability in health and wellness influenced prohealth behaviors. For these reasons, the inaccurate perceptions of an individual's health and mental well-being underscore the lack of attention and potential threats to biopsychosocial health. The possible negative consequences of mitigated mental health can play major roles in school psychologists' diminished abilities to fulfill their roles, meet responsibilities, and perform expected job functions (Erhardt-Padgett et al., 2004; Gilman & Gabriel, 2004; Huebner, 1992; Maltzman, 2011; Ruff, 2011; Wise, 1985).

Through the investigation of attitudes, beliefs, and perceptions about proactive and efficacious work behaviors, I hope to impact positive social change. There was a gap in the health literature regarding school psychologists and their occupational stress, psychological hardiness, and self-efficacy. School psychologists who embody greater levels of psychological hardiness, self-efficacy, and occupational motivation can function as ambassadors of NASP proactive intervention-focused approaches to mental health service delivery emphasized in the NASP Practice Model (Castillo et al., 2012; NASP, 2010a). Additionally, school psychologists who nurture psychological hardiness as a means to appraise their efficacious behaviors can foster similar attitudes in other school psychologists and assist in the development of self-care coursework for practicing and student school psychologists. The multiple dimensions of school psychologists' occupational stress, psychological hardiness, and self-efficacy exemplify how the adverse influence of work challenges might underscore the need for positivity, development of stress resilience, and emphasis on mental health values for all school system personnel.

The ubiquitous nature of these issues promoted the variables of interest as matters worthwhile for empirical examination.

### **Summary**

The complex and unique nature of school psychologists' roles can cause school system administrators to regard school psychologists as superfluous (Worrell, 2012). While economic situations negatively influence school system budgets, mental health issues develop in schools, and school personnel are instructed to do more with fewer resources, occupational stress is an important topic associated with the health and well-being of school psychologists. These challenging times test school psychologists' capacities to maintain good health, remain positive, and cope with psychological stress; therefore, augmented awareness of positive mental health practices might increase school psychologists' efficacious feelings.

In Chapter 2, I detail information explaining the significance of occupational stress, psychological hardiness, and self-efficacy related to school psychologists. First, I examine the theory of psychological hardiness (Kobasa, 1979) and self-efficacy theory (Bandura, 1997), which shape perspectives about how the variables of interest are expressed in school psychologists. Next, I discuss the transactional model of stress and coping (Lazarus & Folkman, 1984) and demonstrate how cognitive appraisal can influence school psychologists' abilities to cope with occupational stress. Finally, I conclude with a review of the literature as it relates to the occupational stress, psychological hardiness, and self-efficacy of school psychologists.

## Chapter 2: Literature Review

As economic and social stressors adversely affect school budgets, mental health issues befall schools and communities and produce tragic outcomes, family systems suffer from societal woes, and school system personnel are asked to do more with fewer resources, school psychologists' feelings of occupational stress have increased (Erhardt-Padgett et al., 2004; Huebner, 1992; Ruff, 2011; Wise, 1985). In order to combat occupational stress, school psychologists use cognitive appraisal to deal with worry and augment self-efficacy (Kobasa, 1979). Feelings of self-efficacy help school psychologists to engage in services, which bolster the welfare of students, families, and school system personnel they are charged to serve (Kobasa, 1979).

The research problem associated with school psychologists, occupational stress, psychological hardiness, and self-efficacy was twofold. Firstly, the extent that occupational stress affected self-efficacy and the amount that psychological hardiness influenced the self-efficacy of GASP school psychologists was unclear. Secondly, it was also unclear whether psychological hardiness moderated the impact of occupational stress on the self-efficacy of GASP school psychologists.

Psychological hardiness (Bartone, 1984, 2008; Grau, Salanova, & Peíro, 2001; Kobasa, 1979) is associated with the ability to effectively adapt to the challenges of occupational stress (Campbell-Sills, Cohan, & Stein, 2006). Individuals with sufficient psychological hardiness manage workplace problem solving efficiently (Dubow & Luster, 1990). In turn, the adequate solution of problems can bolster self-efficacy (Bandura, 1986, 1997; Grau et al., 2001; Stajkovic & Luthans, 1998). I conducted the

study to apply the theory of psychological hardiness, self-efficacy theory, and model of transactional stress and coping to examine the moderating relationship of psychological hardiness on the relationship between occupational stress and self-efficacy in a sample of GASP school psychologists.

A search within the existing literature yielded examples of studies, which examined the associations between occupational stress and environmental factors (Parker & DeCotiis, 1983; Umano, Shimada, & Sakano, 1998), coping strategies (Beasley et al., 2003; Judkins, 2001; Lambert, Lambert, & Yamase, 2003), and personality styles (Nikkhou, 2005). Other studies investigated the association between burnout, a common consequence of occupational stress, and combinations of coping strategies (Rowe, 1997; Simoni & Paterson, 1997), individual personality characteristics (Alacorn, Eschleman, & Bowling, 2009; Duquette, K  rouac, Sandhu, Saulnier, & Lachance, 1997; Lo Bue, Taverniers, Mylle, & Euwema, 2013; Rowe, 1997; Sahu & Mishra, 2006; Simoni & Paterson, 1997; Swider & Zimmerman, 2010), job satisfaction (Randall & Scott, 1988), and personality types (Maslach & Jackson, 1981). Few studies have looked at the role of psychological hardiness as a moderator of occupational stress (Kobasa, Maddi, & Courington, 1981; Umano et al., 1998) on the self-efficacy of GASP school psychologists. It is for these reasons that I chose to study occupational stress, psychological hardiness, and self-efficacy, which can make a valuable contribution to the intellectual tradition, heritage, and genealogy of occupational stress, psychological hardiness, self-efficacy, and school psychology literature. In this chapter, I convey the complexity and profundity of the existing literature related to occupational stress,

psychological hardiness, and self-efficacy. Additionally, I explore the theoretical frameworks and conceptual model associated with the variables of interest.

### **Literature Search Strategy**

I employed a wide-ranging literature search to ascertain a foundation for the current study. I searched peer-reviewed refereed journals, books, and government papers gathered from numerous databases, which included Academic Search Complete, Arts and Sciences, MEDLINE, Education Research Complete, Education Resources Information Center, PsycARTICLES, PsycBOOKS, PsycEXTRA, PsycINFO, JSTOR, ProQuest Dissertations and Theses, and SOCIndex. Peer-reviewed journal articles provided information about controlled empirical research, systematic reviews, and meta-analyses (Solomon, 2007). The literature search also employed information from organizations germane to the topic such as APA, GASP, and NASP.

Initially, the literature search strategy used a date range of 2003 to 2014, which allowed for scientific breadth and collection of empirical research with disparate analyses types, effect sizes, sample sizes, and statistical powers. Subsequent research enlarged the literature search parameters to the entire 20<sup>th</sup> century so that the seminal works and materials related to theoretical perspectives, conceptual frameworks, and variables of interest might be ascertained. Additionally, expansion of the date ranges helped to present a more thorough historical timetable, which buttressed the relevance of particular theories and conceptual frameworks to the variables. Common search terms used in the literature search included *stress*, *work stress*, *occupational stress*, *job stress*, *hardiness*, *psychological hardiness*, *psychological hardiness resilience*, *work self-efficacy*, *self-*

*efficacy, school psychologists, school psychology, helping professionals, transactional model of stress and coping, self-efficacy theory, social cognitive theory, and theory of psychological hardiness.* Other combinations of search terms in the literature search included *work stress or occupational stress and school psychologists; hardiness or psychological hardiness and school psychologists; and work self-efficacy, self-efficacy, or perceived self-efficacy and school psychologists.*

### **Theoretical Foundation**

I used the theory of psychological hardiness (Kobasa, 1979) and self-efficacy theory (Bandura, 1997) to yield structure to align the study. The theory of psychological hardiness (Kobasa, 1979) explained how perceptions of commitment, challenge, and control affected feelings of occupational stress and self-efficacy. Self-efficacy theory (Bandura, 1986) explained the dynamic influence of personal features on school psychologists' efficacious and competent execution of behaviors. These theories demonstrated that cognitive appraisal mechanisms, such as psychological hardiness, can influence the effects of occupational stress on GASP school psychologists' self-efficacy and prohealth related behaviors.

### **Theory of Psychological Hardiness**

The theory of psychological hardiness offered a context for understanding the association between stress, illness, and resilient responses (Kobasa, 1979). Kobasa (1979) built the concept of psychological hardiness theory from the work of existentialist psychologists such as Frankl (1960) and Heidegger (1986). Existentialistic thought suggested that the definitive goal of life was to create personal meaning using action and



judgment while in the pursuit of opportunities (Kobasa, 1979). The existentialist approach proposed that individuals who coped successfully with great degrees of stress embodied a particular arrangement of beliefs, behavioral tendencies, and personality features (Lambert et al., 2003).

Existentialistic ideas about the arduous nature of genuine living, competence, and constructive orientation provided foundation for Kobasa's psychological hardiness concept (Lambert et al., 2003). Kobasa (1979) explained that the three personality attitudes of challenge, commitment, and control combined to produce psychological hardiness, which then assisted individuals to meet challenges within their environments and alter stressful life situations into occasions for personal development and enrichment. A paucity of challenge, commitment, and control personality dimensions often resulted in burnout (Kobasa, 1979).

Prior research identified burnout syndrome as a multifaceted human occurrence associated with feelings of occupational stress, which occurred from continuous emotional demands related to interactions with other people (Maslach, 1978; Simendinger & Moore, 1985). This syndrome occurred commonly in those individuals working as human service helping professionals (Maslach, 1978; Simendinger & Moore, 1985). Burnout syndrome, typified by depersonalization and perception of mitigated personal accomplishment related to the daily challenges of coping with work stress, often caused emotional, physical, and mental exhaustion (Maslach, 1978; Simendinger & Moore, 1985). Simendinger and Moore (1985) described that consequences of burnout included absenteeism, tardiness, job turnover, lowered morale, and reduced quality of

service. The literature search unearthed abundant evidence of school psychologists' occupational stress and subsequent burnout, which was identified to produce negative effects on school psychologists' job satisfaction, personality traits, and coping strategies (Huebner, 1992; Huebner et al., 2002; Kent & Kerrigan, 2011; Kumary & Baker, 2008; Mackonienè & Norvilé, 2012; Mills & Huebner, 1998).

Kobasa et al. (1981) reported that hardy personality style encouraged transformational coping, which involved a combination of emotion, cognition, and action. Transformational coping was characterized by an optimism, which altered stressful events into less stressful ones (Kobasa et al., 1981). Hardy individuals held a view of the world as meaningful and demonstrated commitment through intention and action, rather than passive involvement in life events (Bartone, 1999; Kobasa et al., 1981).

When faced with new experiences, change, or adversity, hardy individuals exhibited feelings of self-reliance, sufficiency, courage, and control instead of dependence or helplessness (Bartone, 1999; Kobasa et al., 1981). The theory of psychological hardiness suggested that change was healthy and stimulated individual development in lieu of presenting a threat to personal well-being and security (Bartone, 1999; Kobasa et al., 1981). While hardy individuals were not resistant to stress, Bartone (1999) identified that hardy individuals exhibited competence and resilience in life's activities and courage while managing new experiences as well as disappointments.

The constellation of commitment, control, and challenge altered human awareness of situations; positively affected cognitive appraisal and coping; and had the ability to mitigate and moderate the deleterious influence of stressful life situations (Kobasa, 1979;

Kobasa et al., 1982; Lambert et al., 2003; Maddi & Kobasa, 1984). When faced with stress, the hardy personality amalgamation of commitment, control, and challenge shielded individuals from illness (Bartone, 1999; Lambert et al., 2003). Several studies demonstrated that psychological hardiness behaved as a moderator of the harmful influence of stress on performance and health (Bartone, 1999; Kobasa et al., 1982; McCraine, Lambert, & Lambert, 1987; Nowack, 1986).

More specifically, psychological hardiness demonstrated central and buffering influences on the stress of executives (Kobasa, 1979, 1982a; Kobasa et al., 1982), military personnel (Bartone, 1999), bus drivers (Bartone, 1984), professional and nonprofit employees (Cash & Gardner, 2011), and nurses working with geriatric patients (Duquette et al., 1997; McCraine et al., 1987). Kobasa (1979) recounted that during the Illinois Bell Telephone (IBT) unpredictable period of deregulation and divestiture, individuals who demonstrated high psychological hardiness exhibited fewer symptoms of illness. In another study, Bartone (1999) related that psychological hardiness protected 787 predeployment Persian Gulf War Army Reserve personnel against the deleterious effects of highly stressful situations. Similarly, Bartone (1984) reported that psychological hardiness mediated the ill influence of stress within a sample of 981 Chicago Transit Authority bus drivers. Furthermore, Cash and Gardner (2011) found that among 1,230 professional service, nonprofit retail, and manufacturing public sector employees from New Zealand, psychological hardiness negatively related to job turnover. Additionally, in a study of 1,990 nurses working with geriatric patients, Duquette et al. (1997) discovered that psychological hardiness had a direct effect on feelings of burnout

and distress. Due to a paucity of empirical studies investigating occupational stress, psychological hardiness, self-efficacy, and school psychologists, this study advanced the understanding of psychological hardiness in educational human service helping professionals.

### **Self-Efficacy Theory**

Bandura (1986) postulated that human cognitive self-belief processes influenced the human behaviors of adaptation and change. Roots of Bandura's theory were found in Miller and Dollard's (1941) research into associationism. Associationism indicated that human actions influenced human need satisfaction and activated the environmental and cognitive variables of inhibitors, incentives, initial drive, prior training, and reinforcement (Hull, 1943). Miller and Dollard's theory did not take into account the development of novel processes or responses associated with nonreinforced or delayed imitations. Nearly two decades later, Bandura and Walters (1963) added the cognitive principles of vicarious self-regulatory reinforcement and self-reflective observational learning to expand Miller and Dollard's theory. This addition altered the theory to include human self-beliefs, which Bandura determined were missing from Miller and Dollard's earlier theory (Bandura, 1977). The theory was subsequently renamed social learning theory (Bandura & Walters, 1963).

Bandura (1986) reasoned that instead of being reactive organisms shaped by internal impulses or environmental factors, humans were proactive, self-structuring, self-controlling, and self-reflecting organisms. Human functioning and learning derived from the dynamic interaction of individual features such as cognition, affect, behavior, and

physiology with the environment (Bandura, 1986). Thus, the theory went through another renaming, and Bandura (1986) retitled social learning theory to social cognitive theory.

Social cognitive theory highlighted the critical role, which cognition played in human ability to create reality, encode information, self-regulate actions, and execute behaviors (Bandura, 1986). The theory indicated that human judgment of ability to arrange and complete actions competently or in a self-efficacy manner were required to achieve particular levels of performance (Bandura, 1986). Unless an individual believed that their actions could produce favored outcomes, there was little motivation to persist when confronted with problems (Bandura, 1986). In this way, self-efficacy provided a foundation for human motivation and personal accomplishment (Bandura, 1986). In fact, Pajares (2002) averred that self-efficacy influenced qualities central to human life such as success, failure, knowledge, interpretation, judgment, and decision-making.

As the concept of self-efficacy merged into social cognitive theory, the theory again changed its name to self-efficacy theory (Parajes, 2002). It is the self-efficacy theory, which I used in this study of school psychologists. Self-efficacy theory submitted that humans coordinated cognitions, feelings, motivations, and actions to manage particular situational demands (Bandura, 1995; Snyder & Lopez, 2007; Wood & Bandura, 1989).

Instead of being founded upon objective certainty, the role of self-efficacy in human functioning indicated that motivations, affective states, and actions were founded upon subjective perceptions of what individuals judged to be true (Bandura, 1997).

Based on this assertion, Bandura (1997) emphasized that human functioning could be predicted more by individuals' perceptions of self-efficacy rather than actual accomplishments. Therefore, behaviors could appear disconnected from actual abilities even when individuals possessed adequate skills and knowledge (Pajares, 2002). Pajares (2002) explained that belief and reality were rarely perfectly matched and added that self-efficacy better predicted accomplishments than did skill, knowledge, or prior achievement.

Bandura (1997) remarked that self-efficacy was a personality feature, which mediated achievement of behavioral mastery and competence. Van der Bijl and Shortridge-Baggett (2002) additionally averred that elevated self-efficacy reinforced human participation in certain activities. In fact, self-efficacy could be perceived as a task-particular version of self-esteem (Lunenburg, 2011). It was in this way that self-efficacy acted as a self-fulfilling prophecy (Gecas, 2004). Self-efficacy theory suggested that human perception of effectiveness influenced individuals' perception related to potential behavioral performance (Bandura, 1977).

Generally, individuals with greater self-efficacy perceived demanding tasks as trials to surmount rather than threats to be circumvented (Williams & Williams, 2010). Pajares (2002) explained that while individuals engaged in tasks, self-efficacy demonstrated a positive influence on related goal setting and performance. Furthermore, individuals with greater feelings of self-efficacy pursued demanding goals with augmented commitment, which in turn increased feelings of self-efficacy (Bandura, 1995).

Task self-efficacy could be gauged by evaluating the situational difficulty level, internal conviction for success, and generality of situations (Van der Bijl & Shortridge-Baggett, 2002). Bandura (1977) further discerned that task self-efficacy developed through mastery experiences, vicarious experiences, social persuasion, and emotional and physiological arousal. Individuals used evaluation procedures such as analysis of task requirements, situational and personal constraints and resources, and potential outcomes to distinguish self-efficacy (Gist & Mitchell, 1992).

In a study of 194 Turkish public school counselors, Gündüz (2012) identified that school counselors with greater levels of self-efficacy endorsed increased levels of personal accomplishment and positive attitudes towards their profession. In contrast, school counselors with diminished self-efficacy demonstrated greater feelings of burnout, depersonalization, emotional exhaustion, and occupational stress (Gündüz, 2012). In another study, Grau et al. (2001) found that for 140 workers using new technology at work, lower levels of self-efficacy correlated with less organizational commitment and feelings of exhaustion and cynicism. Given this empirical evidence, Bandura's (1977) self-efficacy theory was appropriate to determine how occupational stress influenced school psychologists' self-efficacy.

### **Conceptual Framework**

In addition to the theoretical foundation, I used a conceptual framework to identify the relationship between occupational stress, psychological hardiness, and school psychologists' self-efficacy. Lazarus and Folkman (1984) postulated that the transactional model of stress and coping illuminated the interaction between stress and

the human biopsychosocial response. This model validated the significance of this topic within the occupational stress, psychological hardiness, self-efficacy, and school psychology intellectual heritage and genealogy.

Selye (1956) first described stress as a generalized adaptation response system and reported that human beings exhibited the same, generic, comprehensive, and biologically-grounded stress response to cope with all stressful situations. Since Selye's time, theories or perspectives of stress developed into three disparate orientations or approaches, which included (a) stimulus-centered, (b) response-centered, and (c) transactional-centered (Ghadially & Kumar, 1987; Richard & Krieschok, 1989; Ryan, 1996; Trivette, 1993). Stimulus-centered stress involved outside or environmental conditions, forces, or stressors, which produced detrimental impact or strain (Cox, 1978; Lazarus & Folkman, 1984). Response-centered stress concerned a generalized biopsychosocial reaction or strain to external stressors (Richard & Krieschok, 1989). Transactional-centered stress developed when internal or external stressors created imbalance, which negatively affected an individual's biopsychosocial well-being (Lazarus & Cohen, 1977). For example, Holmes and Rahe (1967) found that stressful life situations (e.g., poverty, death, or job loss) produced biopsychosocial illnesses. Life stress created disparate stress responses due to each individual's unique personality dimensions, which either augmented or mitigated the influence of stress (Holmes & Rahe, 1967).

In particular, Friedman and Rosenman (1974) reported that human mental affect influenced physical health. Specifically, Friedman and Rosenman found that after



controlling for variables such as blood pressure, diet, and exercise, type A personality individuals, who demonstrated high achievement, rigid organization, proactive work ethic, and great stress, often exhibited increased vulnerability and incidence of coronary heart disease. In contrast, type B individuals, who enjoyed reflection, challenge, exploration, and fewer feelings of stress, were less likely to develop coronary heart disease (Friedman & Rosenman, 1974). It was the Friedman and Rosenman study of type A and B personalities, which led to conjecture about personality style and predisposition or resilience to stress.

### **Transactional Model of Stress and Coping**

The fundamental ideology of Lazarus and Folkman's (1984) transactional model of stress and coping derived from philosophers' (e.g., Plato, Aristotle, and Aquinas) examinations of human subjective experiences of consciousness, emotion, and experience (Lyons, 1980). More recent inspiration for Lazarus and Folkman's transactional model of stress and coping derived from Arnold, who investigated cognitive emotion (Lyons, 1980). Arnold (1960a; 1960b) studied human cognitive appraisal of emotion using the cognitive appraisal theory, which was associated with general arousal seeking as a means to discriminate fear, anger, and excitement from different excitatory sensations. Despite exposure to similar or identical stressors, individuals often exhibited distinctive cognitive appraisals of stressors based upon individual perceptions of stressors; physiological change did not instigate but merely supplemented responsive experiences and actions (Arnold 1960a; 1960b). Arnold's (1960a, 1960b) cognitive appraisal theory specified

that an individual's initial cognitive appraisal launched the emotional cycle, which commenced responsive action and emotional experience.

Lazarus (1966) explicitly acknowledged his intellectual debt to Arnold in *Psychological Stress and the Coping Process* (Reisenzein & Rudolph, 2008). In a subsequent article published in the *Nebraska Symposium on Motivation* (Arnold & Levine, 1969), Lazarus (1968) explained that Arnold's work emphasized that both antecedent cognitive processes and stimulation of coping instincts helped individuals to cope with appraisal of dangers (Reisenzein & Rudolph, 2008). Reisenzein and Rudolph (2008) underscored that cognitive appraisal was an important cognitive determinant of emotion, especially when associated with negative emotional features related to psychological stress.

In the first place, Lazarus (1966) stated that because human experiences and perceptions were distinctive, persons formed disparate cognitive appraisals. Later, in Lazarus and Folkman's (1984) seminal *Stress, Appraisal, and Coping*, the transactional model described stress as a transactional experience, which probed an individual's cognitive interpretation of real or perceived threat (e.g., risk to one's goals, self-esteem, or life) and explored whether an individual had the necessary reserves to cope sufficiently and efficiently with the real or perceived threat (Antonovsky, 1979; Dewe, 1991; Lazarus 1966; Reisenzein & Rudolph, 2008). An individual's experiences of stress was the transaction between that person and his or her environment (Cohen, 1984; Lazarus & Cohen, 1977).

When humans perceived stress or threats, Lazarus (1991) explained that appraisal-focused, problem-focused, or emotion-focused coping mechanisms modified the individual's environmental association. Appraisal-focused cognitive coping changed human thoughts about stress or threat, problem-focused coping mitigated or eliminated stress or threat, and emotion-focused altered feelings about stress or threat (Cohen, 1984; Dollard, 2003; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984). Cognitive appraisal mechanisms related to perception of stressors, experience of stress symptomatology, and long-term adjustment (Bova, 2001; Dollard, 2003; Roesch, Weiner, & Vaughn, 2002).

Within the transactional model, two sequentially connected cognitive appraisal mechanisms provided the framework for perceptions of stress, coping, and management of potential outcomes (Evers et al., 2001; Lazarus, 1984; Glanz & Schwartz, 2008). Within the primary and secondary feedback loops, psychological, social, and cultural resources; cognitive doubt; time-based immediacy; and projected duration influenced appraisal of stress and coping (Cohen, 1984; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984). Primary appraisal evaluated the stress or threat characteristics and subsequent susceptibility to that stress or risk (Cohen, 1984; Dollard, 2003; Evers et al., 2001; Lazarus, 1966; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984). Primary cognitive appraisal could identify if stress was controllable, threatening, or irrelevant (Glanz & Schwartz, 2008). Secondary appraisal involved assessment of susceptibility to stress, capacity to cope with stress, and ensuing responses to stress (Cohen, 1984; Dollard, 2003; Evers et al., 2001; Lazarus, 1966; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984). Secondary appraisal was different from primary appraisal that focused

on the features of and judgment about stress; it evoked decisions about if and what an individual could do about an identified stressor or threat (Glanz & Schwartz, 2008).

For example, usage of primary appraisal determined whether an identified stressor was threatening (Glanz & Schwartz, 2008). Concurrent with or subsequent to primary appraisal, secondary appraisal identified feelings about vulnerability or anxiety and potential responses (Glanz & Schwartz, 2008). Following secondary appraisal, the transactional appraisal process could begin again and continue until the stressful situation was resolved or the need for coping was terminated (Lazarus, 1991).

A variety of empirical studies applied the transactional model to explain stress and coping within disparate cohorts. Specifically, studies examined parents whose children had disabilities (Tunali & Power, 2002) and caregivers for individuals diagnosed with HIV/AIDS (Pakenham & Rinaldis, 2001) and dementia (Pérodeau, Lauzon, Lévesque, & Lachance, 2001). Other studies investigated the stress and coping of nurses working on neonatal intensive care units (Cronqvist, Theorell, Burns, & Lutzen, 2001). Because school psychologists experience and appraise occupational stress, the transactional theory of stress and coping was identified as a sound conceptual framework to investigate the relationship between GASP school psychologists' feelings of occupational stress, psychological hardiness, and self-efficacy (Lazarus & Folkman, 1984).

## **Literature Review Related to Key Variables**

### **Occupational Stress**

The universal and detrimental consequences of stress are a prevalent concern in society and a recurrent theme emphasized in occupational stress literature (APA, 2012; USBLS, 2001; CAUT, 2003; Canadian Centre for Occupational Health and Safety [CCOHS], 2012; Lazarus, 1981; Maddi & Khoshaba, 2005). The CAUT (2003) defined occupational stress as the deleterious cognitive, emotional, and physical responses, which occur from a disparity between job requirements and individual personality characteristics. A recent online APA (2012) Stress in America Survey completed with 1,226 US residents found that Americans experienced stress at greater levels than believed to be healthy.

In fact, the APAAIS (2013) attested that approximately 75% of Americans reported noteworthy biopsychosocial symptoms resulting from stress, and 76% of Americans identified their principal source of stress to be associated with work. Additionally, the APAAIS explained that 48% of those polled indicated that occupational stress had a negative impact on both their personal and professional lives. These facts are not wholly surprising considering that Americans aged 25 to 54 spend more than 8.8 hours or 37% of an average day engaged in work-associated activities (USBLS, 2013).

An APAAIS (2013) Work Stress Survey completed with 1,019 employed Americans found a striking increase in occupational stress up from 73% in 2012 to 83% in 2013. Similarly, the APA (2012) Workplace Stress Survey found that nearly 48% of Americans felt their stress levels had increased over the past five years. Regrettably,

approximately 30% of Americans endorsed that they were often or always under stress at work (APAAIS, 2013). Moreover, the APA survey identified that 41% of American employees felt tension while at work and endorsed feelings of chronic occupational stress. In contrast, only 17% of American workers remarked that work did not cause feelings of stress (APAAIS, 2013).

Occupational stress is not without its consequences. Developing and industrialized nations reported monetary and social losses due to occupational stress (APAAIS, 2013; Kawakami, 2000; Sutherland, Fogarty, & Pithers, 1995). In the United States, organizations and companies reported more than \$300 billion lost per annum due to absenteeism, personnel issues, and reduced productivity (APA, 2009; APAAIS, 2013; USBLS, 2001). In two separate analyses, the USBLS (2001) and Commerce Clearing House, Incorporated (2002) Unscheduled Absence Survey found that employees were absent from work a median of 25 days per year due to feelings of anxiety, neurotic disorders, and occupational stress. This rate of absenteeism was significantly greater than the actual number of total days individuals spent away from work for all other illnesses and nonfatal injuries combined (USBLS, 2001).

Occupational stress, strain, and burnout have gradually worsened over the past 35 years due to economic, technological, and social developments (Hoel, Zapf, & Cooper, 2002). In the 1980s, globalization, privatization, reengineering, and amalgamated ventures transformed workplaces and increased international economic competitiveness (Lapido & Wilkinson, 2002). During the 1990s, many companies downsized and restructured, which produced job insecurity and stress (Lapido & Wilkinson, 2002).

During this time, employers asked fewer workers to do more with a decreased resources (Lapido & Wilkinson, 2002).

In today's information society, the megatrends of change are universal (Maddi & Khoshaba, 2005). Occupational stress that is associated with knowledge and information attainment and dissemination has heightened with advancements in cellular, computer, and Internet technologies (Maddi & Khoshaba, 2005). The fast-paced, high-tech, and intricately connected world has intensified work responsibilities for American workers who are often required to demonstrate a willingness, accessibility, and ability to work anywhere at any time (Clay, 2011). Clay (2011) explained that workers trying to manage personal and professional responsibilities described significant problems from endless work demands.

In contrast, despite development of undesirable consequences from society's connectedness, some Americans contended that developments in communication technology produced beneficial effects (APAAIS, 2013). In fact, approximately 56% of American workers acknowledged that connectivity during weekends and vacations benefitted their productivity (APAAIS, 2013). Nevertheless, many working Americans struggled to find a balance between occupational and personal demands (APA, 2010b).

In addition to technological challenges, Sharif (2000) reported that feelings of occupational stress can come from organizational factors. The most commonly noted organizational causes of occupational stress, according to the APA (2012), included unclear job expectations (35%), long hours (37%), extreme workloads (41%), fewer opportunities for advancement or growth (41%), and lower salaries (46%). In some

cases, workers reported that stress developed from distinct job features such as pace, autonomy, physical environment, and interpersonal relationships (CAUT, 2003; Murphy, 1995). Other organizational characteristics such as role ambiguity, role conflict, and performance anxiety also caused issues (Murphy, 1995). Workers further noted that career development, work satisfaction, job security, job layoffs, and overtime work were other recurring issues (Murphy, 1995). In addition, organizational structure, workplace climate, management style, and office communication also caused issues at work (Murphy, 1995). Finally, the negative spiral of putting forth more effort to meet rising work requirements without any increase in job recognition or pay also caused significant stress (CAUT, 2003).

Cannon (1915, 1929) was the first to detect an association between physiology, stress, external stimuli, and emotional and physiological arousal. In particular, when nonhuman animals experienced unconscious and acute stress responses, the sympathetic autonomic nervous system combined with adrenaline to prepare for emergency or flight-or-flight response (Canon, 1915, 1929). Fight-or-flight response altered heart and respiratory rates, digestion, blood supply, clotting ability, sugar availability, urination, sexual arousal, and pupillary response (Maddi & Khoshaba, 2005).

In early history, humans experienced these same automatic fight-or-flight acute stress responses from potentially dangerous encounters with wild animals or marauders (CCOHS, 2012; Maddi & Khoshaba, 2005). Today, however, life threatening interactions occur less frequently and acute stress responses (i.e., fight-or-flight responses) seem less critical for continued existence (Maddi & Khoshaba, 2005). Even



so, in many situations that are less than life threatening, levels of unremitting chronic and acute stress continue to plague individuals (CCOHS, 2012; Maddi & Khoshaba, 2005). If human stress systems remain chronically mobilized for lengthy periods without opportunity to turn off, coping abilities become compromised (CCOHS, 2012; Maddi & Khoshaba, 2005) and cognition, emotionality, physiological health, and behavioral performance degrade.

Biopsychosocial stress symptoms can include shortness of breath, bruxism, clenched jaw, chest pain, constipation, diarrhea, fatigue, and senescence (CCOHS, 2012; Lazarus, 1981). In addition, insomnia, headache, heart palpitations, high blood pressure, indigestion, insomnia, increased perspiration, and muscle aches also might occur (CCOHS, 2012). Over longer periods, stress symptomatology could even influence development of chronic illness such as arteriosclerosis, obesity, hypertension, and cardiovascular disease (Maddi & Khoshaba, 2005). Furthermore, Lazarus (1981) reported that psychosocial consequences of occupational stress can include anger, anxiety, apathy, defensiveness, depression, hypersensitivity, and irritability. In addition, mood swings; sadness; slowed thinking; racing thoughts; reduced motivation; violence; and feelings of entrapment, hopelessness, or helplessness are other possible consequences from stress (CCOHS, 2012; Lazarus, 1981).

Besides biopsychosocial consequences, the CCOHS (2012) remarked that occupational stress causes cognitive and emotional behavioral disturbances. Namely, the cognitive symptoms of stress might include forgetfulness, narrowed perception, distractibility, disorganized problem-solving, and diminished attention (CCOHS, 2012).

The CCOHS further noted that occupational stress can also generate behavioral symptoms such as substance abuse, impatience, apathy, withdrawal, and loss of appetite. Furthermore, argumentativeness, irresponsibility, overeating, procrastination, diminished personal hygiene, and mitigated job performance have also been associated with occupational stress (CCOHS, 2012). Lastly, job dissatisfaction, employee turnover, and reduced self-efficacy were other consequences of occupational stress (CAUT, 2003).

**Human service helping professionals.** The job of a human service helping professional is emotionally intense and demanding (Hochschild, 1983; Huber, 2000; Sulsky & Smith, 2005). Due to the significant interpersonal nature of interventions, Hochschild (1983) explained that the human service helping professional is highly vulnerable to feelings of occupational stress and burnout. Helping professionals' interpersonal skills are used to create empathetic responses to address the needs, concerns, and interests of the community; stimulate behavioral changes; and enhance others' well-being (Forbes, 1979; Hasenfeld, 2010; Kahn, 2005; Maslach et al., 2001; Miller et al., 1995). This cohort includes educators, fire fighters, nurses, mental health providers, police officers, psychologists, physicians, military personnel, social workers, and therapists (Hasenfeld, 1983; Kahn, 1993). These types of emotional labor jobs require personnel to demonstrate autonomy, commitment, and expertise and work using distinct complex bodies of knowledge and specific codes of ethics (Barber, 1963; Huber, 2000).

Ironically, although human service helping professionals assist other individuals who are in need, their biopsychosocial health frequently suffers (Huber, 2000).

Brotheridge and Grandey (2002) described an approximate 60% turnover rate of those individuals working as human service helping professionals from feelings of disengagement and emotional exhaustion (Kahn, 2005; Mor-Barak, Nissly, & Levin, 2001). It is possible that helping professionals' high initial enthusiasm and noble aspirations collide with a shortage of institutional support, inadequate funding, and inefficient usage of resources to produce feelings of frustration and dejection (Edelwich & Brodsky, 1980). Limitations of policies and procedures, negative colleagues and supervisors, and management of large workloads further contribute to helping professionals' frustration and dejection (Maslach, 1976, 1978, 1982).

In contrast, Lilius (2012) and Spreitzer, Lam, and Quinn (2011) remarked that sometimes client interactions and work activities can produce restorative effects. Specifically, energizing, challenging, and interpersonal interactions might provide human service helping professionals with feelings of victory (McGonigal, 2011) and progress (Amabile & Kramer, 2011). Additionally, successful completion of complicated, sensitive (Margolis & Molinsky, 2008), and significant (Hackman & Oldham, 1976) work tasks could produce feelings of accomplishment, pride (Weiner, 1986), self-efficacy (Roberts, 2000), and positive professional identity (Margolis & Molinsky, 2008). In addition, the positive management of demanding interventional work (Hobfoll, Johnson, Ennis, & Jackson, 2003; Taylor, Kemeny, Reed, Bower, & Gruenwald, 2000) could create feelings of optimism and self-affirmation (Lilius, 2012), in turn facilitating efficacious functioning and feelings of well-being (Dutton, Roberts, & Bednar, 2010).

**Teachers.** Teachers are an educational subset of human service helping professionals, who demonstrate documented difficulties with burnout (Burke, Greenglass, & Schwarzer, 1996; Nizielski, Hallum, Schutz, & Lopes, 2013) and attrition (Anderson, Levinson, Barker, & Kiewra, 1999) from occupational stress. The Teaching Times (2013) reported that up to 43.9% of teachers suffer from illnesses associated with stress. In other research, Masilamani et al. (2011) found that 25% to 40% of new teachers actually leave the profession after one year, while other educators commonly endorse feelings of burnout within the first three to five years. The Teaching Times further commented that 55.7% of all teachers ponder leaving the profession due to stress.

Teachers explained that taxing interactions with parents, colleagues, and challenging students can cause chronic stress and burnout (Kokkinos, 2007; Stoeber & Rennert, 2008; Taris, Peeters, Le Blanc, Schreurs, & Schaufeli, 2001). Lack of administrative support, changing curriculums, excessive paperwork, overcrowded classrooms, and low salaries also add to educators' occupational stress (Anderson et al., 1999; Russell, Altmaier, & Van Velsen, 1987). In turn, chronic stress can generate feelings of cynicism, diminished competence, and mitigated achievement among teaching professionals (Maslach & Jackson, 1981; Wisniewski & Gargiulo, 1997).

**Principals.** Not surprisingly, Sogunro (2012) reported that stress is not exclusive to teachers. Changes in demographics, socioeconomic downturns, outbreaks of school violence, and environmental disasters pose challenges for school administrators (Sogunro, 2012). A MetLife (2012) survey of 1,000 public school principals found that 75% of principals report their jobs to be very complex, and approximately 50% of

principals recount feelings of significant occupational stress several days per week.

Interestingly, principals described that the greatest feelings of occupational stress are due to low student achievement in the English Language Arts and mathematics curriculums (MetLife, 2012). Additionally, MetLife recounted that principals' paucity of control was related to removal of teachers (43%), curriculum and instructional issues (42%), and command over school finances (78%).

In a study of 52 Connecticut school principals, Sogunro (2012) identified that more than 96% of school administrators endorse occupational stress. Principals reported that unpleasant interpersonal interactions; time restrictions; school crises; local, state, and federal policy mandates; budgetary limitations; and episodes of negative media further exacerbate their feelings of occupational stress (Sogunro, 2012). Unfortunately, intolerable feelings of occupational stress for some principals have not only prompted departure from administrative positions and early retirement but also caused suicidal ideation (Sogunro, 2012).

**School psychologists.** In addition to teachers and school administrators, school psychologists describe feelings of occupational stress (Erhardt-Padgett et al., 2004; Ruff, 2011; Worrell, 2012). Similar to other human service helping professionals, Lee et al. (2011) commented that school psychologists are vulnerable to occupational stress from the very nature of their jobs by providing psychological assistance during unpleasant situations such as divorce, suicidal or homicidal ideation, and child abuse (Voss Horrell et al., 2011). Jackson (2001) reported that vulnerability to feelings of stress and emotional exhaustion can create the potential for less effective and pained healers.

Similar to other educators, school psychologists identified disparate fonts of occupational stress, which include taxing interactions with supervisors, administrators, teachers, parents, and colleagues; inadequate support; and dearth of control (Erhardt-Padgett et al., 2004; Huebner, 1992; Ruff, 2011; Wise, 1985). Reiner and Hartshorne (1982) added that special education time lines, uneven caseloads, isolation from colleagues, inadequate work spaces, and lack of training opportunities also cause occupational stress. Furthermore, depersonalization, powerlessness, low morale, compensation, and number of years worked also relate to occupational stress (Clair et al., 1972; Lee et al., 2011; Maltzman, 2011; McGourty et al., 2010; Wise, 1985).

In addition, discrepant interpretation of school psychologists' professional identity also created feelings of occupational stress (Gilman & Gabriel, 2004; Ruff, 2011). More precisely, Erhardt-Padgett et al. (2004) and Ruff (2011) explained that school psychologists would like to provide prevention and intervention services; however, they are commonly viewed solely as testers. Due to administrative and parental demands for time-consuming psychological assessments, school psychologists have little time to engage in proactive schoolhouse activities (Erhardt-Padgett et al., 2004; NASP, 2010a; Ruff, 2011; Starkman, 1966).

### **Psychological Hardiness**

Psychological hardiness has been defined as the fundamental principle of resilience and a stable personality dimension, approach to life, and comprehensive cognitive appraisal mechanism; it is fostered early in life, is responsive to change, and can be trainable in particular circumstances (Bartone, 2006; Kobasa, 1979; Maddi &

Kobasa, 1984). A combination of the personality attitudes of commitment, control, and challenge (i.e., three Cs) act as internal resources during times of stress and encourage growth from challenging experiences (Kobasa et al., 1982; Maddi, 2004; Maddi & Khoshaba, 2005). Maddi and Khoshaba (2005) explained that the cognitive appraisal personality dimension of psychological hardiness helps individuals to moderate deleterious influences of stress encountered during the course of biopsychosocial, personal, familial, economic, and technological pursuits.

Individuals, who are high in commitment, demonstrate attention, effort, and imagination to manage challenging tasks (Maddi, 1994, 2002). Maddi (1994, 2002) explained that when faced with adversity, instead of seeking withdrawal, detachment, or alienation, committed individuals maintain steadfast attentiveness towards their goals. The C of control proposed that hardy individuals demonstrate positivity and action (Maddi & Kobasa, 1984). Specifically, instead of feeling passive and powerless in the face of difficulties, individuals with control maintain positive attitudes, identify solutions to problems, exhibit determination to change situations, and accept that some situations might be beyond control (Maddi, 1994, 2002). Maddi (1994) further explained that the third C of challenge suggested that change can be a potential force to cultivate new fulfilling pathways for living and development. Individuals, who are high in challenge, face stressful change with optimism and demonstrate efforts to understand and resolve variable situations (Maddie, 1994, 2002). Instead of trying to avoid or deny difficulties, individuals high in challenge do not fear hardships (Maddie, 1994, 2002).

Maddi and Kobasa (1984) conceptualized psychological hardiness during a 12-year study (i.e., yearly interviews, psychological assessments, work performance reviews, and medical examinations) of 450 IBT employees. Six years later, the Federal Court ordered American Telephone and Telegraph to divest its seven regional Bell Telephone companies (Maddi & Kobasa, 1984). During this deregulation, Maddi and Kobasa explained that IBT experienced a 46% reduction in workforce and downsized from 26,000 to 14,000 employees. Data from this period illustrated that, in spite of stress, nearly 33% of the IBT employee population remained healthy and flourished (Kobasa, 1979, 1982a; Maddi, 1987; Maddi & Kobasa, 1984). Maddi (1987) described that hardy IBT employees retained their health, happiness, and positive work performance.

In contrast, the other 66% of IBT employees experienced attenuation of health and performance (Maddi, 1987; Maddi & Kobasa, 1984). Specifically, Maddi (1987) commented that less hardy IBT employees experienced biopsychosocial challenges including heart attack, stroke, substance abuse, depression, anxiety, marital separation, and divorce. Information about IBT employees during the reorganization confirmed legitimacy of psychological hardiness as an important personality dimension and laid the groundwork for future empirical investigation about individual stress management (Maddi & Kobasa, 1984).

Notwithstanding this research, studies advanced discrepant arguments that psychological hardiness was a product of neuroticism, maladjustment, or negative affectivity (Allred & Smith, 1989; Funk & Houston, 1987; Hull, Van Treuren, & Virnelli, 1987). Allred and Smith (1989) suggested that psychological hardiness assessments were



tainted with neuroticism. However, Hull et al. (1987) and Scheier and Carver (1985) found that psychological hardiness assessments correlated as closely with tests of emotional distress as with optimism.

To reveal inconsistencies associated with psychological hardiness, Allred and Smith (1989) investigated psychological hardiness, cognitive responses, and physiological reactions in 84 male undergraduate students. During completion of a difficult assignment, high hardy participants endorsed more optimism ( $p < .01$ ) and fewer negative self-statements ( $p < .05$ ) than did low hardy participants (Allred & Smith, 1989). When neuroticism was controlled, Allred and Smith found that the correlation remained significant ( $p < .01$ ). Furthermore, when physiological reactions were recorded, Allred and Smith noted that high hardy participants demonstrated lower physiological arousal ( $p < .08$ ).

The Allred and Smith (1989) study yielded support for a hardy personality style; when under high stress, high hardy individuals articulated greater positivity while low hardy participants expressed fewer positive feelings. Allred and Smith expressed that the high hardy participants' positive comments should not be attached to neuroticism. Perhaps, Allred and Smith added that these positive comments were reflective of the cognitive correlates of hardiness as a response to stress. Allred and Smith's results supported Kobasa's (1982b) model, which averred that psychological hardiness moderated feelings of stress (Rhodewalt & Agustsdottir, 1984).

As a personality dimension, researchers validated, critiqued, and analyzed the consequences of psychological hardiness in health, organizational, personality, and social

psychology (Funk, 1992; Kobasa et al., 1982; Maddi, 1999; Maddi & Hess, 1992; Maddi et al., 1998). Generally, in cases of significant stress, psychological hardiness behaved as a protective mechanism by moderating the negative consequence of stress (Bartone 1999, 2000; Funk, 1992, Maddi, 1999) and forecasting positive quality of life (Bonanno & Mancini, 2008; Maddi & Hess, 1992; Magnani, 1990; Pollock & Duffy, 1990; Rich & Rich, 1987). Health psychology studies identified that psychological hardiness has physiological, cognitive, psychological, and behavioral features (Allred & Smith, 1989; Weibe & McCallum, 1986).

From a physiological standpoint, high hardy individuals exhibit robust immune responses, less susceptibility to anxiety and depression (Nathawat et al., 2010), and desire to participate in comprehensive health activities (Bartone, 2006; Kobasa, 1979). High hardy individuals cognitively appraise variations in life as exciting adventures and opportunities for growth (Bartone, 2006). In addition, high hardy individuals demonstrate perseverance, future orientation, positivity (Hull et al., 1988), and enlightenment from past experiences (Bartone, 2006); they also demonstrate courage, competence, and humor (Kobasa, 1979; Roberts & Levenson, 2001). Furthermore, when confronted with challenge and stress, high hardy individuals select active, transformational, and problem-focused coping strategies (Kobasa, 1982a) and exhibit little reactivity towards frustration (Weibe, 1991), anger, or hostility (Roberts & Levenson, 2001).

In comparison, low hardy individuals demonstrate behavioral and cognitive withdrawal, avoidance, denial, distancing from challenges, and use regressive

emotionally-focused coping strategies (Nathawat et al., 2010). Low hardy individuals demonstrate performance degradation such as inadequate task completion, lack of persistence, and difficulty meeting deadlines (Bartone, 1999; Maddi & Khoshaba, 2005). Furthermore, low hardy workers also display feelings of hopelessness, worry, and preoccupation (Nathawat et al., 2010).

Different studies investigated psychological hardiness and its correlation with age (Collins, 1993; Sharpley & Yardley, 1999; Subramanian & Nithyanandan, n.d.), culture (Subramanian & Nithyanandan), and gender (Subramanian & Nithyanandan). Other studies investigated the association of psychological hardiness with marital status (Barling, 1986; Roberts & Levenson, 2001), illness (Kobasa, 1979; McCubbin & McCubbin, 1989; McCubbin, McCubbin, & Thompson, 1987), caregiving (Plumb, 2011; Weiss, 2002), and drug usage (Collins, 1993). Finally, studies also examined psychological hardiness in combination with personality types (Contrada, 1989), leadership qualities (Bartone, 2000), resiliency (Gito et al., 2012; Judkins, 2001), burnout syndrome (Duquette et al., 1997), psychiatric symptoms (Bartone, 1988), and substance abuse (Bartone, Hystad, Eid, & Brevik, 2012; Eid, Brevik, Hystad, & Bartone, 2012).

A study of 223 inner-city adolescents identified that psychological hardiness moderated stress, diminished drug usage, and was inversely related to repression, rebelliousness, depression, and family discord (Collins, 1993). In another study of 160 adolescents, Subramanian and Nithyanandan (n.d.) discovered that high hardiness and optimism correlated with usage of problem-focused and active coping strategies. In contrast, adolescents low in psychological hardiness used emotionally-focused coping

strategies and engaged in catastrophizing, impugning, and self-blaming behaviors (Subramanian & Nithyanandan, n.d.). Furthermore, in a study of West Point Army officer cadets, Bartone (2000) learned that when students were confronted with stressful work requirements, psychological hardiness facilitated cadets' positive academic performance, leadership capacity, and adaptation. Finally, in a study of 187 undergraduate and graduate students, Beasley et al. (2003) found that psychological hardiness moderated and reduced the effects of physiological and psychological distress.

Analogous results were found in a study of 129 older Australians and demonstrated that psychological hardiness predicted emotional well-being (Sharpley & Yardley, 1999). Sharpley and Yardley (1999) identified that psychological hardiness was instrumental in the augmentation of older individuals' beliefs of general competence, positive perceptions of participation in social and political activities, and confidence to cope with change. Similarly, Campbell, Swank, and Vincent (1991) discovered that when compared with low hardy widows, 70 high hardy widows exhibited reduced levels degrees of grief.

**Caregivers.** Research studies that were focused on caregivers produced similar findings. McCubbin and McCubbin (1989) reported that caregivers demonstrated psychological hardiness through openness in communication and desire to help. Psychological hardiness helped families to perceive control over life stressors, recognize change as positive, and persevere during times of challenge (McCubbin et al., 1987). In contrast, low hardy family members demonstrated anger and incompetence for caregiving responsibilities (McCubbin et al., 1987).

Furthermore, Plumb (2011) found that 138 mothers of children diagnosed with pervasive developmental delays endorsed items indicating that psychological hardiness moderated their feelings of depression, depersonalization, anxiety, and stress. These mothers endorsed items, which suggested that family distress had a negative correlation with psychological hardiness (Endler, Kocovski, & Macrodimitris, 2001; Weiss, 2002). Additionally, in the families of children with intellectual disabilities, there was a positive association between psychological hardiness and caregiver self-efficacy (Snowdon, Cameron, & Dunham, 1994), positive self-appraisal of competence in parenting skills (Bandura, 1977; Coleman & Karraker, 1998), and mitigated maternal anguish (Ben-Zur, Duvdevany, & Lury, 2005).

**Human service helping professionals.** Studies of human service helping professionals yielded similar results. In a study of 313 Japanese psychiatric hospital nurses, Gito et al. (2012) identified significant positive correlation of nurses' resilience, high psychological hardiness ( $p < .01$ ), and positive self-esteem ( $p < .01$ ). Gito et al. found that psychiatric hospital nurses' resilience was inversely correlated with depression ( $p < .01$ ) and burnout ( $p < .01$ ). Likewise, in another study of 145 mid-level nurse managers, Judkins (2001) described that high psychological hardiness, especially commitment and challenge, was associated with nurse managers' usage of problem-focused coping and lower levels of occupational stress. In contrast, nurse managers who endorsed low psychological hardiness demonstrated more frequent usage of emotional-focused coping and endorsed greater degrees of occupational stress (Judkins, 2001).

Studies of military personnel bore corresponding results. Specifically, Eid et al. (2012) reported that in a cohort of 1,076 Norwegian military defense personnel, low psychological hardiness significantly predicted usage of high avoidance coping strategies as well as alcohol and drug abuse. When Eid et al. used logistic regression to control for the effects of gender and age, a one point increase in psychological hardiness scores corresponded with an 8% mitigation of risk for alcohol abuse.

In summary, a review of psychological hardiness literature suggested consistent correlation of psychological hardiness and reduced feelings of stress. Given today's unpredictable times, psychological hardiness is an essential personality dimension for school psychologists to embrace. Therefore, the study of GASP school psychologists will make a positive contribution to the intellectual genealogy of psychological hardiness.

### **Self-Efficacy**

The overall notion of self provides the basis for all human behaviors (Bandura, 1977). Self-efficacy is a contextualized, domain specific, control-related, theoretical, and self-belief construct, which influences development of self-confidence about one's abilities to organize, implement, and pursue goals (Bandura, 1977). Bandura (1986) and Liebert and Liebert (2004) explained that the cognitive and affective representation of the self has the power to affect cognitions, perceptions, motivations, and behaviors. Bandura (1986, 1997, 2001b) stated that self-efficacy shapes an individual's current and future beliefs, evaluations, aspirations, commitments, and actions.

Four principal sources influence construction of self-efficacy and include mastery experiences, vicarious experiences, social persuasion, and emotional and physiological

arousal (Bandura, 1977, 1982). Bandura (1982) explained that self-efficacy is not fundamentally enlightening but becomes instructive when combined with cognitive appraisal. Although self-efficacy can be formulated from previous experiences, self-efficacy does not lead to unreasonable risk-taking but to behaviors within one's ability (Bandura, 1982).

Mastery experiences influence one's capacity to complete behaviors (Bandura, 1982). Specifically, prior success increases self-efficacy while failure diminishes self-efficacy; the more difficult a task, the greater the augmentation of self-efficacy (Bandura, 1982). Bandura (1982) explained that if full effort is made towards accomplishing a task, failure would diminish one's self-efficacy. However, if one fails to perform a task during a period of high stress and emotionality, Bandura noted that self-efficacy does not weaken as much as during times of normal stress or emotionality. Furthermore, once self-efficacy is firmly established, failure is less likely to influence self-efficacy (Bandura, 1982). Finally, Bandura clarified that occasional failure has little influence on self-efficacy.

Interestingly, despite successful performance of a task, sometimes self-efficacy decays, if relevant abilities are perceived to be limited (Bandura, 1982). In this way, successful performance might leave an individual feeling diminished instead of emboldened (Bandura, 1982, 2006; Gecas, 1989). Interestingly, often self-efficacy can predict behaviors more efficiently than actual achievements (Bandura, 1977, 1982; Gecas, 1989). For example, Daniels and Larson (2001) reported that mental health counselors who successfully role-played experiences, which required perseverance and effort,

developed increased self-efficacy for future outcomes. In contrast, mental health counselors who experienced role-play failures developed feelings of self-doubt (Daniels & Larson, 2001).

Likewise, vicarious experience can influence one's self-efficacy (Bandura, 1982). An example of vicarious experience is social modeling, which involves the reading, viewing, or hearing of another's actions rather than the completion of tasks by one's self (Bandura, 1982; Daniels & Larson, 2001). Bandura (1982) suggested that when an individual observes a model who is successful and feels that the model is a similar other, self-efficacy can be influenced. Bandura further explained that vicarious experience has more influence when failure is modeled as compared to success. In the aforementioned study, Daniels and Larson (2001) expanded that mental health counselors' vicarious experiences of live demonstrations of similar others who attained success in comparable or more difficult tasks helped to positively form their self-efficacy (Romi & Teichman, 1995).

Similarly, social persuasion that is perceived as praise or insult also influences self-efficacy (Bandura, 1982). Social persuasion works under the two stipulations that an individual trusts the source of the praise or criticism and, secondly, that the sought after activity is an activity that the individual can accomplish (Bandura, 1982). In particular, Daniels and Larson (2001) reported that positive reinforcement or feedback from important others strengthened mental health counselors' feelings of self-efficacy.

The fourth font of self-efficacy is emotional and physiological arousal (Bandura, 1977, 1982, 1993). Disparate levels of emotion can either augment or decrease one's



task performance (Bandura, 1977, 1982, 1993; Teigen, 1994). Bandura (1982) expounded that an individual's emotionality and physiological arousal commonly influence their appraisals of personal self-efficacy. Specifically, stronger emotions habitually decrease performance for challenging tasks and augment performance for simpler more repetitive tasks (Bandura, 1982). For example, Bandura explained that if physiological arousal is genuinely warranted, such as when driving a car through a dangerous storm, then driving performances might be augmented. However, if physiological arousal was not necessarily authentic, such as in cases of some phobias, then performances might be decreased (Bandura, 1982).

In a study of 32 female undergraduate students enrolled in a physical education class, Lan and Gill (1984) reported that lower heart rates correlated with challenging tasks for which participants endorsed high self-efficacy. Lan and Gill found that when participants felt particularly efficacious, they endorsed feelings of increased self-confidence, reduced feelings of cognitive worry, and less somatic anxiety. Furthermore, expectations about performance were not as likely to influence stress responses once tasks started or performances yielded positive achievements (Lan & Gill, 1984).

Another concept related to self-efficacy is reciprocal determination (Bandura, 1977, 1982). Reciprocal determination is the interaction of behaviors, cognition, and environmental occurrences working together to create human experiences (Bandura, 1977, 1982). Human behavior is commonly shaped by the environment; however, behaviors can affect one's environment and successively influence cognitions, thus consecutively impacting behaviors (Bandura, 1977, 1989, 1993). Within this triadic

viewpoint, Bandura (1977) acknowledged that human behavior can be both self-reflective and proactive. For example, Bandura (1977) described that high self-efficacy often produces behavior with a strong probability of competent execution and success. Reciprocally, this author commented that successful task performance also provides confirmation of self-efficacy and influences future functioning. Nonetheless, sometimes even when situations offer numerous opportunities for success, feelings of reduced self-efficacy occur from less successful task execution (Bandura, 1989).

Bandura (1994) asserted that self-efficacy influences human functioning through cognitive, motivational, affective, and selection psychological methods. In the first instance, Bandura suggested that self-efficacy influences human cognition, forethought, and goal setting. Specifically, stronger self-efficacy influences creation of firmer commitment to stimulating goals (Bandura, 1994). In this way, self-efficacy shapes anticipatory scenarios, which an individual creates, rehearses, and predicts to be associated with performance towards goal attainment (Bandura, 1994).

When confronted with pressing demands or setbacks, Bandura maintained that strong self-efficacy helps an individual to persist in task orientation. For example, Bandura noted that feelings of self-efficacy help an individual to use sound analytic thinking to meet challenging goals or performance achievements. In contrast, if an individual is beset with difficult tasks and is overwhelmed with self-doubt, Bandura explained that analytic thinking may become erratic and cause reduced ambition and performance.

Motivational processes galvanize human self-efficacy and are recognized as causal attributions, outcome expectancies, and recognized goals (Bandura, 1993, 1994). Bandura (1993, 1994) noted that causal attributions can influence one's motivation, affective reaction, and task performance. Causal attribution can help an individual to appraise and judge performance (Bandura, 1993, Weiner, 1986). Interestingly, an individual with high self-efficacy often attributes failure to inadequate efforts instead of lower ability or poorer skills (Bandura, 1994).

Expectancy-value theory suggests that motivation is modulated by anticipation that a particular behavior can create an outcome of a certain worth (Bandura, 1977, 1986, 1994). In this case, self-efficacy predicts and governs the motivating influence of outcome expectancies, as an individual can act both on beliefs of what they are able to do and on the likely outcome of his or her performance (Bandura, 1994). In the face of stress, positive outcome expectancies are characterized as enhanced perseverance and efficacious coping strategies (Bandura, 1977; Jex & Bliese, 1999).

Additionally, Bandura (1977, 1994) described that explicit goal challenges significantly strengthen and maintain motivation. The cognitive comparison process can enable an individual to develop feelings of self-satisfaction conditionally based on matching goals (Bandura, 1994). In this way, Bandura (1994) explained that an individual can direct his or her behaviors, create incentives, and demonstrate task persistence until goals are fulfilled. If goals are not met, Bandura (1994) suggested that an individual will intensify efforts to attain predetermined self-satisfaction. Self-beliefs that govern human goal challenges include self-fulfilling or displeasing responses to

performance, perceived self-efficacy for goal fulfillment, and modification of personal goals founded on growth and development (Bandura, 1994). Furthermore, Bandura (1994) remarked that self-efficacy enhances motivation and helps an individual to determine desired goals, quantity of effort expended, length of perseverance, and resilience to failure.

Furthermore, Bandura (1993) suggested that an individual who has self-doubt and poor self-efficacy often demonstrates low frustration tolerance. Conversely, an individual with strong self-efficacy shows less frustration, greater self-satisfaction, and more persistence in the face of adversity (Bandura, 1993). As an illustration, Bandura, Barbaranelli, Caprara, and Pastorelli (1996) reported that children who had strong self-efficacy about academic attainments endorsed high academic aspirations, demonstrated positive scholastic achievement, exhibited positive social behaviors, and displayed reduced susceptibility to feelings of ineffectiveness and depression. On the contrary, Bandura et al. noted that children with low self-efficacy often endorsed stronger anxiety responses.

Affective self-efficacy might also assist an individual to demonstrate power over feelings of anxiety; depression; and stressful, threatening, or painful situations (Bandura, 1994). Bandura (1994) explained that self-efficacy can help an individual manage emotionality, control threats, regulate anxiety arousal, and cope with challenges. Self-efficacy works by warding off disturbing thought patterns (e.g., worry, sadness), decreasing rumination about weaknesses, and mitigating apprehension about things that rarely occur (Bandura, 1994). Strong self-efficacy emboldens the undertaking of painful

or threatening activities and increases control over distressing thoughts associated with stress, anxiety, or depression (Bandura, 1994).

Finally, selection processes influence the types of activities and environments a self-efficacious individual might choose (Bandura, 1982). Bandura (1994) averred that an individual will commonly select activities and situations for which they have self-efficacy. They commonly pick activities that they can manage, as opposed to activities or situations they believe might exceed their abilities (Bandura, 1994). Most commonly, an individual will nurture a variety of competencies, interests, and efficacious personality characteristics, which shape future personal development (Bandura, 1994).

Given that American workers spend many hours engaged in work-related tasks, Jex and Bliese (1999) noted that workers' self-efficacy is vital to occupational well-being. Due to the positive correlation of work satisfaction and self-efficacy, it is likely that workers who demonstrate positive self-efficacy cope more effectively with occupational stress (Jex & Bliese, 1999). Bandura (2001b) explained that self-efficacy augments perception, competence, and persistence when faced with occupational obstacles. Schwarzer and Hallum (2008) also commented that self-efficacy provides a protective hindrance to occupational stress.

Researchers found that when compared with workers who had low self-efficacy, workers with high self-efficacy exhibited different behavioral traits (Bandura, 1997; Hongyun, Lei, & Quingmao, 2005; Lent, Brown, & Hackett, 1994; Lunenburg, 2011; Salanova, Grau, & Martinez, 2005). More specifically, the behavioral traits of workers with high self-efficacy included effectual analytic thinking (Wood & Bandura, 1989),

persistence despite adversity (Lent et al., 1994), and adequate coping in spite of change (Hill, Smith, & Mann, 1987). In addition, workers with high self-efficacy used proactive problem-centered coping strategies (Bandura, 1997; Lent et al., 1994, Salanova et al., 2005), set higher personal goals (Lunenburg, 2011), demonstrated greater devotion to work (Hongyun et al., 2005), and labored intensely to learn new tasks (Lunenburg, 2011). In contrast, workers with low self-efficacy set smaller goals, gave up when problems surfaced, and demonstrated insecurity about their ability to achieve success (Grau et al., 2001). Furthermore, workers with lower self-efficacy exercised reduced effort when completing complex tasks and endorsed greater feelings of cynicism (Grau et al., 2001).

While self-efficacy has influence over individual outcomes, Bandura (2001b) declared that self-efficacy can also affect features of organizations. For instance, high self-efficacy can influence overall worker commitment (Bandura, 2001b; Grau et al., 2001; Stajkovic & Luthans, 1998; Wood & Bandura, 1989), job satisfaction (Garrido, 2000; Hongyun et al.; Judge, Locke, & Durham, 1997), and performance outcomes (Bandura, 1997; Lent et al., 1994; Stajkovic & Luthans, 1998). Additionally, high self-efficacy demonstrated an inverse correlation with organizational absenteeism and turnover (Cranny, Smith, & Stone, 1992; Spector, 1985).

**Teachers.** In educational research, studies consistently identify association between self-efficacy and professional performance. Tschannen-Moran and Gareis (1998) characterized teacher self-efficacy as the successful capacity to arrange and execute actions required to accomplish tasks in particular contexts. Guskey and Passaro (1984) further explained that confidence and strong interpersonal skills when combined

with administration, community influence, and societal economics also affect teacher self-efficacy. Additionally, educators with high self-efficacy perceived work as more meaningful (Brady & Woolfson, 2008; Tschannen-Moran & Gareis, 1998).

In a study with 118 Scottish primary school teachers, Brady and Woolfson (2008) related that teachers with high self-efficacy endorsed greater confidence facilitating student learning. High self-efficacy teachers helped students with learning issues to manage their stressors by teaching problem-solving strategies and modifying work to accommodate for students' needs (Brady & Woolfson, 2008). In contrast, teachers with low self-efficacy demonstrated more tenuous commitment to teaching, spent less time working with students on academic tasks, and displayed weaker classroom management skills (Bandura, 1993; Brady & Woolfson, 2008). Similarly, in another study of 179 primary and 622 subject teachers from Turkey, Bümen (2010) found that teacher self-efficacy was inversely related to teacher burnout. Furthermore, in a study of 1,430 Canadian teachers, Klassen and Chiu (2011) recounted that, despite feelings of occupational stress, teachers with high self-efficacy displayed better usage of instructional strategies and demonstrated greater classroom management skills.

**Principals.** Analogous to teachers, principals also demonstrated association between self-efficacy and occupational stress (Buckingham, 2004; Federici & Skaalvik, 2011; Tschannen-Moran & Gareis, 2004). In a study of 300 randomly selected Norwegian principals, Federici and Skaalvik (2011) found that high self-efficacy positively correlated with work engagement. In another study of 544 principals, Tschannen-Moran and Gareis (2004) identified that principals' high self-efficacy

positively correlated with trust in teachers ( $p < 0.01$ ), students ( $p < 0.01$ ), and parents ( $p < 0.01$ ). Furthermore, high self-efficacy educational leaders demonstrated goal persistence and used successful coping strategies; they did not misinterpret challenge to problem resolution as failure (Tschannen-Moran & Gareis, 2004).

In contrast, principals with low self-efficacy demonstrated work alienation ( $p < 0.01$ ) and endorsed inability to identify suitable problem-solving strategies (Tschannen-Moran & Gareis, 2004). Low self-efficacy principals demonstrated difficulty altering strategies, identifying opportunities, and adapting to changeable situations (Osterman & Sullivan, 1996). Osterman and Sullivan (1996) further commented that low self-efficacy principals endorsed greater feelings of stress, named themselves failures more quickly, and displayed frustration and anxiety. Additionally, low self-efficacy principals perceived environments to be uncontrollable and relied on positional or coercive power (Janis & Mann, 1977). Finally, in a study of 512 principals, Buckingham (2004) reported that 82% of low self-efficacy high stress principals also endorsed challenges with role conflict and work overload.

**School psychologists.** Correspondingly, school psychologists also reported challenges with self-efficacy. NASP (2010a) noted that school psychologists' self-efficacy related to the disparate, complex, and changeable elements of their multidimensional dynamic functions in schools. The primary functions of school psychologists include individualized attention to students, parents, teachers, and administrators via observations, data collection and analyses, consultations, interventions, assessments, and counseling sessions (Fagan & Wise, 2000; NASP, 2010a). School



psychologists act to define and ameliorate the needs of schoolhouse communities and school districts (Fagan & Wise, 2000; NASP, 2010a).

Huber (2006) developed a definition of school psychologist self-efficacy during creation of the Huber Inventory of Self-Efficacy for School Psychologists. Huber determined that school psychologist self-efficacy involved school psychologists' judgments or beliefs about their abilities to participate in the functions and roles associated with the profession of school psychology. During the course of instrument development, Huber identified five domains relevant to school psychologist self-efficacy, which included multidimensional assessment, intervention and consultation, counseling, interpersonal, and research skills. For the purposes of this study, Huber's five domains are the best representation of school psychologists' self-efficacy.

Mackoniené and Norvillé (2012) reported that in a survey of 115 Lithuanian school psychologists, there was positive correlation between low self-efficacy, reduced job satisfaction, and burnout categories of exhaustion and disengagement. In another study of 173 US school psychologists, Mills and Huebner (1998) detected positive correlation between occupational stress, emotional exhaustion, depersonalization, reduced personal accomplishment, and negative appraisal of abilities. Finally, in a study of 297 US school psychologists, Huber (2006) identified a positive relationship between high self-efficacy and perceived control. Given the relationship between occupational stress, burnout, and poor self-efficacy (Mackonienè & Norvilé, 2012; Mills & Huebner, 1998; Roth, 2006), the mental health of GASP school psychologists has never been more important.

## Summary and Conclusions

Occupational stress, psychological hardiness, and self-efficacy are germane constructs associated with the global well-being of human service helping professionals. Research identified that occupational stress diminished biopsychosocial and cognitive health. Consequently, individuals functioned less competently at work and demonstrated reduced ability to engage in self-care techniques (CAUT, 2003; Jackson, 2001; Ruff, 2011).

Bandura (1977, 1986, 1997) stated that occupational stress detrimentally affected self-efficacy. However, when individuals faced occupational stress, psychological hardiness offered protective influences and stimulated growth from stressful experiences (Funk, 1992; Kobasa et al., 1982; Maddi, 2004; Subramanian & Nithyanandan, n.d.). Using transactional cognitive appraisal (Bartone, 2006; Kobasa, 1979; Maddi & Kobasa, 1984), psychological hardiness helped to reduce feelings of worker attenuation (Kobasa et al., 1982; Maddi, 2004). Human service helping professionals' capacity to appraise and manage occupational stress is critical to competent work performance (Bandura, 1997; Lent et al., 1994, Salanova et al., 2005). The transactional nature of stress and coping appraisal indicated that psychological hardiness influenced the impact of occupational stress on school psychologists' self-efficacy (Antonovsky, 1979; Cohen, 1984; Dewe, 1991; Lazarus 1966; Lazarus & Cohen, 1977; Reizenzein & Rudolph, 2008).

In Chapter 3, I address the rationale and methodological design for the study. A comprehensive discussion about the population of interest; sampling procedures; and

processes particular to recruitment, participation, and data collection is also included. In addition, I discuss the selected measures as used in prior research, thereby supporting the validity of usage in the study. Additionally, I operationally-define the variables of interest for purposes of concision and clarity. Furthermore, I also present a plan for data analysis and fundamental procedures. In order to support future replication, I offer an analysis of possible threats to internal and external validity. Finally, within the context of the study, as a means to avoid ethical conflict and safeguard participants from undue harm, I provide examination of ethical considerations.

### Chapter 3: Research Method

Rising levels of occupational stress adversely influence American workers' physiological, psychological, and social functioning (APA, 2009, 2010a; APAAIS, 2013; Murphy, 1995). I examined the literature and found that few studies had investigated personality dimensions as moderators of occupational stress on the self-efficacy of GASP school psychologists (Kobasa et al., 1981; Umano et al., 1998). Therefore, I applied the theory of psychological hardiness and self-efficacy theory to investigate the moderating effect of psychological hardiness on the relationship between occupational stress and self-efficacy in a sample of GASP school psychologists.

In this chapter, I systematically consider the organizational procedures related to the current study. Supported by historical evidence that underpins the relevance of the research problem, in this chapter I present a review of the projected population, procedures for sampling and participation, collection of data, and instrumentation. Additionally, as a means to structure the study's procedures, I include the operationalization of constructs and a data analysis plan. Finally, threats to internal and external validity and ethical concerns are addressed.

#### **Research Design and Rationale**

Following the convention of quantitative research, I founded the study on a cross-sectional nonexperimental design. I utilized a convenience, single-stage, survey-based, and self-administered method to determine whether association existed between the predictor variable of occupational stress and outcome variable of self-efficacy regulated by the moderator variable of psychological hardiness within a sample of GASP school

psychologists. No variables were manipulated. I chose this type of methodology due to the historic usage of self-report questionnaires in the study of occupational stress, psychological hardiness, and self-efficacy research (Bartone, 1999; Frazier et al., 2004; Maddi & Khoshaba, 1994; Maddi et al., 1998).

In contrast to longitudinal studies that usually collect and explore data at various intervals during a particular period (White & Arzi, 2005), cross-sectional nonexperimental analysis collects data from a sample at one particular moment in time (Bowden, 2011). Cross-sectional survey methodology generates numerical representations of a sample's behavioral attitudes, beliefs, or patterns, which can be generalized to the average of the cohort under investigation (Babbie, 1990). I found that this methodological approach produced data to answer the study's inquiries associated with GASP school psychologists' occupational stress, psychological hardiness, and self-efficacy.

### **Time and Resource Constraints**

I highlighted the economic and time-based considerations when distinguishing the parameters associated with financial limitations and participant availability (Babbie, 1990). Involvement in the study was designed to enhance, not inhibit participants' work responsibilities (Babbie, 1990). Noteworthy limitations were associated with time and resources due to the cross-sectional, single time, and convenient solicitation of GASP-only school psychologists (Babbie, 1990).

## **Design Choice**

**Moderator versus mediator variable design.** The recognition of moderator variables, between predictor and outcome variables, rests at the center of social science (Cohen, Cohen, West, & Aiken, 2003) and intimates complexity of the domain of interest (Aguinis, Boik, & Pierce, 2001; Judd, McClelland, & Culhane, 1995). The interaction effects of moderators are important to examine because they are a commonplace method of investigation in psychological research, which can often be the rule instead of the exception (Frazier et al., 2004; Jaccard, Turrisi, & Wan, 1990). In fact, moderator effects are notable in the design of treatment studies so that participants are not harmed or given inappropriate treatments (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). Moderator interaction effects are also significant if investigators want to learn whether relationships between predictor and outcome variables are greater for some individuals than for other individuals (Frazier et al., 2004). Consequently, I discovered that the examination of the moderator variable of psychological hardiness was relevant to the study of occupational stress, psychological hardiness, and self-efficacy as related to GASP school psychologists.

All research design, including the choice of moderators and characteristics of interactions (Jaccard et al., 1990), should be founded on well-defined theory (Chaplin, 1991). Depending on the theories being assessed, variables can function as either moderators or mediators (Frazier et al., 2004). For instance, the variable of social support might be abstracted as a moderator of the relationship joining well-being and counseling conditions, especially if the theory being assessed intimated that the intervention under

investigation was differentially effectual for individuals with higher versus lower social support (Frazier et al., 2004). Similarly, social support could also be theorized as a mediator of the relationship between well-being and counseling conditions (Frazier et al., 2004). In this event, the theory might indicate that counseling was efficacious due to its augmentation of social support (Frazier et al., 2004). Thus, the variable of social support could be classified as a moderator or mediator contingent on the research questions, theories, and models being assessed (Frazier et al., 2004).

**Moderator variable design.** I focused the research question on whether the theory of psychological hardiness, self-efficacy theory, and model of transactional stress and coping suitably explained the relationship between occupational stress, psychological hardiness, and self-efficacy in a sample of GASP school psychologists while controlling for the organization of association. In the third null hypothesis, I investigated the possibility that psychological hardiness did not moderate the relationship between occupational stress and self-efficacy for GASP school psychologists. I hoped to reveal that the psychological hardiness by occupational stress interaction effect was not significant. Another way to consider this relationship could involve the examination for which GASP school psychologists the strength and direction of the association between occupational stress and self-efficacy was differentially altered. This consideration was consistent with the moderator relationship explained by Frazier et al. (2004) and Baron and Kenny (1986); therefore, psychological hardiness could behave as a moderator.

Multiple regressions can be employed to assess categorical (e.g., race, gender) and continuous (e.g., age) moderator effects (Cohen et al., 2003). If predictor and

outcome variables are categorical, Cohen et al. (2003) explained that analysis of variance techniques might be used; however, due to the flexibility of choices offered for coding categorical variables, the statistical procedure of multiple regression has been generally preferred. Similarly, if both variables are continuous, regression techniques that obviously preserve the continuous characteristics of variables would be desired, in lieu of using analysis of variance, cut points, or median splits as a means to create artificial groups for comparison of correlations between cohorts or assessments of interaction effects (Cohen & Cohen, 1983).

If cut points are used to develop artificial groups assessed on a continuous scale, deficiency of data and mitigation in power to perceive interaction effects could result (Frazier et al., 2004). Further, if research studies artificially dichotomize continuous predictor and moderator variables, spurious main and interaction effects could develop (MacCallum, Zhang, Preacher, & Rucker, 2002). Indeed, an investigation of simulation studies demonstrates that when compared with techniques, which involved the employment of cut point with continuous predictor and moderator variables, hierarchical multiple regression techniques maintained the actual quality of continuous variables and produced a smaller quantity of Type I and Type II errors in perception of moderator effects (Bissonnette, Ickes, Bernstein, & Knowles, 1990). Thus, Baron and Kenny (1986) encouraged usage of the hierarchical regression method.

In the study, I hypothesized that the quantitative moderator variable would impact the strength and direction of the relationship between the predictor variable of occupational stress and the outcome variable of self-efficacy (Baron & Kenny, 1986;



Frazier et al., 2004). Frazier et al. (2004) described that inquiries involving moderator variables can tackle questions associated with when or for whom a particular variable most compellingly forecasted or generated an outcome variable. Frazier et al. explained that the influence of a moderator variable was an interaction in which the result of one variable depended on the degree of the other variable. Within the aforementioned framework, moderation suggested that the relationship between the predictor and outcome variables altered as a function of the moderator variable (Frazier et al., 2004). Thus, I designed this study so that moderation implied that the association between occupational stress and self-efficacy altered as a function of psychological hardiness.

When evaluating moderator variables, the statistical technique should assess the differential influence of the predictor variable on the outcome variable as a function of the moderator variable (Baron & Kenny, 1986). More specifically, in this study, I used multiple regression to assess the continuous moderator variable of psychological hardiness as an influence on the correlation between the continuous predictor and outcome variables, respectively occupational stress and self-efficacy (Baron & Kenny, 1986). If the moderator variable affected the predictor and outcome variable relationship, the moderator variable could then be dichotomized where the step occurred, thereby making a regression coefficient the measure of the effect of the predictor variable (Baron & Kenny, 1986).

If the influence of the predictor variable on the outcome variable varied in a linear or quadratic manner in respect to the moderator variable, Baron and Kenny (1986) explained that a product variable approach could be used. In this case, the moderator

would be continuous, and the predictor variable would be dichotomous (Baron & Kenny, 1986). For example, a predictor variable could be rational versus anxiety creating attitude modification communication, while a moderator variable could be cognitive ability (i.e., intelligence quotient) as measured using an intelligence test (Baron & Kenny, 1986). Perhaps the anxiety creating attitude modification communication might be more effectual for higher ability participants, while a rational communication might be more efficacious for lower ability participants (Baron & Kenny, 1986). In order to assess the effects of a moderator variable at the beginning of an investigation, a researcher must know how the influence of the predictor variable changes as function of the moderator variable (Baron & Kenny, 1986). One cannot assess the general supposition that the influence of the predictor variable alters as a function of the moderator variable, as the moderator variable might have many disparate levels (Baron & Kenny, 1986).

In the case of quadratic moderation, the moderator squared should be presented, set up, and interpreted per the directions of Cohen and Cohen (1983) and Cleary and Kessler (1982). If there was measurement error in the moderator or predictor variables, the analysis might be made more problematic (Busemeyer & Jones, 1983). Busemeyer and Jones (1983) assumed a linear moderation could be captured by the predictor and moderator product term where both terms were continuous. If there was a measurement error in one of the variables, then the multiplicative interactions could produce lower power interactive effects (Baron & Kenny, 1986). There are adjustment methods for measurement errors in variables, which can be used to yield appropriate approximations of interactive effects; however, these adjustment procedures necessitate that the variables,

which generate the product variable, would have normal distributions (Kenny & Judd, 1984).

### **Prior Research Using Surveys**

In a review of the extant literature, I identified the practical relevance for usage of the cross-sectional survey methodology to investigate the association of occupational stress, psychological hardiness, and self-efficacy of GASP school psychologists. In a study of 139 school psychologists, Huebner (1992) analyzed burnout, job stressors, and job satisfaction using the survey self-report Maslach Burnout Inventory (Maslach & Jackson, 1986) and survey self-report School Psychologists and Stress Inventory (Wise, 1985). In another study, as a means to study 115 Lithuanian school psychologists' proactive coping skills, self-efficacy, burnout, and insights of job satisfaction, Mackonienè and Norvilé (2012) administered the survey self-report Oldenburg Burnout Inventory (Demerouti, Bakker, Vardakou, & Kantas, 2003); survey self-report Minnesota Satisfaction Questionnaire, short-form (Weiss, Dawis, England, & Lofquist, 1967); survey self-report General Self-Efficacy Scale (Jerusalem & Schwarzer, 1992); and survey self-report Proactive Coping Inventory (Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999). Finally, in order to assess the association of occupational stress, personality domains, and burnout of 173 school psychologists in the southeastern United States, Mills and Hubener (1998) completed an examination using the survey self-report School Psychologists and Stress Inventory (Wise, 1985), survey self-report NEO Five-Factor Inventory (Costa & McRae, 1985), and the survey self-report Maslach Burnout Inventory (Maslach & Jackson, 1986).

## **Methodology**

### **Population**

I examined a sample of professional school psychologists drawn from the current GASP membership database, which listed a total of 338 school psychologists. The mission of GASP is to offer school psychologists support and professional training as a means to maintain efficacy when participating in dynamic educational environments (GASP, 2013). Becoming a member of GASP is not a school psychologist job prerequisite; therefore, I found limitations related to the potential sample of participants.

I had to obtain conditional approval from the Walden University Institutional Review Board ([WU IRB], 2011) before the GASP Executive Board would review my application to study school psychologists drawn from the membership database (B. Rogers, personal communication, February 3, 2014; WU IRB, 2011). I submitted information for this study to the GASP Executive Board on August 11, 2014. The Executive Board meeting occurred at the annual fall meeting on September 28, 2014. I received written approval from the GASP President on October 7, 2014.

### **Sampling and Sampling Procedures**

I employed a convenience (i.e., purposeful or non-probability) volunteer sampling of school psychologists listed in the GASP database. Convenience sampling uses readily accessible elements of a population (Friedrich, 2000). School psychologists who are members of GASP are believed to be representative of the wider population of American school psychologists; therefore, by using purposeful convenience sampling, I generated useful insights relevant to all American school psychologists (Lynch, 2011). The results

from a purposeful, convenient, and volunteer cohort, as in the case of this study, could be considered to introduce bias; however, I believed that the participating school psychologists were interested in the overall durability of school psychologists' mental health and well-being (Lynch, 2011; Statistics Canada, 2013).

**Sampling frame.** The sampling frame for a research study indicates standards, which determine eligibility limitations for participation, and suggests individuals from which a researcher can draw a needed sample (Tappen, 2010). Lack of a distinct sampling frame might fail to produce useable empirical information (Jessen, 1978). Hence, the inclusion criteria that I used for the study involved professional school psychologists as opposed to affiliate, student, honorary, or retired members of GASP. I solicited participants directly for involvement from the GASP membership database using a single-stage sampling design (B. Rogers, personal communication, January 30, 2014; Creswell, 2009).

**Sample size.** When planning empirical studies, Suresh and Chandrashekara (2012) suggested that researchers identify an optimal sample size relative to the goals and potential irregularities of the study. A study's sample size should correspond to the parameters of the study and help to guarantee meaningful probability values (Hsu, 1988). Furthermore, an optimal sample size could help ensure that results have the suitable power to reveal scientific and statistical significance (Suresh & Chandrashekara, 2012). Suresh and Chandrashekara explained that studies with too few participants might be underpowered, exhibit statistical inconclusiveness, produce unusable results, and waste resources. Similarly, studies with too many participants could be costly and use more

resources than necessary (Suresh & Chandrashekar, 2012). In truth, studies that are too large can yield statistically detectable results of trivial scientific importance (Suresh & Chandrashekar, 2012). Special consideration should be given to sample size as poorly crafted studies could expose participants to potentially harmful treatments without evolving knowledge (Altman, 1991; Shuster, 1990).

The textbook method used to ascertain sample size is the completion of a literature review to identify the appropriate effect size for a study (Creech, 2011). The identification of studies that use the same or similar instruments can help researchers to find previously used effect sizes, which might then be averaged to identify an appropriate effect size (Creech, 2011). Creech (2011) noted that location of these sorts of studies is sometimes difficult. Occasionally, student researchers are restricted by cost and time and are directed to select sample sizes large enough merely to find medium effect size (Creech, 2011). In reality and not in a textbook world, Creech concluded that sample sizes should be identified according to what is feasible within given constraints.

The practical considerations associated with research design will determine the target population available for study (Creech, 2011). Student researchers should identify how many participants of the target cohort are eligible to participate in the study (Creech, 2011). Because student researchers do not always have access to optimum cohorts and doctoral research studies are voluntary, Creech (2011) noted that feasible sample sizes are often determined by how many individuals agree to participate, sign informed consent documents, and complete survey instruments.

**Power analysis.** The computation of power is fundamental to clinical research (Suresh & Chandrashekara, 2012) and is vital to the creation of valid inferences (Aberson, 2010). Statistical power in studies helps to reduce the likelihood of unintentionally making a Type I error or discarding the null hypothesis when the null hypothesis is actually true (Aberson, 2010). Power is reliant on factors associated with the significance of the analysis, effect size, and sample size (Aberson, 2010). Larger values of power are thought to be more attractive when considering accessible resources and ethical concerns (Suresh & Chandrashekara, 2012). In fact, Suresh and Chandrashekara (2012) noted that power becomes proportionately larger as sample sizes get larger. Creech (2011) added that power analysis also reveals what effect size might be identified with the particular sample size, essentially justifying the sample size.

The statistical power is the likelihood that a particular test will find an effect, presuming that an effect exists in the identified population (Field, 2009). In each empirical study, the statistical power of tests used to identify the effects of particular sizes must be predetermined (Field, 2009). The prospect of failing to recognize an effect when one authentically exists is a Type II error (Field, 2009). Cohen (1988, 1992) suggested that researchers should ideally hope to have a 20% likelihood of failing to identify a relevant effect. Therefore, research studies should ideally try to achieve a power of .80 or, more precisely, an 80% chance of detecting an effect if one indeed exists (Cohen, 1988, 1992). However, if a population or sampling frame is small, Type I and II errors should be realistically balanced (Cohen, 1982). Stevens (2002) suggested that the power level of .70 is thought to be a worthwhile research parameter.

**Effect size.** Due to variability in effect sizes and determination of boundaries needed to create significantly meaningful change in health research, large effect sizes are not always a prerequisite for clinical significance (Eisen, Ranganathan, Seal, & Spiro, 2007; Rutledge & Loh, 2004). Instead, effect size terminology such as small, medium, and large is frequently context-dependent (Cohen, 1969). Glass, McGraw, and Smith (1981) highlighted Cohen's (1969) notion that an impact of an intervention is only valid when compared to a consequence of a similar intervention. Therefore, because effect sizes vary in health domains, moderate to large effect sizes can be chosen to establish statistical power adequate enough to produce significant results and mitigate the incidence of Type I and II errors (Cohen, 1988; Rutledge & Loh, 2004).

An effect size is an objective and standardized measurement of the strength, magnitude of the relationship, or observed effect in studied variables, which is used to draw inferences about the means of studied populations (Field, 2009). Standardized effect size intimates that effect sizes can be compared among other studies, which have assessed different variables or have employed different scales of measurement (Field, 2009). In fact, Field (2009) reported that the APA recommends that all published works report an effect size. For multiple regression, an effect size ( $R$ ) equal to .14 indicates a small effect or that the effect illuminates 2% of the total variance (Cohen, 1988, 1992). An effect size equal to .36 suggests a medium effect, which explains 13% of total variance, and an effect size of .51 intimates a large effect, which accounts for 26% of the variance (Cohen, 1988, 1992). It is important to note that the  $R$  effect size is for the combined effect of the predictors in a regression, which is not the focus of the current



study. Instead, I used moderation analysis to detect the squared semipartial ( $sr^2$ ) effect of the individual predictors, particularly the interaction effect. Small, medium, and large  $sr^2$  effects were .01, .06, and .14 respectively (Warner, 2008).

**Alpha level.** Most commonly, psychological research uses a 95% threshold for confidence so that research results can be assumed to be genuine and not simply chance findings (Field, 2009; Fisher, 1925/1991). If the probability of finding a test statistic by accident is less than .05, then the results can be thought to have occurred in a genuine manner, the experimental hypothesis is true, and there is an effect in the studied population (Field, 2009; Fisher, 1925/1991). Field (2009) added that just because a test statistic is significant does not necessarily mean that it is meaningful. On the other hand, a test statistic that is not significant due to the lack of power inevitably misses something that could be meaningful (Field, 2009). Therefore, it is important to equalize Type I and Type II errors, particularly when the population or sampling frame is small (Cohen, 1982).

**Power analysis parameters for the study.** I determined that the current study would investigate the moderating effect of psychological hardiness on the relationship between occupational stress and self-efficacy. Frazier et al. (2004) commented that moderation effects (i.e., interaction effects) tend to be small ( $sr^2 = .01$ ) to medium ( $sr^2 = .06$ ), even when the overall  $R^2$  of the regression model is medium-to-large (e.g., .20). For this research, I planned the sample size based on detection of an interaction effect of  $sr^2 = .035$  within a model effect of  $R^2 = .20$ .

The GASP database sampling frame for the study contained 338 professional school psychologists. Traditional alpha and power levels of .05 and .80, respectively, would require a sample size of 182, which would correspond to an unrealistic 54% response rate. Therefore, following the recommendations of Cohen (1982) and Stevens (2002), the Type I and II error rates were eased to .10 and .30, respectively. With alpha = .10, power = .70, and expected interaction effect of  $sr^2 = .035$  within a model  $R^2 = .20$ , I determined that the target sample size was 109, corresponding to a still high but more realistic sampling frame response rate of 32%.

### **Prior Research Using Sequential Multiple Linear Regression**

**Sequential multiple linear regression.** I used sequential multiple linear regression to evaluate all three hypotheses. I assessed the first two hypotheses in the first block using Model 1 and examined the third hypothesis in the second block using Model 2. In the first hypothesis, I identified if there was a relationship between occupational stress and self-efficacy while controlling for psychological hardiness. In the second hypothesis, I investigated whether there was an association between psychological hardiness and self-efficacy while controlling for occupational stress (Geiß & Einax, 1996). In the third hypothesis, I distinguished whether psychological hardiness moderated the effects of occupational stress on GASP school psychologists' self-efficacy. Slinker and Glantz (2008) stated that multiple linear regression could assess the quality and magnitude of relationships between an outcome and two or more predictor variables. Inferences associated with each predictor's statistical significance can be inferred from adjusting for the influences of other predictors (Slinker & Glantz, 2008).

Using regression analyses, Jex and Gudanowski (1992) studied the moderating effects of individual efficacy and collective efficacy beliefs on role ambiguity and situational constraints among 154 nonfaculty employees at the University of South Florida and Central Michigan University. Results from Jex and Gudanowski examinations revealed that individual efficacy demonstrated no moderating or mediating effects on stressors and was associated only with high levels of anxiety and frustration. In contrast, Jex and Gudanowski also found that collective efficacy was significantly associated with both strains and stressors. It was identified to moderate the effects of work hours and mediate the relationship between situational constraints, anxiety, and frustration (Jex & Gudanowski, 1992).

Results of studies using samples of educational human service helping professionals yielded analogous results. Within a sample of 115 Lithuanian school psychologists, Mackoniené and Norvilé (2012) used multiple linear regression to demonstrate existing associations between burnout dimensions of disengagement and exhaustion, internal and external job satisfaction, perceived self-efficacy, and preemptive coping skills. Similarly, Feliciano (2005) employed moderated multiple regression analyses to identify whether there were statistically significant associations between occupational stress, moderator variables, and depressive emotionality among 580 doctoral level clinical and counseling Hispanic American psychologists. The Feliciano study reported that biculturalism, work and nonwork social support, and coping behaviors did not moderate the association between depressive affect and occupational stress. Finally, Bümen (2010) conducted multiple regression with data collected from 801

primary and secondary school teachers in Izmir, Turkey. Bümen recognized relationships among burnout and self-efficacy, instructional strategies and emotional exhaustion, student engagement and personal accomplishment, and classroom management and depersonalization.

Similarly, Erbes et al. (2011) used multiple regression to examine the relationship between psychological hardiness, positive emotionality, negative emotionality, and symptoms of depression and posttraumatic stress disorder of 981 National Guard soldiers. In another study completed with 207 military personnel, Delahajj, van Dam, Gaillard, and Soeters (2011) used regression analysis to investigate how psychological hardiness influenced stress responses. Specifically, Delahajj et al. examined coping styles and coping self-efficacy as mediatory appraisal variables. Furthermore, in a study of 171 Belgian International Security and Assistance Force service members, Lo Bue et al. (2013) used regression analyses to identify the relationship of psychological hardiness to work engagement, psychological hardiness to burnout, and psychological hardiness as a moderator between work engagement and burnout. The Lo Bue et al. regression analysis suggested that psychological hardiness was positively associated with vigor and dedication and negatively related to emotional exhaustion and cynicism. Lo Bue et al. identified that burnout and work engagement were found at opposite ends of a continuum.

### **Procedures for Recruitment, Participation and Data Collection**

**Recruitment procedures.** I solicited professional school psychologists directly from the most current GASP database. Gledhill, Abbey, and Schweitzer (2008) noted

that customary methods used for participant recruitment in research studies includes word of mouth, public postings, and solicitation via email. I used the latter of the three. The effectiveness of technology-adapted interventions (Carey, Scott-Sheldon, Elliott, Bolles, & Carey, 2009) and perceptions of technology-oriented learning modalities (Jowitt, 2008) underscored the practicality and efficiency of the Internet as a sensible recruitment vehicle.

The Georgia Governor's Office of Consumer Protection ([GGOCP], n.d.) reported that the Georgia Slam Spam E-Mail Act, part of the Official Code of Georgia Annotated Sections 16-9-92 and 16-9-100 through 109, was passed in 2005. Under the Slam Spam Act, the GGOCP noted that individuals who send spam to Georgians could be punishable if they send a high quantity of spam (e.g., more than 15,000 spam messages in a 24-hour period), make more than \$1,000 from one spam message or greater than \$50,000 from all spam messages sent, or deliberately use an individual who is a minor to help transmit spam messages. In addition, the GGOCP added that the Slam Spam Act delivers penalties for other practices including forging headers, employing misleading subject headings, or deceptively stating that a recipient has requested the information contained in the spam email. As a means to collect data for this study, I did not involve any punishable or deceptive actions; therefore, I did not violate anti-spamming laws in Georgia (GGOCP, n.d.).

I did not design this study as a GASP initiative. I sent all professional GASP members three emails throughout the course of the study. Specifically, I sent emails, which provided my name and contact information; title, goal, and description of the

study; voluntary nature of participation; means for anonymous transmission and collection of responses; method for dissemination of research results; and information associated with the informed consent process. I used SM to place a unique URL in each email. If email recipients wanted to participate, they clicked on the URL, acknowledged their informed consent, and were directed to the study. The participating school psychologists were a volunteer self-selected sample. I sent two follow up email reminders to increase the response rate.

If participants decided not to take part in the survey, individuals could close or opt out of the survey; no identifiers were created (SM, 2014a). In this study, SM collector settings allowed for surveys with partial responses to be saved. If desired, participants could return later to finish their survey (SM, 2014a). The SM email invitations contained the participant's unique URL link to the informed consent and study. The SM system could recall when a participant clicked on the next or done button (SM, 2014a). For example, if a respondent began the survey while at work on their work computer, they could leave the survey and reenter their link for the survey on their home computer (SM, 2014a). The URL would take the participant to the last item completed in their survey (SM, 2014a). Respondents could edit their answers at any time (SM, 2014a). The SM tracking system only permitted one response per participant (SM, 2014a). No cookies were used (SM, 2014a).

**Demographic information.** I did not specify any demographic information for the sample of GASP school psychologists. I did not think that many demographic differences existed between GASP, NASP, and nonaffiliated school psychologists. In a

study Curtis, Castillo, and Gelley (2012) conducted with the NASP membership during the 2009 to 2010 school year, 76.7% of the whole field, 78.1% of all practicing school psychologists, and 76.1% of school-centered practitioners were female. These authors identified the persistent feminization of the school psychology field since 1980. Besides the feminization trend, the Curtis et al. data also suggested an aging of school psychologists. More precisely, the Curtis et al. study found a 1.2% increase in the age of school psychologists since 2007, 2.2% increase since 2002, and 18.6% increase since 1980 (Smith, 1984). In addition, more than 90% of school psychologists identified as European Americans, a percentage that has not markedly altered over the past 30 years (Curtis et al., 2012).

**Provision of informed consent.** Before deciding to partake in the study, all participants participated in the informed consent process, which involved a comprehensive outline detailing the risks and benefits of participation. The solicitation emails contained informed consent. Only by clicking on the active URL within the solicitation emails could participants be presumed to have provided informed consent.

As per the APA (2010a) Ethical Principles of Psychologists and Code of Conduct section 8.02(a), the informed consent process should unambiguously instruct participants about the purpose of the research and support participants' rights to express doubts or withdraw at any time from the study. Informed consent should also discuss the consequences associated with decisions to decline or withdraw (APA, 2010a). Informed consent should also detail any incentives for participation and provide information for a point of contact at WU should any pertinent questions develop (APA, 2010a).

In addition, the APA (2010a) section 8.02(a) suggested that participants should be notified about any experimental emphases, methods for assignment to an experimental condition, and noncompensatory (i.e., volunteer) nature of participation. In a population-centered questionnaire survey that examined the principal elements of the informed consent process, Länsimies-Antikainen, Laitinen, Rauramaa, and Pietil (2010) found that comprehension competence, ability to make decisions, and voluntariness were essential in the informed consent process. Therefore, in this study, I presented a research environment, which explicitly upheld the welfare of participants as a foundation for exemplary research practices.

**Data collection.** I collected data using an anonymous email-based survey design accessible through SM's (2014b) Web Link Collector system. Chen and Goodson (2010) remarked that the guarantee of anonymity as contrasted with confidentiality commonly yields greater response rates. When compared with data collection via paper survey design, electronic web-based survey design is associated with superiority and advancement in research design and can present researchers with opportunity for mitigated cost, simplicity of implementation, availability of varied design, facilitation of data cleaning, and capacity for data import (Boyer, Adams, & Lucero, 2010; Dillman, 2000; Dillman, Smyth, & Christian, 2009; Israel, 2011). Park and Khan (2006) added that web-based survey participation can be influenced by affiliation, contact, content, and format. A participant's uncertainty about the length of surveys and response security and privacy has plagued the usage of electronic web-based surveys (Evans & Mathur, 2005).



I used the Gold SM plan. As a Gold SM user, I was the singular owner of the information amassed using the SM system (SM, 2014c). I kept all surveys associated with this study in a secure manner (SM, 2013). As a general rule, SM (2013) does not sell or use researchers' surveys or responses, except in particular instances (e.g., subpoena). Participants' email addresses are safeguarded by SM (2013) and are not sold.

**Concrete concerns about web-based survey design.** Web-based surveys used with distinct populations have yielded inconsistent success. More precisely, Carini et al. (2003) completed a meta-analysis with college students to investigate whether survey mode influenced response rates. In the study, Carini et al. found that web-based survey design used with college students yielded more favorable responses when contrasted with paper-based surveys. Conversely, in another analysis, Leece et al. (2004) reported that physicians responded more favorably to pencil and paper surveys than to web-based surveys. In fact, Flanigan, McFarlane, and Cook (2008) identified that the overall survey response rates of physicians and other medical professionals was approximately 10% lower than the general population. Furthermore, in a study of 564 public and private school teachers, when given a choice between paper and electronic survey design, 82.3% of teachers preferred paper surveys while 17.7% of teachers chose to respond to web-based surveys (Wallin, Fuller, Smith, Day, & Harris, 2011).

Despite discrepant results obtained using web-based design, I used web-based survey design as my sole data collection method. Historically, prior research efforts revealed that school psychologists have demonstrated willingness to complete web-based surveys. For example, past research using web-based surveys with school psychologists

studied NASP national membership (Castillo et al., 2011), bullying (Lund et al., 2012), self-efficacy (Huber 2006), response to intervention (Brady & Christo, 2009), crisis intervention (Bolnik & Brock, 2005), supervision (Phifer, 2013), personality characteristics (Williams, 2001), locus of control (Reece, 2010), and professional practices (Castillo et al., 2012).

**Poststudy debriefing.** The APA (2010a) Ethical Principles of Psychologists and Code of Conduct section 8.08(a) indicated that researchers should provide participants with information, which describes study outcomes. I did not use any features of deception, present risk for psychological danger or jeopardy beyond that associated with daily living, or require follow-up interviews with participants. As part of the terms and conditions set forth for usage of the GASP membership database, researchers using the GASP membership database must present findings at a GASP conference. I will share the findings as a poster or paper presentation at a future GASP meeting.

### **Instrumentation**

None of the instruments selected for this study were available in the public domain. Therefore, in order to uphold the principles of justice and respect for others, I had to obtain official permission from the instruments' developers to use the selected surveys. I used the School Psychologists and Stress Inventory (Wise, 1985), Dispositional Resilience Scale-15, v. 3 (Bartone, 2010), and the Huber Inventory of Self-Efficacy for School Psychologists (Huber, 2006). In email correspondence, Wise and Huber granted permission to use their instruments. I purchased the rights for Bartone's instrument on July 14, 2014. Respondents also completed a brief demographic

questionnaire reporting gender, age range, degree held, number of years employed as a school psychologist, and description of primary assignment (i.e., urban, suburban, or rural).

### **School Psychologists and Stress Inventory**

The unpublished School Psychologists and Stress Inventory ([SPSI], Wise, 1985) is a 35-item self-report inventory, which measures stress associated with occupational occurrences experienced by school psychologists (Burden, 1988). Wise (1985) stated that copies of the SPSI could be made available by the author upon request. Via email, Wise (P. Wise, personal communication, February 13, 2014) provided permission for usage of the SPSI in the study.

In 2002, NASP called for modifications to school psychologists' overall job tasks and responsibilities (Castillo et al., 2012). In 2010, NASP conducted a national study of school psychologists and found that little had changed in the way school psychologists completed their daily work (Castillo et al., 2012). Therefore, although Wise (P. Wise, personal communication, February 13, 2014) stated that the SPSI might be dated and added that school psychologists' functions have changed since its development and inception, upon closer scrutiny of each of the SPSI items, I discovered that most if not all of the SPSI items (i.e., potential stressors) were still relevant, prevalent, and problematic in the daily practice of school psychologists.

While the age of a survey instrument is important to consider, the relevance of survey questions as measures of the variables is also vital to the outcome of a study (Check & Schutt, 2012). Thus, as the SPSI is the only inventory designed specifically to

measure the occupational stress of school psychologists, I employed the SPSI. I highlighted the age and need for revision of the SPSI (P. Wise, personal communication, February 13, 2014) as a limitation.

Initially, Wise (1985) created the SPSI from a survey published in the Illinois School Psychologists' Association newsletter, which asked readers to record five or more stressful professional experiences. Wise selected 175 stressful incidents from this survey to evaluate for eventual usage on the SPSI. A subsequent analysis of 534 NASP school psychologists' endorsements of the selected 175 stressors yielded the SPSI's 35 closed-ended and two open-ended items (Wise, 1985). The two open-ended items were excluded from prior studies and past factor analytic investigations of the SPSI (Huebner & Mills, 1997; Wise, 1985). Therefore, I also excluded the two open-ended items from this study (Hahn, 1998). Williams (2001) explained that the SPSI could be completed in 10 minutes.

On the SPSI, respondents used a 9-point Likert scale to evaluate the stressful nature of tasks where 9 represented most stress and 1 designated least stress (Burden, 1988; Huebner, 1992). If situations proposed on the inventory had not been experienced personally by a respondent, directions for the instrument's completion suggested that respondents should estimate the stress they might experience from each event (Williams, 2001). Overall school psychologist profiles and average rankings for each potential circumstance could be developed (Burden, 1988). However, for this study, instead of separately analyzing each subscale, I analyzed the SPSI's overall composite score (Burden, 1988).

During the construction of the instrument, Wise (1985) completed principal axis factor analysis without iteration and quartimax rotation, which was selected as it highlighted data simplification. The analyses found 9 factors with eigenvalues of more than one, which were identified to be the categories of stressors commonly experienced by school psychologists (Goldman, Osborne, & Mitchell, 1996; Wise, 1985). The 9 factors included (a) interpersonal conflict (e.g., conflict related to parents or teachers); (b) working in situations that were physically dangerous or high risk to self or others; (c) obstacles to efficient job performance or difficulties limiting job performance; (d) public speaking; (e) time management associated with accumulation of unfinished work; (f) keeping districts legal and maintaining compliance with state and federal guidelines; (g) everyday hassles (e.g., driving to or between assigned schools or centers); (h) professional learning and development associated with current professional trends and assessment instruments; and (i) insufficient recognition of work (Williams, 2001; Wise, 1985). On the SPSI, only one item represented the maintenance of legal compliance, professional development, and inadequate recognition of work (Williams, 2001). Consequently, Huebner and Mills (1997) asserted that due to the small representation of items, the meaningfulness and interpretability of legal compliance, professional enrichment, and insufficient recognition of work factors might be limited.

Content validation determined that the SPSI was a valid tool to measure the occupational stress of school psychologists (Wise, 1985). Since its creation and inception, researchers have used the SPSI to identify the causes, correlates, and features of stressors associated with school psychologists' work experiences on three continents,

which included Australia (Burden, 1988), Europe (Burden, 1988), and United States (Huebner & Mills, 1997, 1998; Reece, 2010; Williams, 2001). Huebner (1992) demonstrated support for the SPSI's construct validity and observed a significant relationship between occupational stressors and the symptoms of burnout as measured by the Maslach Burnout Inventory. In another study, Huebner and Mills (1997) reported that the overall SPSI stress score demonstrated high internal consistency and a coefficient alpha of .87. Other ensuing studies completed by Mills and Huebner (1998) isolated an eight factor arrangement of the SPSI. Computed coefficient alphas indicated that the eight factor SPSI internal consistency or reliability had a range from .50 to .75 and median of .66 (Mills & Huebner, 1998). In addition, Cohen and Parks (1992) further described that the SPSI's moderate degree of internal consistency suitably assessed school psychologists' unique occupational experiences.

### **Dispositional Resilience Scale-15, (v.3)**

In June 2010, Bartone (2010) announced availability of the Dispositional Resilience Scale-15 (v.3) or DRS-15, v.3. Bartone explained that the DRS-15, v.3 can be used for non-commercial purposes by paying \$37 for a one-year single-project license processed using PayPal. Non-commercial purposes of the DRS-15, v.3 can include clinical and research application, teaching or classroom usage, program evaluation, and personal study or reference (Bartone, 2010). Included in the purchase price are the most recent DRS-15, v.3 instruments, scoring keys, and normative reference data (Bartone, 2010).

Prior to procurement, Bartone (2010) explained that researchers must read and accept the terms of the license agreement. Researchers are permitted to make photocopies or electronic copies as long as the copies are not transferred, distributed, or publicly displayed (Bartone, 2010). Usage of the DRS-15, v.3 is authorized for controlled web-based surveys of a restricted target sample, as long as the copyright notice is conspicuously displayed to all participants (Bartone, 2010). Bartone further noted that no modifications may be made to materials, instructions, or response formats. After the one-year license has ended, the summary data including the total of cases surveyed, age and gender of respondents, sample means, standard deviations, and copies of any reports, which used DRS-15, v.3 data, should be returned to Bartone. Additionally, at the end of the one-year license period, researchers must return or destroy all copies of the DRS-15, v.3 materials (Bartone, 2010).

Bartone et al. (1989) developed the original DRS-15 from the 45-item and 30-item DRS instruments. The original scale used a 4-point scale where 0 was not true at all, 1 was a little true, 2 was quite true, and 3 was completely true (Bartone et al., 1989). Assessment items on the original DRS included questions surveying respondents' beliefs about commitment, challenge, and control (Bartone et al., 1989). Bartone (2010) submitted that the most current DRS-15, v.3 is more culture-free and balanced than its predecessors (Bartone, 1995, 2010). Erbes et al. (2011) explained that the DRS-15, v.3 uses five items to assess each domain of hardiness. Among these items, six negatively-keyed items permit the scale to be more balanced between positive and negative items (Bartone, 2010). This instrument can be completed in a 5-minute period (Judkins, 2001).

Prior research using the DRS determined that in civilian (Kobasa et al., 1982) and military human service helping professional cohorts (Bartone, 1999), when faced with trauma and stress, psychological hardiness provided a buffering protective dynamic between stress and disease (Kobasa, 1979; Kobasa et al., 1982). Specifically, the DRS identified that psychological hardiness mitigated symptoms of illness in military personnel (Hystad, Eid, & Brevik, 2011), Japanese psychiatric hospital nurses (Gito et al., 2012), mid-level nurse managers (Judkins, 2001), hospital staff nurses (McCranie et al., 1987; Rich & Rich, 1987), nurses for critical care (Topf, 1989) and geriatric patients (Duquette, Kerouac, Sandhu, Ducharme, & Saulnier, 1995), fire fighters (Alvarado, 2013), and nurse educators (Lambert & Lambert, 1993). As with the SPSI, instead of analyzing each separate subscale, I analyzed the DRS-15, v.3 overall composite score.

Earlier research demonstrated the DRS's reliability and validity. Bartone (1995, 1999) remarked that within a sample of 787 male and female Army Reserve forces organized for the Gulf War, the DRS-15 had a Cronbach's alpha coefficient of .82. In particular, the Cronbach's alpha was .77 for commitment, .68 for control, and .69 for challenge (Bartone, 1995, 1999). Bartone, Eid, Johnsen, Laberg, and Snook (2009) also used the DRS-15 to study West Point U.S. Army cadets. Within the West Point cohort, the Cronbach's alpha coefficient was .70, and at three weeks the test-retest coefficient was .78 (Bartone et al., 2009). Furthermore, a study conducted by Erbes et al. (2011) with 913 Minnesota National Guard soldiers identified that the DRS-15 demonstrated a .80 Cronbach's alpha coefficient.



Similarly, Bartone (1995) found that the DRS-15 demonstrated predictive and criterion associated validity for participants' health and functioning when faced with stressful circumstances. Within the previously noted 787 Gulf War Army Reserve forces cohort, Bartone explained that results accurately foretold health behaviors and symptoms of illness. Regression analysis of the endorsements from Army medical workers sent to Croatia correctly predicted reports of depression symptomatology (Bartone, 1995). In another study completed by Taylor, Pietrobon, Taveniers, Leon, and Fern (2013) with 120 active duty Navy and Marine Corps personnel, results of regression mediation analyses followed by completion of a Sobel test for indirect effects revealed that psychological hardiness exhibited a significant mediatory effect ( $p < .001$ ) on the physical health of military personnel.

### **Huber Inventory of Self-Efficacy for School Psychologists**

The unpublished Huber Inventory of Self-Efficacy for School Psychologists ([HIS-SP], Huber, 2006) assessed self-efficacy in school psychologists. Huber (D. Huber, personal communication, September 16, 2013) provided permission via email for usage of the HIS-SP. Phifer (2013) noted that the HIS-SP could be completed in approximately 15 minutes.

Huber (2006) designed the HIS-SP following standards set forth by Bandura (2001a) for the creation of self-efficacy measures. The first generation of the HIS-SP had 113 items, and the final version of the HIS-SP used in this study had 95 items. Each question was answered using a 7-point Likert scale; a score of 1 suggested not well at all, and the rating of 7 indicated very well (Huber, 2006). Scores for the HIS-SP could be

developed for an overall level of self-efficacy and for each of the five factors (Huber, 2006). Specifically, the five factors of school psychologist self-efficacy include intervention and consultation, multidimensional assessment, counseling, interpersonal, and research skills (Huber, 2006). Similar to the SPSI and the DRS 15-R, instead of separately examining each of the five subscales, I analyzed the overall HIS-SP composite score.

During the instrument's construction, Huber (2006) identified that the HIS-SP demonstrated robust psychometric properties and distinct factor structure with high internal consistency of greater than .90. Eigenvalues for the HIS-SP reflected factor values greater than 2, which suggested good variance (Huber, 2006). The instrument further exhibited adequate construct validity as noteworthy relationships were identified between subscales of perceived control and self-efficacy (Huber, 2006). Furthermore, the overall HIS-SP self-efficacy score demonstrated a Cronbach's alpha coefficient of .98, which indicated high internal consistency (Huber, 2006).

The intervention and consultation skills subscale had an alpha coefficient of .96, and the multidimensional assessment skills subscale had an alpha of .94 (Huber, 2006). Huber (2006) also documented that the counseling skills subscale had an alpha coefficient of .91, professional interpersonal skills subscale had an alpha of .93, and research skills subscale had an alpha coefficient of .90. Finally, Huber found that the HIS-SP had distinct orthogonal item structure, which intimated factorial purity as the five factors of the HIS-SP were uncorrelated.

In a study investigating the supervision and self-efficacy of 206 practicing school psychologists, Phifer (2013) identified that school psychologists' professional experience predicted feelings of self-efficacy. Additionally, professional supervision with feedback was also found to encourage development of school psychologists' self-efficacy as well as confidence (Phifer, 2013). In another study of 135 school psychologists, Roth (2006) reported that school psychologists who endorsed greater feelings of creativity and originality tended to have higher professional and interpersonal self-efficacy and lower self-efficacy for research.

### **Operationalization of Constructs**

#### **Occupational Stress**

The CAUT (2003) defined occupational stress as a pattern of outcomes, which occur from workers' perceived disparities in job requirements, individual personality resources, and environmental reserves. Occupational stress often ensues when work demands exceed employees' knowledge, skills, or coping abilities (CAUT, 2003). Occupational stress has been found to produce deleterious cognitive, emotional, and physiological responses (CAUT, 2003).

Bearing in mind that working Americans spend nearly 33% of days engaged in work-related activities (USBLS, 2013), and up to 75% of Americans report work as their principal source of stress (APA AIS, 2013), it is not surprising that school psychologists report feelings of occupational stress (Edelwich & Brodsky, 1980; Wise, 1985). Wise (1985) explained that the occupational stress of school psychologists is associated with interpersonal involvement, threatening situations, educational presentations, and

management of time. Additionally, school psychologists' occupational stress related to maintenance of legal compliance; professional development; and insufficient institutional support (Wise, 1985). I used the SPSI to measure school psychologists' occupational stress.

Generally, SPSI factor scores can be developed by totaling items from each of the nine factors (Williams, 2001). The instrument also yields an overall composite score (Mills & Huebner, 1998; Williams, 2001). The composite score ranges from 35 representing lowest stress to 315 representing greatest stress (Mills & Huebner, 1998). As factor scores increase, school psychologists are thought to experience greater feelings of occupational stress (Williams, 2001). For example, school psychologists with elevated factors in the area of high risk to one's self might endorse feelings of stress associated with threats of student suicide, due process hearings, child abuse cases, and dangerous situations (e.g., students bringing weapons to school).

### **Psychological Hardiness**

Psychological hardiness is a personality characteristic, attitude, and cognitive appraisal mechanism, which is teachable, reactive, and can be nurtured in early life (Bartone, 2006; Kobasa, 1979; Maddi & Kobasa, 1984). Studies identified that psychological hardiness helps individuals to moderate stress and confront challenges, thereby encouraging health and wellness (Bartone, 2006; Kobasa, 1979; Maddi & Kobasa, 1984). Psychological hardiness is measureable through the assessment of commitment, control, and challenge and is recognized as the basis for resilience (Bartone,

1995, 2010; Erbes et al., 2011; Kobasa et al., 1982; Maddi, 2004; Maddi & Khoshaba, 2005).

I used the DRS-15, v.3 to measure school psychologists' attitudes of psychological hardiness. An overall score is created by adding all items; scores range from 0 for low psychological hardiness to 45 for high psychological hardiness (Bartone, 1995, 2010). A school psychologist with greater feelings of psychological hardiness is able to modify feelings of challenge into growth opportunities. These school psychologists embodied the three Cs, which include strong commitment to persevere, robust internal control, and durable positivity about life events (Bartone, 1995, 2010). Stronger feelings of commitment suggest that a school psychologist believes that hard work yields positive ends and feels life to be exciting and stimulating (Bartone, 1995, 2010). Greater feelings of control imply that a school psychologist plans ahead to avoid problems, asks for help when faced with difficult problems, and feels confident that plans can come to fruition (Bartone, 1995, 2010). Lastly, a school psychologist with beliefs of robust challenge enjoys multitasking and welcomes change to their regular schedule (Bartone, 1995, 2010).

### **Self-Efficacy**

Bandura (1977) defined self-efficacy as an individual's appraisal of one's ability to encounter success in particular contexts. Because Bandura explained that self-efficacy is specific to the context, school psychologist self-efficacy should be understood by recognizing skills that school psychologists use to complete their roles and functions in an efficacious manner (Huber, 2006). Huber (2006) described school psychologist self-

efficacy as school psychologists' judgments or beliefs about their confidence in and capability to participate in the roles and responsibilities associated with the profession of school psychology.

School psychologists who demonstrate self-efficacious abilities possess broad skills to provide direct and indirect services to support students' academic, behavioral, emotional, and social needs as well as offer consultative and collaborative assistance to educators, administrators, and parents (Phifer, 2013). Phifer (2013) and NASP (2010b) explained that school psychologists must be confident about their participation in school-wide plans to encourage active effective learning and employ data-founded decision-making. In accordance with social cognitive theory (Bandura 1977), Huber (2006) identified that the essential constructs of self-efficacy (i.e., mastery, positive reinforcement, social learning, and self-preservation) can be observed during school psychologists' participation in multidimensional assessment, intervention and consultation, counseling, interpersonal interactions, and research activities.

I used the HIS-SP to measure school psychologists' self-efficacy. On the HIS-SP, school psychologists' self-efficacy is measured through the calculation of individual factor scores and an overall composite score (Huber, 2006). The possible range of scores is from 95 suggesting low self-efficacy to 665 intimating high self-efficacy (Huber, 2006). Factor scores can be created by adding items; however, because each subscale has a disparate quantity of items, subscales are not equally weighted (Phifer, 2013). Phifer (2013) clarified that the subscale of intervention and consultation had the greatest number of items ( $n = 28$ ) in a potential range from 28 to 196. Multidimensional assessment had

18 items in a range from 18 to 126, and the counseling subscale had 10 items in a range from 10 to 70 (Phifer, 2013). Furthermore, the interpersonal subscale had 12 items in a range from 12 to 84, and the research subscale had 7 items ranging from 7 to 49 (Phifer, 2013). As an example, Huber (2006) explained that a school psychologist with strong interpersonal skills would endorse confidence in ability to employ effective listening and interviewing skills. Also, school psychologists with robust interpersonal skills would be able to develop rapport and work collaboratively and cooperatively with parents, teachers, and students (Huber, 2006).

### **Data Analysis Plan**

#### **Software**

I analyzed the hypotheses with sequential multiple linear regression using the IBM SPSS Statistics Standard version 22.0 program for Windows (IBM, 2014). In the first two hypotheses, I identified whether there were associations between occupational stress and self-efficacy and psychological hardiness and self-efficacy among GASP school psychologists (Geiß & Einax, 1996). Few studies had analyzed whether psychological hardiness moderated self-efficacy; therefore, in the third hypothesis, I evaluated whether psychological hardiness moderated the effects of occupational stress on GASP school psychologists' self-efficacy (Slinker & Glantz, 2008).

#### **Data Cleaning and Screening Procedures**

In order to circumvent bias and statistical confusions during analytical processes, statistical data should be screened and cleaned in an objective manner. Field (2013) commented that parameter estimates of effect sizes, standard errors, confidence intervals,

test statistics, and  $p$ -values are crucial to the association of bias. If a standard error is biased, then the confidence interval is also biased, as it is founded on the standard error (Field, 2013). Additionally, as test statistics are frequently related to standard error, if a standard error is biased, then test statistics might also be biased (Field, 2013). Finally, if test statistics are biased, then  $p$ -values would also be biased (Field, 2013).

Outliers and violations of assumptions are other potential funds of bias (Field, 2013). Assumptions such as additivity, linearity, normality (i.e., parameter estimates, confidence intervals, null hypotheses significance tests, and errors), homoscedasticity and homogeneity of variance, and independence are related to the quality of linear models and assessments of test statistics (Field, 2013). Regression is robust to violations of these assumptions and conditions, so any actions are weighed against the severity of violations (Cohen et al., 2003). In summary, anything that might influence data used to form conclusions was identified and eliminated so test statistics and findings were not biased or inaccurate (Field, 2013).

Data cleaning should enable the examination of unintentional mistakes resultant from data collection and recoding procedures such as missing data codes, coding errors, and keystroke errors (Muller, Freytag, & Leser, 2012). The cleaning of data should be ongoing to combat matters associated with data recoding such as integrity, consistency, inconsistency, contradiction, and validity (Rahm & Do, 2000). The most commonly confronted issues involved with data analyses concern inadequate data due to incidences of missing values; outliers that affect the closeness of the mean and median value; the amount of linearity among variables; and the kurtosis or normality, shape, skewness, or



symmetry of the distribution (Field, 2013; Tabachnick & Fidell, 2012). Outliers and errors are identified using the SPSS Data Editor menu as a means to evaluate and monitor minimum and maximum value ranges, *z*-scores, means, medians, and standard deviations (IBM, 2014).

### **Research Question**

As previously specified, I directed the research using one distinct research question and six hypotheses.

RQ: Does the theory of psychological hardiness and self-efficacy theory explain the relationships between occupational stress, psychological hardiness, and self-efficacy, in a sample of school psychologists limited to a particular organization?

*H*<sub>0</sub>1: Occupational stress will not be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

*H*<sub>1</sub>1: Occupational stress will be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

*H*<sub>0</sub>2: Psychological hardiness will not be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

*H*<sub>1</sub>2: Psychological hardiness will be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

*H*<sub>0</sub>3: Psychological hardiness will not moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will not be significant) in a sample of GASP school psychologists.

*H*<sub>13</sub>: Psychological hardiness will moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will be significant) in a sample of GASP school psychologists.

**Analysis plan.** I tested each hypothesis via a single regression analysis using a two-block sequential entry method. I centered the mean composite scores of both predictors following common practice for moderation analysis (Cohen et al. 2003). In the first block using Model 1, I entered the overall occupational stress centered-mean composite score and the overall psychological hardiness centered-mean composite score. If occupational stress was significant at  $p < .10$ , I would reject *H*<sub>01</sub>. Similarly, if psychological hardiness was significant at  $p < .10$ , I would reject *H*<sub>02</sub>.

In the second block using Model 2, I entered the occupational stress X psychological hardiness interaction. If the interaction term was significant at  $p < .10$ , I would reject *H*<sub>03</sub> and conduct traditional post hoc probing of the interaction (see, e.g., Cohen et al., 2003) to describe and aid in the interpretation of the nature of the interaction effect.

### **Threats to Validity**

#### **External Validity**

The identification of threats to external validity is necessary to the generalizability of findings beyond the sample population and environmental settings or conditions of the study (Bracht & Glass, 1968; Gall, Borg, & Gall, 1996; Persaud & Mamdani, 2006). Persaud and Mamdani (2006) explained that the investigation of threats to external validity demonstrates a researcher's effort to provide a connection between an actual

application and research findings. I found that one possible threat to external validity involved the characteristics of school psychologists. For example, a school psychologist might possess high levels of self-efficacy in nonwork related domains, thereby embodying innate potential for self-efficacy in the work environment. In this way, a school psychologists' general nonwork self-efficacy could be predictive of a school psychologist's feeling of work-related self-efficacy. Another threat to external validity might have related to the biopsychosocial stage of development of the respondent associated with the number of years worked (e.g., school psychologists currently in practice or in the preretirement stage).

Another possible threat to external validity involved ecological validity, which was associated with the environmental settings or conditions of a study (Bracht & Glass, 1968; Gall et al., 1996). Bracht and Glass (1968) explained that environmental and contextual considerations include the timing of research (e.g., during busy periods before or during high stakes testing) or the locale of survey completion (e.g., home versus school-based office). Other possible threats to external validity might involve the appeal of the research study (i.e., school psychologist's interest in the topic of study) as well as the nature and quality of interactions between the researcher and respondents, perhaps influenced through study correspondences (Gall et al., 1996).

Threats to external validity can be managed using psychological (Aronson et al., 1998) or mundane (Aronson & Carlsmith, 1968) realism. Mundane realism is the amount to which procedures and materials involved in investigations are analogous to real world situations (Aronson & Carlsmith, 1968). Aronson and Carlsmith (1968) explained that

research studies, often yielding more generalizable data, are designed to be as realistic as possible to address situations typical to everyday life. Furthermore, research studies that trigger psychological processes similar to those occurring in everyday life also produce more broadly applicable data (Aronson et al., 1998). Therefore, I obtained more germane results by asking school psychologists to think of actual everyday stressors and coping mechanisms while answering survey questions (Aronson & Carlsmith, 1968; Aronson et al., 1998).

### **Internal Validity**

Internal validity helps researchers evaluate the integrity of associations between variables (Grimes & Schulz, 2002; Michael, n.d.). Michael (n.d.) explained that extraneous or confounding variables can influence outcome variables and pose threats to the integrity of research. María and Miller (2010) discounted the concepts of external and internal validity as a trade-off. Instead, María and Miller recognized the importance of the accurate assessment of constructs and practical applicability of findings towards useful outcomes.

A threat to internal validity involved the subjective features of survey questions (Michael, n.d.). In order to combat issues of internal validity related to survey questions, I designed the web-based survey to be easy to navigate (Crawford, McCabe, & Pope, 2005). I also used similar response formats for each instrument (Crawford et al., 2005), which exhibited an agreeable appearance (Capella, Kasten, Steinemann, & Torbeck, 2010). Finally, I wrote the survey using concise and distinct language (Grice, 1975).

Another confounding issue related to internal validity involved the selection of study participants (Michael, n.d.). Specifically, members of professional organizations, such as GASP school psychologists, could exhibit different characteristics than those nonGASP school psychologists. While one cannot ameliorate this threat, a follow-up study could analyze the differences in occupational stress, psychological hardiness, and self-efficacy of GASP versus nonGASP school psychologists.

### **Construct Validity**

The recognition of threats to construct validity is vital. Construct validity involves the amount that inferences can be developed from the operationalized study variables to theoretical constructs, which at the outset provided the original roots for operationalizations (Trochim, 2006). Insufficient operational definitions might produce poor and imprecise descriptions of constructs and potential for inaccurate data (Cook & Campbell, 1979). I tried to avoid this issue by proposing comprehensive peer-reviewed operational definitions, which permitted little margin for interpretive error.

Additionally, Cook and Campbell (1979) explained that research findings and response accuracy could be affected if participants made educated guesses about the study. If participants were concerned about participating in a research study, their trepidations could influence their performance and accuracy of responses (Cook & Campbell, 1979). It is possible biopsychosocial dynamics could influence the quality of respondents' critical thinking required for participation (Cook & Campbell, 1979).

### **Ethical Procedures**

I had to obtain institutional approval before applying to use the GASP database (B. Rogers, personal communication, February 3, 2014). Generally, Walden University provides conditional IRB approval so that community research partners can begin the process of vetting potential research (WU IRB, 2011). Following the GASP research protocol, I sent a summary of the research study and the WU IRB approval to the current GASP President and Research Chairperson (B. Rogers, personal communication, February 3, 2014; WU IRB, 2011).

The GASP Executive Board discussed whether to vet the research. If the decision were affirmative, the GASP President would provide a letter of cooperation (B. Rogers, personal communication, February 3, 2014). Following the receipt of GASP's letter of cooperation, the study paperwork would then be resubmitted to the WU IRB to obtain final approval (WU IRB, 2011). Furthermore, prior to conducting the study, I had to obtain endorsement from the National Institutes of Health, Office of Extramural Research Protecting Human Research Participants. I successfully completed the National Institutes of Health training program on December 11, 2012 and earned certificate number 1057405.

In addition to the APA framework for ethical protection in the treatment of human participants, I followed the rigorous procedures described by the WU IRB. During the informed consent process per Standard 8.02(a) as a means to uphold the principles of respect for persons and beneficence, the participants learned that they could remove themselves from the study at any time without repercussions (APA, 2010a). The

informed consent process included a comprehensive review of the technical features of the process. Additionally, during the informed consent process, participants were reminded that they could ask questions at any time about concerns specific to the researcher's objective (Sarantakos, 2005).

I used the SM email function for data collection. I aggregated and digitally stored data in a secure location in an earmarked external hard drive, which was encrypted and backed up regularly. Besides myself, my dissertation committee and involved WU personnel were the only individuals permitted access to research data. I will keep the research data for a minimum of five years, thereby upholding the principles of justice and respect for persons. After the minimum duration of five years, I will dispose of data subject to the preference of WU.

Although the web-based survey method of inquiry is noninvasive, ethical considerations relevant to the protection of the researcher and participants should be recognized (Punch, 2005). Punch (2005) explained that research efforts should uphold advancement and not marginalization of school psychologists. Instead of magnifying problems that could worsen the occupational stress, psychological hardiness, and self-efficacy of school psychologists, I should explicate findings, which support the improvement of these variables as they relate to school psychologists, human service helping professionals, and the general populace (Punch, 2005).

Poststudy debriefing presents an opportunity for a researcher to identify whether a study had a positive or negative bearing on participants (Berg, 2001). Debriefing could include inquiry about participants' overall cognitive and affective experiences during the

research process (Berg, 2001). A researcher might also express sincere gratitude for participants' time and efforts (Berg, 2001). As public and private school educational settings are cultural institutions, I acknowledged the sociological dynamics, which influenced participants' lives. Therefore, I respected all study participants as agents of social change and primary contributors to the growing body of evidence, which promoted healthy working styles.

### **Summary**

I used a cross-sectional nonexperimental design and convenience, single-stage, survey-based, and self-administered method to provide depth and comprehensive detail to the research outcomes. I found that the SPSI (Wise, 1985), DRS-15, v.3 (Bartone, 2010), and HIS-SP (Huber, 2006) demonstrated adequate accuracy, brevity, and simplicity needed to procure data in a sample of GASP school psychologists. I employed web-based survey methods and determined whether relationships existed between occupational stress and self-efficacy moderated by psychological hardiness in GASP school psychologists.

I used sequential multiple linear regression via SPSS v. 22 (IBM, 2014) and examined whether there were associations between the occupational stress, psychological hardiness, and self-efficacy of GASP school psychologists (Geiß & Einax, 1996). I investigated whether psychological hardiness moderated the effects of occupational stress on GASP school psychologists' self-efficacy using sequential multiple linear regression analysis (Slinker & Glantz, 2008). Critical to the viability of the study were ethical safeguards, which I executed to protect participant welfare (APA, 2010a). In particular, I



offered a thorough informed consent process and poststudy dissemination to support participants as vital features of the research process (APA, 2010a).

In Chapter 4, I offer details about data collection, including information about the how the features of time frame, final sample size, and participants' characteristics demonstrate suitable representation. I present a comprehensive report of study results, descriptive statistics, statistical analyses, posthoc analyses, tables, and figures. Finally, I relate information about how GASP school psychologists' occupational stress, psychological hardiness, and self-efficacy impacts their ability to provide efficacious and humanistic services within schools.

## Chapter 4: Results

The occupational stress experienced by human service helping professionals can mitigate their capacity to deliver wide-ranging services (Ruff, 2011). Employing the theory of psychological hardiness, self-efficacy theory, and model of transactional stress and coping, I investigated whether occupational stress and psychological hardiness affected levels of GASP school psychologists' self-efficacy, while controlling for psychological hardiness and occupational stress (Geiß & Einax, 1996). I also examined whether psychological hardiness moderated the relationship between GASP school psychologists' occupational stress and self-efficacy (Slinker & Glantz, 2008). Results yielded evidence, which emphasized the importance of self-care training for practicing and student human service helping professionals, specifically school psychologists.

In the following chapter, I present findings, which underscore the associations between occupational stress, psychological hardiness, and GASP school psychologists' self-efficacy. First, I offer information about the time frame of the study and events that yielded usable data. Next, I explain the demographic and descriptive features of the sample's characteristics. The descriptive statistics take account of the measures of central tendency; distribution characteristics; and enumerate the gender, age range, number of years worked, highest degree held, and primary work setting. Finally, I provide statistical analysis and tables.

## **Data Collection**

### **Time Frame, Actual Recruitment, and Response Rates**

Participants retrieved 117 electronic surveys using individualized SM generated emails between October 7, 2014 and November 6, 2014. Centered on the power analysis for the sample size asserted in Chapter 3, I set the initial target sample size at 109.

Despite the frequent addition of new GASP members over the course of the study, the voluntary participation of GASP members ultimately diminished. The final sample size of 117 was attained on November 6, 2014, and I terminated all data collection efforts.

Of the 117 responses, I found that 112 were usable for data analysis purposes; five responses were not usable due to 90% missing data. The overall usability for the study was a rate of 96% established from the ratio of total surveys collected to usable surveys. Based upon the original 338 professional GASP members, a total sample of 112 GASP professional school psychologists participated, which yielded a response rate of 33%. I used case-specific scale mean substitution for cases with low proportions of missing data across a set of scale items.

I used the SPSI to measure school psychologists' occupational stress. Of the 117 total survey responses, 105 surveys had no missing values, six had one missing value, two had two missing values, one had three missing values, and one had four missing values. One response had 25 missing items while another had 35 missing items. I excluded these two cases of 25 and 35 missing values. For all instances with one to four missing values, I used case-specific scale mean substitution for missing values.

I used the DRS-15, v.3 to assess psychological hardiness. Of the total 117 responses, 109 surveys had no missing values, six had one missing value, and two had 15 missing values. Two responses had missing data for all 15 items, and I excluded these. Likewise, I used case-specific scale mean substitution for missing values.

Finally, I used the HIS-SP to measure school psychologists' self-efficacy. I received 73 surveys with no missing values, 23 with one missing value, 9 with two missing values, five with three missing values, two with five missing values, and five with 95 missing values. As with the SPSI and DRS-15, v.3, I excluded the five cases with missing data for all 95 values, and I used case-specific scale mean substitution for any missing data.

No change in procedures occurred. As stated in Chapter 3, I sent three emails to potential participants, which consisted of identical information. Each potential respondent received informed consent.

### **Demographic Characteristics of the Sample**

Table 1 displays descriptive statistics for the 112 school psychologists, 12 male (10.7%) and 100 female school psychologists (89.3%), who participated in the study. Respondents included 12 (10.7%) school psychologists between ages 20 to 30, 24 (21.4%) between ages 31 to 40, 33 (29.5%) between ages 41 to 50, 28 (25.0%) between 51 to 60, and 15 (13.4%) older than 61. The distribution of degrees held by respondents included two (1.8%) with a Masters of Arts degree (MA), 83 (74.1%) with an Educational Specialist (EdS) degree, and 27 (24.1%) with Doctor of Philosophy (PhD) or Doctor of Education (EdD) degrees. In regards to years of experience, 40 (35.7%)

participants worked between one and 10 years, 40 (35.7%) worked between 11 to 20 years, and 32 (28.6%) worked more than 21 years. Finally, the sample contained 21 (18.9%) school psychologists working in urban settings, 48 (43.2%) working in suburban settings, and 42 (37.8%) working in rural settings.

Table 1

*Demographics for Overall Sample (N = 112)*

Variable	Frequency	Valid percent
Gender		
Male	12	10.7
Female	100	89.3
Age range		
20 – 30	12	10.7
31 – 40	24	21.4
41 – 50	33	29.5
51 – 60	28	25.0
61 +	15	13.4
Degree held		
MA	2	1.8
EdS	83	74.1
PhD/EdD	27	24.1
Years of experience		
1 – 10	40	35.7
11 – 20	40	35.7
21 +	32	28.6
Primary assignment		
Urban	21	18.9
Suburban	48	43.2
Rural	42	37.8

**External Validity of Sample to Population of Interest**

I thought that GASP school psychologists were illustrative of the greater cohort of American school psychologists. Curtis et al. (2012) identified that there has been a feminization in the field of school psychology. Curtis et al. continued that during the

2009 to 2010 school year, 76.7% of all practicing school psychologists were female, and 23.3% were male. I found this feminization in my findings. Specifically, of participating professional GASP members, 89.3% were female, and 10.7% were male. In the Curtis et al. study, a persistent aging of the field was also acknowledged. In the current study, I found information corresponding to the aging of school psychologists with 67.9% of the respondents older than age 41.

In addition, the Curtis et al. (2012) research also found that 25.1% of school psychologists held Masters level degrees, 45.4% held Educational Specialist degrees, and 33.2% held PhD degrees. In contrast to the Curtis et al research, in the current study of GASP professional school psychologists, I found a dissimilar distribution with 74.1% of participants with EdS degrees. Additionally, I also found that only 1.8% held Masters degrees, and 24.1% of respondents held either PhD or EdD degrees. I determined that the current sample was overrepresented by EdS degrees and underrepresented by Masters and PhD degrees. There was no comparative data for the years worked category.

Lastly, Curtis et al. (2012) related that 43.4% of school psychologists worked in suburban settings, 26.5% in urban settings, and 24.0% in rural settings. Curtis et al. also stated that 6.1% of school psychologists reported working in schools, which represented a combination of the three settings. In the current study, I found similar statistics for the suburban setting (42.9%); my statistics were underrepresented for the urban setting (18.8%) and overrepresented for the rural environment (37.5%). No psychologists from the current sample worked in schools combining all three settings. In summary, when compared with the Curtis et al. study of NASP school psychologists, I learned that

participating GASP professional school psychologists were not entirely representative of the greater cohort of American school psychologists in regards to their degrees held or exact school assignments.

### **Treatment and Intervention Fidelity**

#### **Data Collection Events**

During the study, I received no reports of instances of psychological harm or untoward happenings. Several emails bounced back, and these email addresses were subsequently removed from the SM distribution list. In addition, a number of professional GASP members replied to the emails and stated that they would not participate in the study as they were not at this time practicing as school psychologists.

### **Descriptive Statistics**

#### **Statistical Assumptions Appropriate to Study**

As I displayed in Table 2, the measures of skewness and kurtosis for occupational stress, psychological hardiness, and self-efficacy were within the normal range. They did not create a curve that differed significantly from a normal distribution; therefore, the assumption of normality was valid. Additionally, the Levene's test for each variable was nonsignificant, which indicated that equality of error variances could be assumed.

Gliem and Gliem (2003) observed that Cronbach's  $\alpha$  reliability coefficients commonly range from 0 to 1; however, no lower limit to the coefficient was noted. The closer a Cronbach's  $\alpha$  coefficient is to 1.0, the larger the internal consistency of the items on a scale (Gliem & Gliem, 2003). Similarly, Simon (2006) noted that reliability and validity can be commonly established with Cronbach's  $\alpha$  coefficients of 0.70 or greater.

As I listed in Table 2, the occupational stress survey (35 items,  $\alpha = 0.90$ ), self-efficacy survey (95 items,  $\alpha = .98$ ), and psychological hardiness scale (15 items,  $\alpha = .75$ ) demonstrated adequate reliability and validity.

Outliers can bias estimates of parameters and noticeably influence the sum of squared errors, in turn impacting standard deviations, standard errors, and confidence intervals (Field, 2013). I completed checks for multivariate outliers, cases with uncommon groupings of scores on variables, and multicollinearity (Field, 2013). Multivariate outliers can be detected and calculated using the Mahalanobis Distance ([MD], Field, 2013). Field (2013) explained that the MD calculates the distance of cases from the averages of predictor variables. Calculated using SPSS, I found the maximum MD was 17.658. In addition, I identified that the crucial value at alpha level .001 with 3 degrees of freedom was 16.266. There was one case among the 112, which slightly exceeded the critical value and could have been a multivariate outlier. I completed exploratory regression with and without this one case, and I took the same conclusions from results. Thus, I left the case in for final analyses.

I centered the two predictors for use in the regression analysis of moderation following the standard practice to reduce nonessential collinearity. SPSS collinearity diagnostic variance inflation factors (VIF) indicate whether predictor variables have robust linear relationships with other predictor variables (Field, 2013). In my statistical analyses, I identified that the VIF values were all less than 1.1 so no concern about multicollinearity was indicated. Specifically, I discovered that in the first model the VIF for occupational stress was 1.017, and psychological hardiness was 1.017. In my



analyses in the second model, I found that the occupational stress by psychological hardiness VIF was 1.068.

Before completing the multiple regression, I screened the demographic variables of age, primary assignment, and years worked with respect to their relationship with occupational stress, psychological hardiness, and self-efficacy to determine whether they should be included as covariates in the regression. I excluded gender and type of degree as both had insufficient variance. I attained results indicating that the settings of primary assignments were not significantly different for occupational stress ( $p = .857$ ), psychological hardiness ( $p = .562$ ), or self-efficacy ( $p = .827$ ). Similarly, I found that neither age range nor years of experience significantly related to occupational stress, psychological hardiness, or self-efficacy.

Table 2

*Descriptive Statistics for Stress, Hardiness, and Self-efficacy*

	Stress	Hardiness	Self-efficacy
Possible range	1 – 9	0 – 3	1 – 7
Mean	4.74	2.01	5.60
SD	.98	.30	.54
Minimum	1.17	1.27	4.51
Median	4.77	2.00	5.50
Maximum	6.66	2.73	7.00
Skewness	-.62	-.17	.49
Kurtosis	.97	.11	-.45
Cronbach's $\alpha$	.90	.75	.98

I completed a Pearson's correlation coefficient to measure the strength of relationships between the occupational stress, psychological hardiness, and self-efficacy of school psychologists. It is essential to recognize that the alpha for this study was set at

$p < .10$ . As I illustrated in Table 3, occupational stress did not demonstrate a positive, strong, or statistically significant relationship with self-efficacy,  $r(110) = -.064$ ,  $p = .500$ . Similarly, occupational stress did not exhibit a positive, strong, or statistically significant relationship with psychological hardiness,  $r(110) = -.129$ ,  $p = .176$ . In contrast, I found that psychological hardiness exhibited a positive, medium, and significant relationship with self-efficacy,  $r(110) = .443$ ,  $p < .001$ , which suggested that increasing levels of psychological hardiness were related to increases in self-efficacy.

Table 3

*Pearson Correlation of Self-efficacy, Stress, and Hardiness (N = 112)*

		Self-efficacy	Stress	Hardiness
Self-efficacy	Pearson correl		-.064	.443
	Sig. (2-tailed)		.500	.000*
Stress	Pearson correl	-.064		-.129
	Sig. (2-tailed)	.500		.176
Hardiness	Pearson correl	.443	-.129	
	Sig. (2-tailed)	.000*	.176	

*Note.* \* $p < .10$

I used centered variables to determine if GASP school psychologists' psychological hardiness moderated the relationship between occupational stress and self-efficacy. In order to accomplish this task, I centered each continuous predictor to diminish the correlation between the product term and the predictor scores so that effects of the predictor scores were discernable from the interaction (Field, 2013; Warner, 2008). I then multiplied predictors together to get a third variable (i.e., product term) to test for moderation and interaction (Field, 2013; Warner, 2008).

## Results

### Research Question

I employed sequential multiple regression in a two-block sequential entry method to study one distinct research question and six hypotheses. I sought to answer the research question, which asked whether the theory of psychological hardiness and self-efficacy theory explained the relationship between occupational stress, psychological hardiness, and self-efficacy in a sample of GASP school psychologists.

### Hypothesis 1

$H_01$ : Occupational stress will not be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

$H_11$ : Occupational stress will be related to self-efficacy while controlling for psychological hardiness in a sample of GASP school psychologists.

In the first hypothesis, I used sequential multiple regression to investigate whether occupational stress related to self-efficacy while controlling for psychological hardiness. As presented in Table 4, I discovered that occupational stress did not make a significant contribution to predicting self-efficacy while psychological hardiness was held constant,  $t(109) = 0.09, p = .931$ . Therefore, I did not reject the null hypothesis.

Table 4

#### *Regression of Stress and Hardiness on Self-efficacy*

	B	$\beta$	$t$	$p$	95% CI	$sr^2$
(Constant)	5.598		120.687	.000*	[5.506, 5.690]	
Stress cent	-.004	-.008	-.087	.931	[-.009, .091]	.000
Hardi cent	.802	.442	5.101	.000*	[.491, 1.114]	.192

*Note.*  $F(2,109) = 13.293$ ;  $*p < .10$ ;  $R^2 = .196$

**Hypothesis 2**

*H*<sub>02</sub>: Psychological hardiness will not be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

*H*<sub>12</sub>: Psychological hardiness will be related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists.

For the second hypothesis, I used sequential multiple regression to examine the relationship of psychological hardiness with school psychologists' self-efficacy while controlling for occupational stress. The results I listed in Table 4 indicate that psychological hardiness made a significant contribution to predicting school psychologists' self-efficacy, while holding occupational stress constant,  $t(109) = 5.10, p < .001$ . Therefore, I rejected the null hypothesis. While controlling for occupational stress, I found a positive relationship between psychological hardiness and self-efficacy, which uniquely accounted for 19.2% of the variance, squared semipartial correlation ( $sr^2 = .192$ ), and a very large effect size, where .01 was a small effect, .06 a medium effect, and .14 a large effect. For a 1.0 standard deviation increase in the hardiness score, the self-efficacy score was predicted to increase by 0.442 standard deviations.

**Hypothesis 3**

*H*<sub>03</sub>: Psychological hardiness will not moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will not be significant) in a sample of GASP school psychologists.

*H*<sub>13</sub>: Psychological hardiness will moderate the relationship between occupational stress and self-efficacy (i.e., the psychological hardiness by occupational stress interaction effect will be significant) in a sample of GASP school psychologists.

To evaluate the third hypothesis, I employed multiple regression analyses to investigate the occupational stress, psychological hardiness, and the occupational stress by psychological hardiness interaction effect on school psychologists' self-efficacy. As listed in Table 5, the results indicate that the interaction effect of occupational stress by psychological hardiness made a significant contribution to predicting self-efficacy when stress and hardiness were held constant,  $t(108) = 1.82$ ,  $p = .072$ . Therefore, I rejected the null hypothesis. The interaction effect of occupational stress and psychological hardiness accounted for 2.4% of the variance in self-efficacy ( $sr^2 = .024$ ).

Table 5

*Regression of Stress, Hardiness, and the Stress by Hardiness Interaction on Self-efficacy*

	B	$\beta$	<i>T</i>	<i>p</i>	95% CI		<i>sr</i> <sup>2</sup>
(Constant)	5.589		121.008	.000*	[5.497	5.681]	
Stress cent	.018	.032	.365	.716	[ -.079	.115]	.001
Hardi cent	.796	.439	5.116	.000*	[ .488	1.105]	.189
StressXhardi	-.248	-.160	-1.817	.072*	[ -.518	.023]	.024

*Note.*  $F(3,108) = 10.149$ ;  $*p < .10$ ;  $R^2 = .220$

**Post-Hoc Analyses of the Interaction Effect**

In Figure 2, I displayed a graph of the interaction effects (i.e., post hoc probing at mean and plus and minus one standard deviation, as is the typical procedure). At lower levels of occupational stress, school psychologists' self-efficacy tended to increase as their psychological hardiness increased. In addition, as occupational stress levels increased, those school psychologists with high psychological hardiness tended to

experience a decrease in the feelings of self-efficacy. In contrast, as occupational stress levels increased, school psychologists with lower psychological hardiness tended to experience an increase in feelings of self-efficacy. Although a causal inference should not be strictly concluded from nonexperimental data, these results seemed to indicate that as school psychologists become more stressed, it is absolutely essential for them to attend to their own psychological needs. This self-care is important so that their perceived capabilities will not be misinterpreted and cause deleterious issues for those individuals they have been tasked to assist.

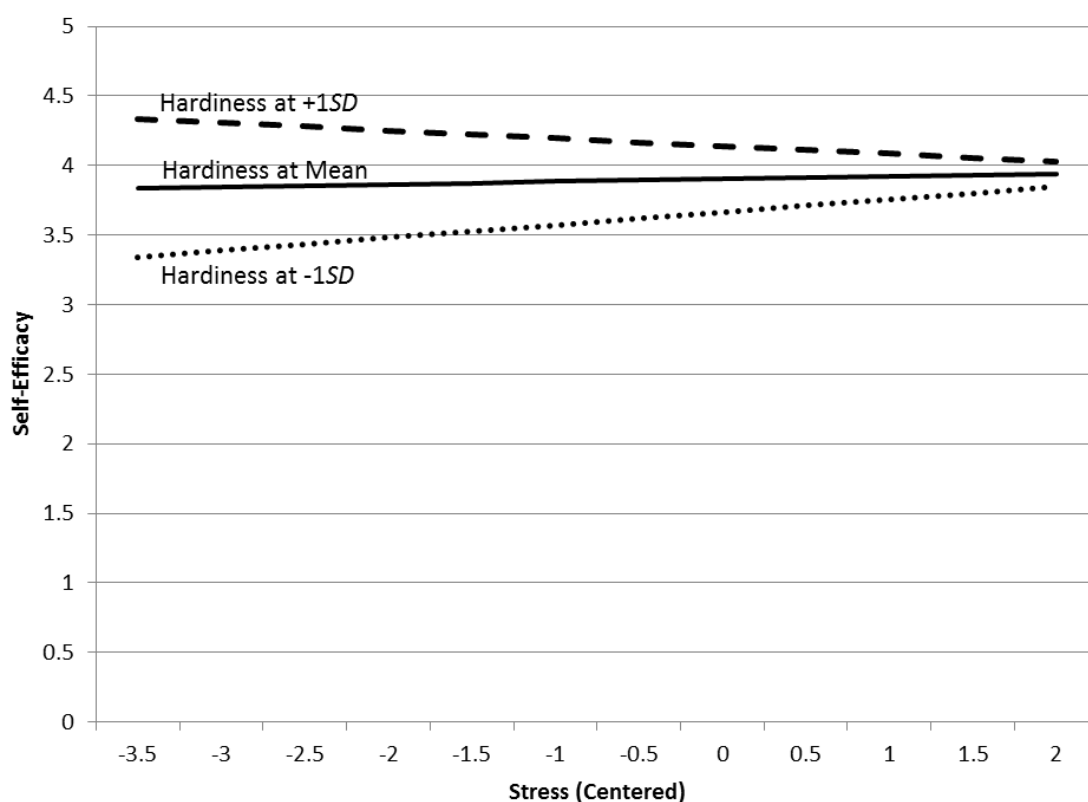


Figure 2. Interaction effect of hardiness and stress on predicted self-efficacy.

### Summary

In a review of the data analyses, I made several findings pertaining to the occupational stress, psychological hardiness, and self-efficacy of GASP school psychologists. The partial correlational analyses I completed for the first two hypotheses identified that occupational stress was not related to self-efficacy while controlling for psychological hardiness, but psychological hardiness was related to self-efficacy while controlling for occupational stress in a sample of GASP school psychologists. In the third hypothesis, I learned using regression analysis that psychological hardiness does moderate the relationship between occupational stress and self-efficacy in GASP school psychologists.

In an analysis of interaction effects, I learned that when occupational stress was lower, GASP school psychologists' self-efficacy tended to grow as feelings of psychological hardiness grew. Furthermore, as levels of occupational stress increased, I found that school psychologists with greater feelings of psychological hardiness had lower self-efficacy. In contrast, as levels of occupational stress increased, school psychologists with low psychological hardiness had increased self-efficacy. In short, I identified that it is crucial for human service helping professionals to attend to their psychological needs so that they can provide services to those individuals they are tasked to serve.

In Chapter 5, I present a summary, which includes analysis and interpretation of the results and a comparison of the study's limitations with those outlined in Chapter 1. I

also offer recommendations for future research. Finally, I discuss how results of this study have implications for positive social change.



## Chapter 5: Discussion, Conclusions, and Recommendations

Due to the irrefutable levels of occupational stress in American workers, I conducted the current study to investigate particular lines of reasoning associated with GASP school psychologists. The purpose of the quantitative research study was to employ the theory of psychological hardiness, self-efficacy theory, and transactional model of stress and coping to investigate the moderating relationship of psychological hardiness on the association between occupational stress and self-efficacy in a sample of GASP school psychologists. First, I examined whether GASP school psychologists' occupational stress related to self-efficacy. Findings revealed that occupational stress did not relate to self-efficacy. Second, I examined whether GASP school psychologists' psychological hardiness was associated to self-efficacy, and I found a statistically significant positive relationship between psychological hardiness and self-efficacy.

Lastly, I examined whether psychological hardiness moderated the association between occupational stress and self-efficacy. I found that GASP school psychologists' psychological hardiness moderated the relationship between occupational stress and self-efficacy. In particular, when levels of occupational stress were low, GASP school psychologists' self-efficacy increased as psychological hardiness increased. Interestingly, I also found that as occupational stress increased, those practitioners with high psychological hardiness tended to experience a decrease in feelings of self-efficacy. Conversely, as levels of occupational stress increased, school psychologists with low psychological hardiness tended to have an increase in feelings of self-efficacy. The

research goals were achieved and bore outcomes pertaining to the psychological health and coping appraisals of GASP school psychologists.

### **Interpretation of the Findings**

#### **Occupational Stress and Self-Efficacy**

In the first research hypothesis, I found no statistical relationship between occupational stress and self-efficacy while controlling for psychological hardiness. The current findings contradicted previous research, which suggested that occupational stress related to self-efficacy. Much of the extant research identified that American workers experienced feelings of occupational stress, which in turn caused feelings of burn-out (i.e., depersonalization and emotional fatigue), ill health, and diminished perceptions of success (Bandura, 1997; Huber, 2000; Huebner et al., 2002; Mills & Huebner, 1998).

Specifically, in the human service helping professional cohort, workers' endorsements of disengagement, emotional exhaustion, frustration, and dejection led to significant turnover of employees and reports of diminished biopsychosocial health (Brotheridge & Grandey, 2002; Edelwich & Brodsky, 1980; Kahn, 2005; Maslach, 1976, 1978, 1982; Mor-Barak et al., 2001). Within schoolhouse research studies, Sogunro (2012) found that school administrators often experienced significant feelings of occupational stress related to interpersonal interactions; school crises; and local, state, and federal mandates. Analogous to school administrators, research revealed that school psychologists also suffered from occupational stress related to role conflict, role ambiguity, state and federal timelines, and delivery of psychological assistance (Erhardt-Padgett et al., 2004; Lee et al., 2011; Ruff, 2011; Worrell, 2012).

In contrast, in a study of 108 teachers, Vaezi and Fallah (2011) found significant negative correlations ( $p < .01$ ) between stress and dimensions of self-efficacy. Specifically, these authors explained that both classroom efficacy ( $p < .01$ ) and organizational efficacy ( $p < .01$ ) individually and collectively had significant influence on stress. In another study, Betoret (2006) reported that teachers who felt high levels of stress were found to have low levels of self-efficacy. Likewise, other studies suggested that school counselors' affirmative self-efficacy was positively associated with personal accomplishment and certitude and was negatively related to feelings of burnout, depersonalization, emotional exhaustion, and occupational stress (Gündüz, 2012).

Bandura's (1997) theory of self-efficacy proposed that an individual's affective states and actions are founded on subjective perceptions of reality. Thus, individual functioning can be predicted by a person's subjective accurate or inaccurate perceptions of their self-efficacy rather than on an individual's actual accomplishments (Bandura, 1997). In this way, despite an individual's assertion of adequacy in knowledge and self-efficacy, behaviors could be disconnected from actual real abilities (Pajares, 2002). For example, Rochester-Olang (2011) found that despite feelings of occupational stress, school psychologists perceived self-efficacious abilities in their assistance to students; this finding suggested no relationship between occupational stress and self-efficacy. Additionally, despite difficulties with leadership, increasing quantities of students waiting for evaluations, and lack of institutional support, school psychologists who demonstrated determination to care for the children who depended on them, exhibited motivation and no diminishment in their self-efficacious work behaviors (Rochester-Olang, 2011). The

Rochester-Olang study indicated that self-efficacious feelings might not always predict reality. Even though at other times, self-efficacious feelings might aptly describe an individual's perception of their emotional state and actual capabilities (Rochester-Olang, 2011). The findings verified aspects of Bandura's theory of self-efficacy.

### **Psychological Hardiness and Self-Efficacy**

In the second research hypothesis, I found a positive and significant statistical relationship between GASP school psychologists' psychological hardiness and self-efficacy while controlling for occupational stress. The findings corroborated previous research, which suggested that psychological hardiness related to self-efficacy. I reviewed existing research and found few studies, which directly evaluated the relationship of psychological hardiness and self-efficacy. However, prior research did indicate that individuals high in psychological hardiness (i.e., comprised of commitment, control, and challenge) demonstrated responsiveness, determination, and resourcefulness in the management of challenging tasks (Maddi, 1994, 2002). High hardy individuals exhibited positive self-efficacy, which they exhibited in positivity, determination, optimism, and action in problem management (Maddi, 1984, 1994, 2002).

Positive domain-related behavioral and cognitive psychological attributes influence individuals' self-belief constructs to pursue goals (Bandura, 1977; Maddi & Kobasa, 1984). In the case of school psychologists, I found that cognitive and affective dispositional personality aspects (e.g., psychological hardiness) positively influenced school psychologists' self-efficacious perceptions and behaviors (Bandura, 1986; Liebert & Liebert, 2004). The findings substantiated the theory of psychological hardiness and

self-efficacy theory and revealed that psychological hardiness had a moderate and positive association with self-efficacy among GASP school psychologists.

### **Occupational Stress, Self-Efficacy, and Moderation of Psychological Hardiness**

In the third hypothesis, I identified that psychological hardiness moderated the relationship between occupational stress and self-efficacy in a sample of GASP school psychologists. Specifically, the findings suggested that at low levels of occupational stress, school psychologists' self-efficacy increased as psychological hardiness increased. Interestingly, I also determined that at greater levels of occupational stress, school psychologists who endorsed higher feelings of psychological hardiness tended to have a diminishment in feelings of self-efficacy. Conversely, at higher levels of occupational stress, school psychologists who endorsed low feelings of psychological hardiness tended to have augmentation in feelings of self-efficacy.

The theory of psychological hardiness and the transactional model of stress and coping suggest that an individual with high psychological hardiness is able to appraise and cope with challenges, thereby increasing self-efficacy. In concert with this theory and model, the self-efficacy theory suggests that occupational stress has consequences on an individual's self-efficacy. The current findings did not corroborate or support prior research associated with the aforementioned theories and model.

In the study, I identified absence of a relationship between occupational stress and school psychologists' self-efficacy. Findings also included a moderate and inverse relationship between psychological hardiness and school psychologists' self-efficacy. It is possible that other potential moderators were not included in the study's model (e.g.,

individuals' unique life experiences) and influenced the relationship between occupational stress and self-efficacy. Additionally, it is also plausible that feelings of chronic occupational stress predispose school psychologists to misperceive psychological hardiness, which in turn might negatively impact interpretation of actual ability.

Saarni (1999) noted that the capacity to regulate one's emotions and feelings of control are crucial to the management of self-efficacy. Conceivably, a chronically stressed and pragmatic (i.e., realistic) school psychologist, who is acutely aware of his or her strong coping ability, could perceive that their work product might suffer from increased stress (Saarni, 1999). Conversely, a chronically stressed and idealist (i.e., out of touch with reality) school psychologist might experience a breakdown in self-appraisal coping skills and disassociate, thereby perceiving their work product to be better than it is in reality (Saarni, 1999). These findings are important for trainers and supervisors to consider when analyzing school psychologists' work products related to overall student and school-based outcomes.

### **Limitations of the Study**

Many research studies conducted in the health domain that use participant self-report as the central data collection mechanism are subject to limitations; the current study was subject to similar limitations, which perhaps influenced the reliability of data gathering (Gorber, Tremblay, Moher, & Gorber, 2007). As I discussed in Chapter 1, there were particular aspects of the research study, which could influence the generalizability of findings and validity of conclusions. As presumed, the notable limitations of the current study related to the self-report nature of the survey design,

hidden features of the study variables, selection of the study sample, and age of the instruments.

A vital limitation associated with the current study involved the self-report nature of each survey's design, which could introduce response bias and misinterpretation of questions, consequently leading to inaccuracy of data. Perrewe and Zellars (1999) reported that self-report surveys used to assess internal states are potentially fallible. Schwartz (1999) further noted that self-report assessments can be influenced by measurement errors associated with human contextual effect (e.g., memory) and personality features, which could hinder the accuracy of reporting.

Another limitation considered that internalized subjective feelings and perceptions might not be measureable, observable, or within a participant's awareness. This opacity could affect a participant's answers and spoil the accuracy of findings. Furthermore, when answering a self-report survey, an individual might distort responses due to denial, enhancement, or self-deception. Finally, it is conceivable that a participant might answer in an overly cautious manner without allowing for a full range of internalized feelings.

An additional limitation involved selection of the sample. I used a volunteer sample of GASP school psychologists. Although GASP school psychologists are thought to be representative of American school psychologists, perhaps the sample was not fully illustrative of all professional school psychologists. The accessible population included only professional GASP school psychologists, as compared to other school psychologists who are not members of GASP. Therefore, the findings can only be generalized to professional GASP members.

Finally, a further limitation involved the age of the SPSI study instrument.

Although NASP called for modifications to school psychologists' overall job tasks in 2002, the 2010 NASP study of American school psychologists found that little had changed in school psychologists' daily functioning (Castillo et al., 2012). While the SPSI survey questions remained relevant to the current tasks of school psychologists (Check & Schutt, 2012; NASP, 2010a; Reece, 2010; Williams, 2001), there might be other duties and responsibilities not accounted for on the survey, which might cause significant stress (e.g., suicide intervention protocols, meetings with lawyers and educational advocates, or 60-day federal timelines).

It is not known if the survey design format, internalized personality features, voluntary nature, or age of the SPSI significantly contributed to the generalizability, reliability, and validity of conclusions. It is important to acknowledge the potential presence of unknown variables so that current findings are not mistakenly applied to other populations. Finally, as with many research studies, it is crucial to remember that the identification of relationships among variables does not imply causal relationships (Bewick, Cheek, & Ball, 2003).

### **Recommendations for Future Research**

Recommendations for future research are varied. As this study investigated GASP school psychologists and the moderating influence of psychological hardiness on the relationship between occupational stress and self-efficacy, other studies with larger and more varied samples of school psychologists could explore the extent of generalizability. Future research might compare feelings of occupational stress,



psychological coping strategies, and self-efficacy in GASP versus nonGASP school psychologists or among school psychologists throughout the United States. This study could be repeated comparing the current variables with other features of a school psychologist's job such as grade level (i.e., elementary, middle, high school); population (general education, psychoeducational education, hospital residential setting); or practitioner-to-student ratio. Furthermore, another study could examine disparate psychological characteristics of a school psychologist such as emotional intelligence, fear, anxiety, or locus of control, which might influence perceptions of occupational stress and self-efficacy. Additionally, studies could use qualitative, longitudinal design, focus groups, or cases studies to obtain more details associated with occupational stress and particular job tasks. In addition, impending studies might duplicate this study using a more current survey assessment of occupational stress. Finally, a study could investigate perceived rewards associated with school psychology practice, which might be used to equalize occupational stress.

### **Implications for Social Change**

The value of research can be appreciated when findings are united with the social change paradigm to inform policy, practice, and mindset as a means to promote the development, dignity, and worth of human beings. In regards to the current study, this objective could influence amelioration of the mental health of typical American workers, American human service helping professionals, and Georgia school psychologists. Social change could be recognized through the maintenance of psychologically sound Georgia school psychologists. It is important for school psychologists to transform their

intentions to actions using techniques, which help to sustain their mental health and wellness. In turn, as sustainable healthy schoolhouse leaders, school psychologists could intervene and inspire social change through the improvement of the health and wellness of students, teachers, administrators, parents, and families.

Results from the study suggest that the recognition of occupational stress, psychological hardiness, and self-efficacy has relevance to social change. Workplace responses to stress should be openly recognized and realistically managed. Despite sanguine personality characteristics (e.g., psychological hardiness, self-efficacy, assertiveness, flexibility, creativity, and open-mindedness), school psychologists still experience occupational stress in their daily activities (Fagan & Wise, 2007). I found that school psychologists used psychological hardiness as an introspective coping tool to manage stress and distinguish realistic feelings about their self-efficacy, competence, and self-determination.

School psychologists who feel self-efficacious might be able to employ interpersonal skills to work constructively and collaboratively with individuals and agencies to further the health of individuals within their purview (Boyatzis & Skelley, 1995; Fagan & Wise, 2007; Hanson, 1996; Sternberg, 2005). Efficacious personality traits could bolster school psychologists listening, adaptation, acceptance, and patience when faced with challenging situations (Fagan & Wise, 2007). Fagan and Wise (2007) explained that effective school psychologists would use their skills to make sound decisions founded on data, develop interventions to address referral issues, and design appropriate assessment strategies. Furthermore, resilient and competent school

psychologists might engage in fruitful consultation, communication, and dissemination of information (Fagan & Wise, 2007). In sum, school psychologists could affect social change and create positive and favorable schoolhouse environments.

### **Recommendations for Practice**

In order to stimulate social change, discussion about occupational stress and coping appraisal strategies might be incorporated into graduate level training for student school psychologists. An introduction covering the realities of fulltime practice might encourage student school psychologists' emerging development of personal coping and appraisal skills to ensure later positive mental health. As student school psychologists ready to make the transition to fulltime work, provision of mentorship opportunities with experienced school psychologist might assist with the development of practical skills and self-care techniques (Crespi, Bevins, & Butler, 2012). Experienced school psychologist mentors could help new school psychologists appreciate the need for coping techniques to manage stress, maintain or foster positive mental health, and handle the fluctuating dynamics of schoolhouse issues.

Besides student and new school psychologists, practicing school psychologists should engage in techniques to bolster professional self-care skills. Continuous mentorship through collegial relationships might encourage a reciprocal enlightenment throughout a school psychologist's career. In addition, online support (e.g., school psychology blogs, forums, and professional development activities) could improve psychological wellness (Branstetter, 2012; Miller, 2014). Furthermore, Branstetter (2012) suggested usage of flocking (i.e., gathering together) as a means for self-care.

Because school psychology can be an isolating profession, school psychologists should be given opportunities to regularly flock together as a means to consult, connect, and decompress with peers who understand the demands of the job (Branstetter, 2012).

In addition to development of professional self-care skills, school psychologists should also focus on personal self-care skills (Branstetter, 2012). Branstetter (2012) averred that school psychologists must set firm work to life boundaries and recognize when to say no in the work place to avoid becoming overburdened. Finally, school psychologists should add mindfulness to practice by finding quiet moments during the work day to slow down, breathe, and regroup (Branstetter, 2012; Lynch, 2014).

### **Conclusion**

The purpose of the current study was to assess the moderating relationship of psychological hardiness on the association between occupational stress and self-efficacy in GASP school psychologists. Through analysis, I found a significant association between psychological hardiness and self-efficacy and in the interaction effect of occupational stress by psychological hardiness and self-efficacy. Given the prevalence of increasing levels of workplace stress for American educators, it is vital to attend to the mental health of school psychologists.

On a consistent basis, school psychologists should be empowered and assisted to develop self-care resources, cognitive appraisal practices, and coping mechanisms. The management of school psychologists' biopsychosocial responses to occupational stress can help bolster their efficacious provision of services to those within their purview. By providing assistance to those in need, school psychologists could help augment others'

well-being. In these ways, school psychologists can be agents of social change, advocating for health and wellness within and beyond schoolhouse walls.

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[psychologist/2012/04/election-nominee-worrell.aspx](#)

## Appendix A: Informed Consent

Dear Professional GASP School Psychologist,

My name is Jennifer Crosson. I am a doctoral candidate at Walden University and a current professional member of GASP. I am working on my doctoral dissertation, the goal of which is to learn about the relationship of school psychologists' occupational stress, psychological hardiness, and self-efficacy.

I am writing to ask for your **voluntary** participation in a research study as part of my dissertation. The study is not part of any GASP initiative. Any decision that you make about your participation will be respected. If you decide to participate and change your mind, you may discontinue your participation any time.

This document is part of the informed consent process and will help explain the study before you decide to participate. If you agree to participate, you will be asked to complete a 5-item questionnaire asking for demographic information taking less than 1 minute; 35-item survey about occupational stress taking 10 minutes; 15-item survey taking 5 minutes; and 95-item survey about self-efficacy taking 15 minutes. Sample questions might include questions about your age range, how you feel about the development of academic or behavioral interventions, and the stress you feel to be associated with parent meetings.

This study does not present any threat of psychological risk beyond worries related to daily living, and there is no risk to your safety or well-being. It is hoped that participants might receive personal or professional benefit from the study's findings. The results from the study will be presented at a GASP meeting.

All survey data will be transmitted in an encrypted anonymous format. Email and IP addresses will not be saved. The researcher will not use any personally identifiable information for any purpose outside of research. As required by Walden University, the study data will be kept for at least 5 years in a secure password-protected external drive, which is housed in the researcher's locked home office and accessible only to the researcher.

You may ask any questions you have now. If you have questions later, please contact the researcher, Jennifer Crosson, at 404-863-5009 or [jennifer.crosson@waldenu.edu](mailto:jennifer.crosson@waldenu.edu). If you want to speak privately about participation in this study, you may call the Walden University representative, Dr. Leilani Endicott at 1-800-925-3368, extension 3121210. Walden University's approval number for this study is **08-08-14-0156307** which expires on **August 7, 2015**.

Please print or save this form for your records. Thank you for your time, consideration, and participation.

**Statement of Consent:** I have read the above information. I feel that I understand the study well enough to make a decision about my participation in this voluntary survey. By clicking on the link below, I understand that I agree to the information described above.

Dear Professional GASP School Psychologist,

My name is Jennifer Crosson. I am a doctoral candidate at Walden University and a current professional member of GASP. I am working on my doctoral dissertation, the goal of which is to learn about the relationship of school psychologists' occupational stress, psychological hardiness, and self-efficacy.

I am writing to ask for your **voluntary** participation in a research study as part of my dissertation. The study is not part of any GASP initiative. Any decision that you make about your participation will be respected. If you decide to participate and change your mind, you may discontinue your participation any time.

This document is part of the informed consent process and will help explain the study before you decide to participate. If you agree to participate, you will be asked to complete a 6-item questionnaire asking for demographic information taking 3 minutes; 30-item survey about occupational stress taking 10 minutes; 15-item survey taking 5 minutes; and 95-item survey about self-efficacy taking 20 minutes. Sample questions might include questions about your age range, how you feel about the development of academic or behavioral interventions, and the stress you feel to be associated with parent meetings.

This study does not present any threat of psychological risk beyond worries related to daily living, and there is no risk to your safety or wellbeing. It is hoped that participants might receive personal or professional benefit from the study's findings. The results from the study will be presented at a GASP meeting.

All survey data will be transmitted in an encrypted anonymous format. Email and IP addresses will not be saved. The researcher will not use any personally identifiable information for any purpose outside of research. As required by Walden University, the study data will be kept for at least 5 years in a secure password-protected external drive, which is housed in the researcher's locked home office and accessible only to the researcher.

You may ask any questions you have now. If you have questions later, please contact the researcher, Jennifer Crosson, at 404-863-5009 or [jennifer.crosson@waldenu.edu](mailto:jennifer.crosson@waldenu.edu). If you want to speak privately about participation in this study, you may call the Walden University representative, Dr. Leilani Endicott at 1-800-925-3368, extension 3121210. Walden University's approval number for this study is 08-08-14-0156307 which expires on August 7, 2015.

Please print or save this form for your records. Thank you for your time, consideration, and participation.

**Statement of Consent:** I have read the above information. I feel that I understand the study well enough to make a decision about my participation in this voluntary survey. By clicking on the link below, I understand that I agree to the information described above.

This has been approved by the  
Institutional Review Board of  
**WALDEN UNIVERSITY**  
as acceptable documentation of the  
informed consent process and is valid  
for one year after the stamped date.

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## Appendix B: Demographic Questionnaire

1. Gender: (a) male, (b) female
2. Age range: (a) 20-30, (b) 31-40, (c) 41-50, (d) 51-60, (e) 61+
3. Degree held: (a) MA, (b) EdS, (c) PhD/EdD
4. Number of years of experience: (a) 1-10, (b) 11-20 (c) 21+
5. Please select the best description of your primary assignment.
  - (a) urban \_\_\_\_\_
  - (b) suburban \_\_\_\_\_
  - (c) rural \_\_\_\_\_

## Appendix C: Permission for SPSI Usage

Paula S Wise <PS-Wise@wiu.edu>

February 13, 2014

Hi Jennifer,

Nice to hear that someone is still examining the stressful events in the lives of school psychologists.

I don't have a problem with you using the inventory - consider this my written permission -- but the survey is very outdated. The world in which school psychologists' function has changed and the survey has not kept up with those changes. Dr. Scott Huebner at the University of South Carolina has used the survey. At one time he mentioned that he thought about updating it. You might check with him to see if that was ever done. I have included him in this email.

I wish you all the best in your studies!!

Sincerely,

Paula Wise  
Professor Emerita  
Department of Psychology  
Western Illinois University

#### Appendix D: DRS End User License Agreement-Academic

The DRS instrument(s) may be used by academic students and faculty for research projects and activities related to their academic programs, subject to the following terms.

This is an Agreement between you and the author (Paul T. Bartone, Ph.D.) which governs your access to and non-commercial use of the Dispositional Resilience Scale (DRS) and supporting copyrighted materials.

**Definitions** The Materials means all documents provided to you as part of the DRS Tools package, including the DRS15 (all versions), the DRS15 scoring key (all versions), all norms documents, and any other versions of the DRS including translated versions as well as any new translations.

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**Translations** You may translate the DRS instrument into a new target language for use with specific populations or groups, providing that (1) the translation is as true and close as possible to the original source DRS instrument, including item wording, instructions, response format and response option wording; (2) copyright on all translated versions remains with the author Paul T. Bartone, and his copyright mark must appear on all translated versions; and (3) a copy of the translated version is provided to the DRS author prior to use.

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**Waiver and Severability of Terms** The failure of the Author to exercise or enforce any right or provision of this Agreement shall not constitute a waiver of such right or provision. If any provision of this Agreement is found by a court of competent jurisdiction to be invalid, the parties nevertheless agree that the court should endeavor to give effect to the parties' intentions as reflected in the provision, and the other.

## Appendix E: Permission for HIS-SP Usage

Monday, September 16, 2013 11:41:56 AM

Hi...thanks for emailing me...you have my permission to use the inventory I made. Good luck!

Dawn Trueblood, Ph.D., NCSP  
 Licensed School Psychologist #4081  
 Horseshoe Trails Elementary and Sonoran Trails Middle School  
 Room #113 at Horseshoe Trails  
 Room #115 at Sonoran Trails  
 (480) 272-8548 HTES  
 (480) 272-8670 STMS

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“Inspire Excellence”

-----Original Message-----

From: JENNIFER B. CROSSON  
 [mailto:JENNIFER\_B\_BAUMAN@fc.dekalb.k12.ga.us]  
 Sent: Monday, September 16, 2013 7:31 AM  
 To: Dawn Trueblood  
 Subject: Fellow school psychologist and beginning stages of my dissertation

Hi Dr. Trueblood,

I am a fellow school psychologist and am working on my dissertation; I am at Walden University on line. I am just in the beginning stages.

I am thinking that I am interested in self efficacy with school psychologists. I came across your name when searching for instruments. I noticed that you developed an inventory for your study.

I know that I am only in the beginning stages of dissertation (my prospectus has not even been approved yet----) and would to find out how I might be able to get permission to use your inventory, if this is the direction that I choose to take. Please advise.

Thanks in advance for your time and assistance.

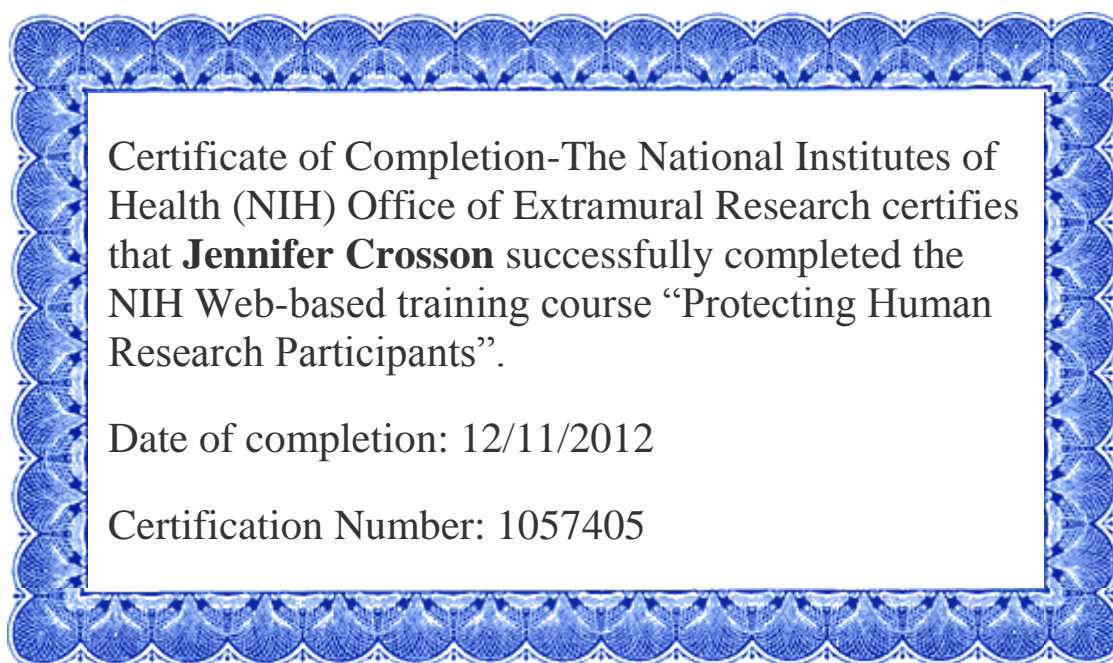
Jen Crosson

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"May you live all the days of your life!" ~Jonathan Swift

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## Appendix F: NIH Training Certificate



## Curriculum Vitae

**Education**

Doctor of Philosophy, Health Psychology, 2015  
Walden University, Minneapolis, MN

Educational Specialist, School Psychology, 1999  
Georgia State University, Atlanta, GA

Masters of Education, Mild-to-Moderate Special Needs, 1992  
Boston College, Chestnut Hill, MA

Masters of Education, Elementary Education, 1991  
Boston College, Chestnut Hill, MA

Bachelor of Arts, History and Classical Archaeology, 1988  
University of Michigan, Ann Arbor, MI

**Recent Walden University Coursework**

- Biopsychology
- Changing Health Behaviors: Theory and Practice
- Clinical Neuropsychology
- Contemporary Gerontology and Geriatric Psychology
- Doctoral Statistics I & II
- Ethics and Standards of Professional Practice
- Health Psychology
- History and Systems of Psychology
- Lifespan Development
- Psychology and Social Change
- Psychoneuroimmunology
- Psychopharmacology
- Research Design
- Social Psychology
- Stress and Coping
- Test and Measurements

**Certification**

SRL-6 Educational Leadership (P – 12)

SRL-6 Director: Pupil Personnel Services & Special Education

SRS-6 School Psychology (P – 12)

SRT-6 Early Childhood Education (P - 12)

SRT-6 Middle Grades Education (4 - 8): Social Science; Language Arts; Reading; Mathematics

SRT-6 Special Education Consultative (P - 12): General Curriculum & Learning Disabilities

SRT-6 Special Education Cognitive Level (P - 5): Language Arts; Math; Reading; Science; Social Science

SRT-6 Special Education Cognitive Level (4 - 8): Social Science; Mathematics; Language Arts; Reading

### **Professional Experience**

#### School Psychologist

DeKalb County Psychological Services  
Stone Mountain, GA  
2000-current

- \*Complete intelligence, academic, processing, social, emotional, attention, neuropsychological, developmental, behavioral evaluations–Pre K-12
- \*Synthesize assessment data, write psychological reports and eligibility documents
- \*Direct Student Support Team (SST) and 504 meetings
- \*Facilitate usage of RtI (Response to Intervention) data for progress monitoring purposes
- \*Consult with students, teachers, administrators, counselors, social workers, parents, and outside agencies
- \*Participate on Crisis Intervention Teams

#### School Psychologist-Contractual Employee

Department of Juvenile Justice, Regional Youth Detention Center, DeKalb County  
Decatur, GA  
2007-2012

- \*Completed intelligence, academic, processing, social, emotional, and behavioral evaluations with adolescent males
- \*Synthesized assessment data; wrote and presented psychological information, eligibility documents, and reports
- \*Consulted with students, teachers, and parents

#### Severe Emotional Behavior Disorder (SEBD) Special Education Teacher

Hooper Renwick Psycho Educational Center, Lawrenceville, GA  
1999-2000

- \*Instructed students, grades 8 through 12
- \*Designed and implemented behavioral programs
- \*Collected and organized data used for progress monitoring
- \*Conducted individual and group consultation with students

#### Interrelated Resource Special Education Teacher

Trickum Middle School, Lilburn, GA  
1992-1998

- \*Instructed students, pullout and collaborative models, grades 6 through 8
- \*Performed local school achievement evaluations following the laws of due process
- \*Collected and organized data used for progress monitoring
- \*Designed and implemented instructional and behavioral programs

### **Publications**

Crosson, J. B. (2012). Psychoneuroimmunology, stress, and pregnancy. *International Journal of Childbirth Education*, 27(2), 76-79.

### **Professional Organizations**

- Georgia Association of School Psychologists
- National Association of School Psychologists

### **Academic Organizations**

- Golden Key, International Honour Society
- Kappa Delta Pi, International Honor Society in Education
- Phi Delta Kappa, Professional Fraternity in Education
- Pi Lambda Theta, International Honor Society in Education
- Psi Chi, International Honor Society in Psychology