ABSTRACT

Title of Thesis: UNDERSTANDING TEACHER STRESS:
                                     RELATIONS OF IMPLICIT AND EXPLICIT
                                     COPING PROCESSES WITH TEACHING
                                     OUTCOMES

                                     Margaret Jordan Kim, Master of Arts, 2017

Thesis directed by: Dr. Hedwig Teglasi, Ph.D
                                     Department of Counseling, Higher Education,
                                     and Special Education.

Teacher attrition within the first three years is a growing problem in the US. The current

study focuses on teacher stress from a novel perspective by assessing how teachers cope

with stresses of the profession at the earliest point in their careers – during their training.

Coping is defined as a transaction between a person and their environment, influenced by

conscious choices and automatic processes. Research relies on explicit measures (self-

report on Likert scales) to assess coping, but critics note this approach is limited and does

not assess the whole process. In addition to Likert scales, this study incorporates implicit

measures (narratives, the Thematic Apperception Test), to examine the implicit processes

of coping. As predicted, significant correlations were identified within, but not across

methods of measurement. Implicit but not explicit measures were significantly correlated

with external evaluations of teacher effectiveness. Implications for coping theory and

measurement are discussed.

UNDERSTANDING TEACHER STRESS: RELATIONS OF IMPLICIT AND
EXPLICIT COPING PROCESSES WITH TEACHING OUTCOMES

by

Margaret Jordan Kim

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Advisory Committee:

     Professor Hedwig Teglasi, Chair
     Professor MaryAnn Hoffman
     Professor Margaret Polizos Peterson

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Chapter 1: Introduction

Teacher attrition and burnout are major concerns within the US education system. Research shows that teachers in the profession for years experience burnout, a construct characterized by emotional exhaustion, feelings of low accomplishment, and depersonalization that are built up over an extended time period (Grayson & Alvarez, 2008). Burnout has significant negative effects on teacher effectiveness and student outcomes, and has been a topic of extensive research (Fernet, Guay, Senécal, & Austin, 2006; Shin et al., 2014). However, teacher stress is not limited to the steady accumulation of stressors over many years, as many new teachers leave the profession after only 3 years (Ingersoll, 2003). Such turnover of new teachers has significant implications for both school systems and students, both financially and academically. The consistent "revolving door" of new teachers raises questions about ways student teachers cope with the many demands inherent in a career in teaching. This line of study is linked to prior explorations of burnout, as maladaptive approaches to coping with stress in schools have been correlated with teacher burnout (Chang, 2013). However, the current study shifts focus away from burnout over time to the ways student teachers understand and cope with the demands of first teaching experiences.

Coping Defined

Coping is defined as a transaction between a person and an experience that is appraised as stressful (Lazarus & Folkman, 1984). The interaction between the context and the individual inherent in the definition makes it a valuable lens for capturing the experience of early teachers, because it accounts for individual differences between teachers *and* the characteristics of teaching as a profession, as well as how the two

interact. For student teachers adjusting to life at the head of a classroom, coping is the interplay between situations they experience as stressful and the ways in which they react and problem solve to attenuate that stress, both in the moment and long term. The current study measures individual differences in the coping process, and how measured differences relate to perceived effectiveness in the classroom, as rated by student teachers' Campus and Field Supervisors.

Individual differences in the coping process are complex because they include automatic, unconscious responses in addition to consciously selected problem solving strategies, both of which are influenced by other individual differences, including temperament and past experiences (Connor-Smith & Flachsbart, 2007). This means that the same kind of event likely produces a range of coping responses and processes across individuals. Once a coping action is initiated, it changes the nature of the problem, subsequent responses, and approach to future problems. The characterization of coping in this way, as a process that is part conscious and part unconscious makes it challenging to measure and quantify, as approaches designed to capture specific actions or strategies may miss the dynamics of the situation as a whole. The current study compares different methods of coping measurement to determine the unique dimensions of coping each measures, and how they compare to each other and success in coping. Teachers who are able to cope with both their internal stressors *and* external demands in an ongoing way are expected to be more effective as they are able to adapt and shift their approach to meet the demands of the classroom, and it is expected that this will be reflected in external evaluations of effectiveness.

Measurement of Coping

Two distinct forms of measurement capture conscious and unconscious processes, and both approaches are used in the current study. Conscious processes, like specifically selected problem solving strategies, occur within individual awareness and are measured using self- report scales (Explicit Measures). Explicit measures rely on specific questions and often provide response options that allow responders to indicate the frequency or how characteristic certain behaviors are for them. In contrast, unconscious processes are measured with stories told about actual experiences rather than asking directly about coping (Implicit Measures). Implicit measures use structured inference on the part of researchers to identify themes and schemas in stories that go beyond what is explicitly shared. Such approaches include systematic coding and quantification of story details, which allows for correlational analysis between implicit and explicit measures of coping, and effectiveness ratings. The current study uses student teachers' personal narratives and the Thematic Apperception Test as implicit measures of coping. Prior research indicates that implicit and explicit measures of motivation are correlated with different kinds of outcomes (McClelland, Koestner, & Weinberger, 1989). Specifically, implicit measures are more highly correlated with motivation and behaviors in real-world contexts, and explicit measures are strongly correlated with behaviors on highly structured tasks with clear social expectations (Spangler, 1992). The current study seeks to determine whether such relationships exist within explicit and implicit assessments of coping and the prediction of teaching outcomes, specifically whether implicit measures of coping predict behaviors embedded in context in the same way implicit of measures of motivation do.

Prior research most frequently uses explicit measurement to capture coping by examining the strategies individuals use (e.g. Carver, Scheier, & Weintraub, 1989).

Other popular areas of study focus on other dimensions of coping like flexibility in strategies (e.g. Kato, 2012) or self-efficacy (e.g. Lambert, Benight, Harrison, & Cieslak, 2012). However, much of this research focuses narrowly on individual components, or links between components rather than the process as a whole. For example, although coping is a process where emotions and feelings of efficacy are linked to what people do to cope, they are often assessed independently of each other, in a way that is itemized and focused on quantifying each piece of the coping process individually, rather than capturing the process as it connects to adaptive functioning or performance.

Implicit measures, in addition to providing insight into the unconscious elements of coping, can also help characterize the interplay between different elements of coping, including the way problems are framed, and the effectiveness of coping efforts embedded within a specific context. In a story, elements of process are captured, and the relationship between the problem, individual response, efficacy, and outcome are quantified using standardized coding procedures on the TAT that examine stories for completeness and appropriateness of how characters deal with presented tensions. For example, in stories, the coping level is determined by the relationship between the problem/dilemma as defined by the narrator (appraisal) and by strategies to address it (coping, which may include re-appraisal). The focus is on the connection between the two and not the individual appraisals or coping behaviors. The current study applies previously established coding systems to quantify the completeness of coping efforts that appear in student teachers' narratives. This approach provides an assessment of coping embedded in the context of interest – how individuals navigate the successes and

challenges of teaching, and how they adapt both in the moment and over many weeks in the classroom and how this process of coping and adaptation leads to effective teaching.

Context of Coping

Understanding how individuals cope both in the moment and over time is important. Specific individual reactions to stress give rise to patterns of coping that lead to adaptation (or not) over time. Research indicates that coping occurs on multiple, nested levels. Most broadly, coping is an adaptive process, where individuals cope with long term, ongoing stressors like chronic illness (Davis, DiStefano, & Schutz, 2008). But this adaptive process is built from instances of coping in response to specific events (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). The lens can be focused even more specifically on coping as a transaction between a single aspect of a situation and an immediate response (Skinner & Zimmer-Gembeck, 2007). The levels are nested within, and reciprocally influence each other to define individual responses in the moment and with respect to long-term adaptive outcomes. This reciprocal influence theoretically links momentary coping decisions to broader measures of success or effectiveness in the classroom for student teachers.

What is common to all three levels, and crucial to the idea of coping as a transaction, is that the process is inseparable from the context of the stressful event. Coping at a particular moment is influenced by one's previous experiences, and one's adaptive coping abilities overall. However, each individual instance also contributes to broad coping schema, and contributes to adaptive patterns applied to future situations. Thus, measuring and understanding the relationship between the context (the unique components of a stressful situation for that person) in combination with their overall

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adaptive approach to coping is as important as the categorization of strategies or a focus on patterns of response generally. The current study examines the relationship between broad coping schemas and specific episodes by comparing schema and coping patterns from TAT stories with those that appear in narratives about specific meaningful experiences. The TAT provides an assessment of broad, default approaches to coping, while the narratives provide information on how such schemas may or may not apply to certain contexts or experiences in teaching.

The Current Study

The current study compares implicit and explicit measures of coping from student teachers during their first full time classroom placement to assess conscious and unconscious coping processes. The study also assesses effectiveness using ratings from student teachers' supervisors. Data from each form of measurement will be correlated with the others and to evaluations of effectiveness. External ratings of effectiveness provide an estimate of student teacher functioning distinct from student teachers' own evaluations, which might be subject to the same biases or response patterns as their responses on coping measures. Additionally, it is believed that evaluations of teacher effectiveness reflect the combination of implicit and explicit coping processes – how successful participants are in coping with the many novel demands and stresses inherent in a career in teaching.

The purpose of this analysis is to answer questions about the unique influence of implicit and explicit mental processes on teaching behaviors and effectiveness, as rated by an outside observer. Based on prior research, it is expected that implicit and explicit approaches to coping measurement will not correspond to each other, and will not be

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equally associated with teacher effectiveness. Additionally, it is expected that implicit assessments of coping will be correlated with effectiveness ratings, while explicitly rated coping strategies or self-rated efficacy will not. This is because implicit measures capture the process as a whole, tied to context, in a way that is theoretically linked to broader, adaptive outcomes and performance.

Chapter 2: Review of the Literature

The purpose of the current study is to use multiple forms of measurement to assess coping strategies and efficacy in student teachers during their senior year practicum placement. The study will determine whether implicit and explicit coping measures are equally associated with successful teaching outcomes. The current section reviews how coping theories have developed over time, reviews themes in research, and discusses common approaches used for coping measurement. Gaps in the research and how they will be addressed in the current study are also discussed.

Coping Definitions and Theory

The classic definition of coping originates with Lazarus and Folkman (1984), who define coping as "constantly changing cognitive and behavioral efforts to manage specific external and or internal demands that are appraised as taxing or exceeding the resources of the person" (84). This multipart definition is complex, and one of the current challenges in coping research is assessing all the interrelated components effectively. The following paragraphs discuss the key elements of the coping definition and review theory and research that expanded conceptualizations since Lazarus and Folkman's work.

Although colloquially, coping is often thought of as a discrete action in response to a negative event, Lazarus and Folkman's (1984) definition characterizes such actions as embedded in an ongoing process, tied to the ways individuals appraise and understand their experiences. The definition of coping as a transaction with the environment is unique when compared to other constructs that are characteristics on a spectrum that individuals consistently possess in varying degrees (e.g. someone might be high or low on introversion). In contrast, there are many ways differences in coping may manifest.

Differences can appear at many points in the process, during appraisal, strategy use, and in flexibility in strategy selection. Despite these differences, coping is assessed in similar ways to other singular constructs. Rating scales focused on actions and strategies dominate the coping literature, and if other aspects of the process are assessed, they are often done so with separate scales.

Coping as a conscious and unconscious process. Since Lazarus and Folkman (1984) introduced their definition, theory and research has expanded beyond strategies. Compas, Conner-Smith, Saltzman, Thomsen and Wadsworth (2001) describe the relationship between automatic reactions and conscious behaviors, and suggest that both contribute to effective coping processes in adolescents. Some research indicates that automatic reactions to stress (one's temperamental stress reactivity), contributes to the types of appraisals and coping strategies individuals use in stressful situations (Koss et al., 2013; Slattery, Grieve, Ames, Armstrong, & Essex, 2013; Sontag & Graber, 2010), and others suggest a combination of temperament and past experiences influence the selection of coping strategies (Connor-Smith & Flachsbart, 2007). However, other research indicates that certain approaches to coping temper or influence negative outcomes associated with stress reactivity (Connor-Smith & Compas, 2004). This body of research indicates that automatic reactions and selected strategies reciprocally influence each other in response to stressful situations. This relationship is crucial for understanding individual differences in effective coping, and highlights that looking at strategies independent of context and individual differences excludes crucial factors that determine outcomes.

Coping as a multilevel process. Recent theory also expands upon the characterization of coping as process, by defining it as a transaction that occurs on multiple levels. Skinner and Zimmer-Gembeck (2007) characterize coping as three nested processes: as related Adaptive, Episodic, and Interactional processes. Coping as an *Adaptive* Process occurs over developmental time, and encompasses how individuals handle and process difficult situations in the aggregate – a pattern of stress response accumulated over many experiences. Embedded in the Adaptive process is the *Episodic* process, a transaction between a person and a specific stressful episode or life event – an illness, a stressful argument or ongoing interpersonal challenge. Finally, embedded within the Episodic process is coping as an *Interactional* process, the immediate give and take between a person and a stressful situation that occurs in real time. Moment-to-moment processes of appraisal, action, reappraisal, and reaction occur at this level. Skinner and Zimmer-Gembeck's nested model suggests that coping is more complex than simple give and take that leads to resolution – instead, immediate automatic responses define a transaction and immediate outcomes in the moment but also accumulate to contribute to broad adaptive coping patterns that occur in developmental time and predict performance outcomes.

Although not always directly stated, different studies focus on different but related levels of the coping process, which makes it difficult to compare their findings. Each level is distinct and not interchangeable with the others conceptually or practically. However, since many studies do not specify their own level of focus, one may unintentionally compare or equate outcomes from research with two distinct levels of focus. Skinner and Zimmer-Gembeck (2007) suggest that most coping research focuses

the episodic process to examine how people deal with a specific event, kind of event, or episode in their lives. For example, many studies focus on the ways individuals cope with specific events, like arguments or exams (Folkman, Lazarus, Dunkel-Schetter, et al., 1986). Other research considers coping as part of an adaptive process by considering how patterns of coping contribute to overall well-being, through an examination of general coping tendencies or responses to chronic conditions. For example, Compas, Jaser, Dunn, and Rodriguez (2014) correlate specific patterns of coping with adaptation and adjustment outcomes. Other studies similarly explored the ways in which children cope with chronic pain, and associated coping styles with long term mental health outcomes, like anxiety or depression (Thomsen et al., 2002).

In contrast to the other two levels, the Interactional process is more challenging to measure because it occurs in real time. Skinner and Zimmer-Gembeck (2007) theorize that it incorporates automatic reactions as well as volitional processes – the relationship described by Compas et al (2001). Research on emotion regulation provides additional insight into what this momentary process looks like. Although not specific to coping, Gross' (1998) model of emotion regulation describes emotion regulation as a process and transaction with the environment, that emotion management is ongoing and not a discrete skill. Rather than describing a single action reaction where individuals experience an emotion and then work to regulate it, Gross' model suggests that regulation occurs consciously and unconsciously before, during, and after events. In the model, the process begins with situation selection, shifts to situation modification, regulation of attention, changes in cognition, and finally modulation of responses. The model is similar to

conceptualizations of coping, because it includes both automatic reactions and conscious actions, and accounts for the ways they interact.

Other research indicates that reappraisal processes happens automatically to regulate emotions in the moment, and can interact with individual differences in the moment to predict physiological changes in heart rate (Williams, Bargh, Nocera, & Gray, 2009). The processes described include feelings and transactions that occur inside and outside of awareness, and are the smallest building blocks of the coping process. Because these pieces are embedded within episodic and adaptive coping processes, both the conscious and unconscious components influence the broad patterns of coping and outcomes that are frequently and more easily assessed in literature.

Theory conclusions. Coping theories define responses to stressful situations as multifaceted, dynamic, and ongoing – beginning before and extending beyond the initiation of a coping behavior, influenced by both automatic processes and conscious decisions. Coping theories also highlight that the process occurs on multiple levels – multiple nested processes that have immediate outcomes related to the resolution of a problem or stress reaction, but also influence adaptation to stress, performance, and overall wellbeing in ways that can be observed beyond individual self-report. Theories demonstrate the complexity of the construct and its link to multiple levels of outcome, and that the simple word *coping* encompasses the many ways individuals understand and respond to the stressful events in their lives.

Themes in Research

Current theory defines coping as a complex, multidimensional process. However, research focuses primarily on the strategies people use instead of the process of

experiencing and handling stress. Themes that have emerged from the exploration of coping in this way are described below.

Emotion vs. Problem Focused Coping. Coping research categorizes coping strategies as problem focused or emotion focused, and defines the styles as distinct and non-overlapping. Problem focused coping is conceptualized as efforts that focus on aspects of the problem that are external to the individual – components of the context or situation a person finds themselves in. It is considered the more "adaptive" approach to coping, and is correlated with positive outcomes like psychological well-being or higher levels of positive affect (Dunkley, Ma, Lee, Preacher, & Zuroff, 2014). Emotion focused coping focuses on the regulation of one's internal (usually negative) response to a stressful situation. Traditionally, this method is considered less adaptive than problem focused coping. Emotion focused coping is correlated with outcomes like lower wellbeing (Chang, 2013). A recent meta-analysis by Shin and colleagues (2014) compared problem and emotion focused coping and found problem focused coping was negatively correlated with symptoms of burnout and emotion focused coping was positively correlated with burnout. However, this finding may reflect individual differences in emotional reactions that require coping. For some individuals, there may not be a selection process between emotion- or problem-focused coping, as the emotions must be dealt with in addition to the external problem. Regardless, this finding highlights that individuals who focus exclusively on emotions are more likely to experience burnout, and has implications for those who cope this way as they enter stressful careers.

Although these approaches are often framed as opposing, mutually exclusive categories, Lazarus (2006) noted that each form of coping is necessary, that the two styles

actually complement each other given the demands of the situation and the person. For example, although often framed as "maladaptive," in some contexts, the use of an emotion-focused strategy may be appropriate, necessary, or adaptive, given individual differences in appraisal and reaction. Even in dealing with a specific episode, the need for each kind of strategy may be necessary, and so characterizing individuals as problem *or* emotion focused copers, with the assumption that emotion focused coping is bad, may blind researchers to the important nuances of shifting strategies. For some, the "problem" may be the emotion response itself, but as they cope, the problem shifts, and actions shift to match. For example, if a student teacher has an emotional reaction to a failed lesson or misbehaving students, the student teacher may initially need to focus on soothing an emotional response. However, if the student teacher is able to manage their reaction and reframe the experience, they may then begin to address the problems and adjust future lessons to be more effective. This transition likely happens intuitively and thus is difficult to capture through self-report.

   Approach vs. Avoidance. Approach and Avoidance are defined as opposite ends of a spectrum of one's level of engagement with stressful situations. Approach refers to the tendency to actively engage with problems to resolve them. Avoidance is the opposite – the extreme evasion of stressful contexts in the hope they will go away (Finset, Steine, Haugli, Steen, & LÆrum, 2002). Approach is often linked to Problem Focused Coping, and Avoidance often related to emotion focused coping. For example, one might engage in avoidance to try to escape the emotional impact of a situation, which then means one is not coping at all. Many scales focus on avoidance tendencies via avoidance subscales (e.g. Boujut, 2005; Endler, Parker, & Summerfeldt, 1998). Others differentiate more

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specifically between different kinds of approach and avoidance. For example, Finset and colleagues (2002), separate approach and avoidance coping patterns into six categories: cognitive, social-emotional, and action-related approach and avoidance.

Approach coping is correlated positively with well-being, and avoidant coping has been correlated with psychological distress in pre-service teachers (Gustems-Carnicer & Calderón, 2012). However, understanding approach vs. avoidance alone does not provide a full picture of the ways in which individuals approach situations; sometimes approach may be inappropriate or impulsive and so cannot be considered universally positive. Finally, given the parallels that exist between the approach/avoidance and problem/emotion focused coping definitions, it seems that the body of research on approach and avoidance may be a more specific iteration of the problem focused and emotion focused dichotomy.

Coping flexibility. Coping Flexibility refers to the ability to shift one's approach to handling a stressful situation, and has been correlated with improved outcomes and well-being when compared to rigidity in strategy selection (Kato, 2012). Coping Flexibility is consistently measured using Likert scales that ask about the ability and tendency to change tactics when faced with dynamic stressful situations (Kato, 2012, 2013). However, although measured through self-report, it is important to consider whether such flexibility is a conscious choice taken on the part of individuals, or whether such flexibility happens unconsciously or automatically.

Coping self-efficacy. Broadly, Coping Self-Efficacy refers to one's belief about their own abilities and competence in dealing with the problems they face. While individuals often have global notions about their problem solving abilities, much of the

Coping Self Efficacy research focuses on the ability to cope with specific events, like hurricanes or the specific stresses of certain occupations, like Firefighting (Benight & Bandura, 2004; Benight, Ironson, & Durham, 1999). However, other research is more general and reflects broad beliefs about one's efficacy for coping with stressful situations. Another scale, the Coping Competence Questionnaire, assesses individual ability to cope with their own emotions and emotional responses to stressful events (Schroder & Ollis, 2013a). A high perceived ability to cope, as measured by the CCQ, is negatively correlated with depressive symptoms, positively correlated specific approaches to coping (coping strategies) and was shown to be a buffer against stress (Schroder & Ollis, 2013a). In the context of the current study, understanding the self-efficacy of student teachers will be important, given that low self-efficacy has been connected to burnout in teachers (Brown, 2012). Low self-efficacy is connected to self-reported burnout across professions in previous research (Maslach, Schaufeli, & Leiter, 2001), so the inclusion of coping efficacy is important, as the construct may contribute to teacher success and ability to cope with the demands of the profession. If a teacher has high levels of efficacy, it is likely they will feel equipped to handle stressful situations in the classroom, and that fewer situations will be appraised as demanding beyond one's resources.

Appraisal in context. All coping is tied to the context and situation in which it occurs, and is connected specifically by appraisal, or the way a person understands an event and determines that it warrants a coping response. Folkman and Moskowitz (2000) theorized that the context determines the experience for the individual facing the situation –perceptions of how and how well they will be able to cope, and the importance they attach to resolving the situation stem from an initial appraisal of a situation. The context,

in combination with one's schemas and sense of self, determines what is "at stake" for an individual, and the importance of the problem and how essential it is to be dealt with. Gross (2013) suggests that appraisals of a given situation determine reactions, that situations do not inherently evoke emotion. Appraisals determine one's emotional response, but also determine later decisions about appropriate coping efforts. Although stakes and appraisal can also be measured using scales or questions (e.g. Folkman, Lazarus, Gruen, & DeLongis, 1986), the nuanced meaning of the situation and the effectiveness of coping in relation to that specific appraisal are likely lost.

Outcomes of coping. Coping research includes a variety of outcome measures, which are used to label coping strategies or constructs as adaptive/effective or maladaptive/ineffective. Outcome measures fall into three categories: self-rated adjustment or psychological symptoms, health or physiological outcomes, and external evaluations of performance.

Self-rated adjustment. Most frequently, studies examine coping style or strategies in relation to individual, self-rated adjustment outcomes. These outcomes include symptoms of mental illness, like depression (Boujut, 2005; Dejong & Overholser, 2007), anxiety (Endler et al., 1998), Post-Traumatic Stress Disorder (Benight & Bandura, 2004), and job burnout (Chang, 2009). Other studies focus on *positive* psychosocial outcomes, like well-being or life satisfaction (Connor-Smith & Compas, 2004). Effective coping theoretically relates to improved mental health outcomes because it protects participants from the negative effects of stressors that may cause or exacerbate poorer mental health outcomes. For example, a study by Adler, Conklin and Strunk (2013) demonstrated that the quality of coping skills predicted the reactivity of depressive symptoms to naturally

occurring stressors. Although coping and self-rated adjustment are linked empirically, questions remain about whether this internal experience of good or bad coping and other self-rated outcomes directly translates into performance measures – grades, job performance, or other objective measures of success.

Physical and health outcomes. Other studies examine the relation between coping and physical health – a measure not subject to individual bias. For example, some studies examine physical health outcomes, like metabolic control or pain (Jaser & White, 2011; Compas, Jaser, Dunn, & Rodriguez, 2012). Research on stress and its physiological toll on individuals' health links these measures to coping. Because effective coping reduces stress (both internally and in the environment), these studies posit that effective, problem focused coping will also reduce physiological symptoms, and those who demonstrate effective coping will also experience better health outcomes. Although these correlations exist, a review by Carver and Connor-Smith (2010) noted that physical health outcomes are not as strongly correlated with coping as self-rated adjustment outcomes.

External evaluations and performance measures. Other studies include external evaluation or performance measures in relation to coping. For example, class grades (Hsieh, Sullivan, Sass, & Guerra, 2012), GPA (Nounopoulos, Ashby, & Gilman, 2006), or work performance (Rabenu, Yaniv, & Elizur, 2016) have been utilized as outcomes or correlates connected to coping strategies or effectiveness. Fewer studies examine coping in relation to these performance measures. However, within the model by Skinner and Zimmer-Gembeck (2011), performance measures are theoretically linked to coping as they reflect an overall adaptive outcome at the broadest level of coping – the result of

many smaller coping transactions where individuals manage and adapt their emotions and responses to external challenges. In the context of the current study, the ability to function effectively as a teacher, to handle the fast-paced dynamic environment, reflects the ability to cope with both internal reactions and external stressors in an ongoing way. Despite the theoretical link between performance outcomes and coping, fewer studies focus on this as an outcome measure.

Connecting the dots. The previous section demonstrates that the coping process is researched from many perspectives that do not necessarily match with current coping theory. To make sense of coping as a whole, one must integrate topics and scales into a cohesive picture of how an individual reacts to stress that fits within transactional models and incorporates automatic and volitional processes. To understand the impact of coping processes on individuals, this cohesive picture of the coping process must be connected to outcomes beyond the coping process itself. Although self-ratings of adjustment provide some insights on patterns of internal experience, external evaluations from supervisors provide real world evidence of functioning that would be a logical outcome of effective coping. The ratings provide a direct link between coping and individual functioning – how the process influences performance in specific areas, and thus their adaptation to context overall. This complexity points to the need for a new approach that *integrates* the many components of coping to understand the ways individuals cope with stress and matches research to theory.

Coping Measurement: Mismatched with Theory and Research?

The three-tiered model defined by Skinner and Zimmer-Gembeck (2007) has important implications for coping measurement and comparability between studies on

coping. Although coping is defined as a multi-level process that includes conscious and unconscious processes, approaches to coping measurement have remained the same, and research focuses on actions rather than the process. Likert-scales, a form of explicit measurement, are the primary tool utilized in coping research. The purpose of this section is to discuss traditional approaches and consider critiques given modern coping theory. The section will also review less traditional approaches. Specifically, the study will highlight the unique potential of systematic, structured analysis of narratives to integrate of themes in research with theory, and examine the success or failure of coping in a way that is appropriately embedded context and unique to the individual. Narratives inherently include all aspects of the coping process – the context, appraisals, reactions, and actions, and allow individuals to share these details in a way that does not include a forced choice response or the consideration of approaches that are not relevant to their own personal experiences.

Self-report and Likert scales. Coping research relies on self-report Likert scales to gather information on different components of the coping processes. Measures typically require individuals to rate "how characteristic" certain strategies are or "how frequently" they use them. Examples include the Ways of Coping Checklist (Lazarus & Folkman, 1984), the COPE scale (C S Carver et al., 1989), and the Coping Inventory for Stressful Situations (Cosway, Endler, Sadler, & Deary, 2000). Such scales are frequently used to correlate certain strategies with outcomes or self-rated well-being. Some scales focus on particular sets of strategies, like proactive coping, actions taken in anticipation of stressful situations (Aspinwall & Taylor, 1997). Other scales instead focus on the other coping constructs reviewed previously including coping flexibility (Kato, 2012) and

coping self-efficacy, (Benight et al., 1999; Schroder & Ollis, 2013b). Likert scales are often used to assess outcomes and correlates of coping strategies or other coping constructs.

Likert measures assess coping tendencies at Adaptive or Episodic levels, depending on how questions and prompts are phrased (Skinner & Zimmer-Gembeck, 2007). For example, generic scales ask individuals how they *generally* cope with stressful situations and provide information on individual coping patterns as an adaptive process, and how these tendencies are associated with wellbeing or other outcomes. However, when presented in reference to a *specific* event or experience, scales provide data on situation-specific patterns of coping behavior, as part the episodic process. What Likert measures like these do not capture is the relationship between the levels, between the Episodic and Adaptive, or how appraisal may influence strategy selection.

Critiques of Likert Scales and coping research. Litt, Tennen, and Affleck (2011) outline many critiques of coping assessment conducted in this way. First, the authors suggest that coping measurement is cross sectional – Likert scales assess coping responses at a single moment, at the beginning and end of a coping process, and thus do not capture the dynamic nature of the construct. Additionally, self-rated coping strategies provide only a small cross-section of a broader coping process, it seems likely that it might be challenging to predict broad, adaptive or performance outcomes from a single rating or strategy a participant endorses. Second, the authors critique the categorization of coping strategies, and the practice of correlating strategies with self-rated outcomes. They suggest that an exclusive focus on the connection between strategies and outcomes

excludes the consideration of context and appraisal, two key components of the coping process.

Another critique of coping research is the exclusive use of self-report measures for *outcomes* as well as strategies. Many coping studies examine the connections between specific groups of strategies and self-rated outcomes, like wellbeing or burnout. Such self-ratings are important – it provides insight on the internal experience of individuals. However, it is important to be able to distinguish between individuals who *believe* they are doing well and those who are *actually* doing well. There are unique implications for individuals who believe they are doing well but are not *and* those who believe they are not coping well, but are by external standards. Although self-report measures target different constructs, common underlying factors like individual affect or patterns of appraisal may influence ratings on multiple scales and provide a biased dataset on one's current functioning. Unlike previous research, the current study includes external ratings of teacher effectiveness to examine the relationships between coping and objective ratings of success. It is believed that this measure, of overall effectiveness in the classroom, will provide an estimate of the outcome of coping processes in the aggregate – that one's job performance is dependent on the ability to cope with the dynamic demands and challenges in the teaching profession. This theoretical link is in line with research that examines performance in relation to coping skills – for example, Devonport and Lane (2006) suggested that coping influences academic success because the amount of energy and time students are able to invest in an academic goal is dependent on how they cope with negative emotions and obstacles.

A final limitation of Likert scales for coping measurement is related to the body of research that establishes coping as intertwined conscious and unconscious processes. Likert scales are explicit self-report measures, and thus only capture aspects of coping that occur within one's awareness, like the kinds of coping strategies described above. Some studies attempt to include both, by examining individual differences in constructs like stress reactivity and how they impact strategy selection. These studies capture physiological automatic reactions (through physiological measures and self-report) that might influence what individuals do to cope, but do not assess other unconscious aspects of coping, like how the accumulation of individual coping experiences translates into an adaptive process or coping schema.

Some research addresses critiques from Litt, Tennenn, and Affleck (2011), and attempts to collect data on shifting strategies missed by previous approaches. For example, some studies measure coping at multiple points in the coping process. For example, participants complete Likert scales before during and after stressful situations (Folkman, Lazarus, Dunkel-Schetter, et al., 1986). Other studies use appraisal scales in addition to measures of coping. Although the repetitive use of these scales at different times captures that coping efforts shift throughout a stressful situation, the method does not capture the interplay between an individual's internal experience and the external situation.

Beyond the Likert scale. Other assessment practices, specifically implicit measures, capture automatic processes and schemas that occur outside individual awareness. Unlike the clear guidelines and response options in explicit measures, implicit measures are open ended and require structured inference on the part of researchers to

form conclusions about individuals. Examples of implicit measures include open-ended responses, narratives, and the Thematic Apperception Test (TAT; Morgan & Murray, 1935). Research demonstrates that implicit and explicit measures of the same construct predict different kinds of behaviors (Spangler, 1992). For this reason, the current study uses narratives and the TAT to assess implicit coping processes in addition to traditional coping measures. Narratives and the TAT are useful for understanding the nuances of coping for many reasons, including the ability to address the limitations with coping measurement discussed previously, while Likert measures are useful for gauging self-understanding and the explicit process of coping. The following paragraphs address the ways in which these approaches are useful for understanding stress.

First, the TAT and narratives evaluate the coping process as a whole, as a process tied to context and linked to outcomes. TAT codes from Teglasi (2010) evaluate coping by quantifying the effectiveness of coping efforts for problems as they are defined. The codes do not focus on specific strategies but on the appropriateness of strategies (Teglasi, 2010). This method of analysis quantifies how well individuals cope, regardless of strategy selection. Instead, the focus is on whether strategies "match" and address the problem to which they are applied. The approach accounts for unique situations in which approaches usually considered maladaptive are appropriate and adaptive. Narratives, coded using the same principles, provide information about how individuals define problems in teaching, and allow for an examination of the connection between appraisal and coping strategies within individual stories, rather than through isolated items on a scale.

Second, the TAT and narratives measure unconscious processes that are not captured with explicit measures. This allows for comparisons between self-reported and automatic processes, and evaluations of how implicit and explicit motives or processes interact. Research on motivation demonstrates that each form of measurement predicts different outcomes, that implicit motives predict consistent behaviors over time, and explicit motives predict immediate responses due to clear and structured task demands (Koestner, Weinberger, & McClelland, 1991; McClelland et al., 1989). This suggests that the assessment of coping through implicit measures, like the TAT and narratives, will provide information on the implicit patterns of coping that is not captured by traditional scales, and may be more predictive of success as a teacher, as the demands are not structured and explicit like those in tasks associated with explicit motives. Current research on coping examines correlations between self-rated strategies and self-rated outcomes. However, the structure of narratives reflects the dynamic, ongoing nature of coping as it occurs in context and is likely more predictive of success in complicated real-world contexts.

Implicit measures also provide useful information in combination with explicit measures. Research on implicit and explicit aggression motives demonstrates that the two types of motivation interact to predict aggressive tendencies (Frost, Ko, & James, 2007). Other research demonstrates that implicit and explicit motives for helping behaviors predict different kinds of helping behaviors, and actually *interact* to predict spontaneous helping behavior but not planned helping behavior (Aydinli, Bender, Chasiotis, Cemalcilar, & van de Vijver, 2014). The significant interactions described demonstrate that the exclusive use of implicit or explicit measures is inappropriate, as the two often

interact to predict outcomes, and together predict actual behaviors rather than self-reported outcomes. For this reason, the current study uses both implicit and explicit measures to assess coping, as individual differences in each contribute to patterns of behavior for student teachers. Also for this reason, we use *external* evaluations of student teacher effectiveness to understand the contribution of implicit and explicit coping processes on the student teachers' actual performance in the classroom.

Third, depending on methods of analysis, TAT and Narratives provide insight into multiple levels of coping process outlined by Skinner and Zimmer-Gembeck (2007). Individual narratives about specific events provide insight into Episodic coping processes, and how individuals cope throughout a stressful encounter. The TAT is unique because it provides insight into learned coping schemas that relate to coping as a broad Adaptive process. However, how individuals approach the unique demands of the TAT also provides insight into how individuals cope in the moment, coping as a specific Interactional process.

In sum, although explicit measures provide useful information about how individuals understand their own approaches to coping, they are limited in that they do not provide data on the entire process of coping. Implicit measures provide a potential complement to explicit measures for understanding the ways in which automatic and volitional processes intertwine to produce specific kinds of problem solving, and that may uniquely influence the overall effectiveness of coping efforts.

Bringing it Together: The Current Study

The review of the coping literature illustrates that coping is a complex, multi-level transaction influenced by automatic and volitional processes. This complexity makes

systematic and efficient study of this process challenging and has created a gap between theory and the research that is conducted. The use of Likert scales persists, and misses important factors that influence coping outcomes. Current research provides insight into individual pieces of the multifaceted process, but fails to integrate the pieces to create a meaningful picture of the coping experience. The current study compares novel implicit approaches with explicit measures of coping within individuals to determine the correspondence between them and with outcomes. Specifically, the study conducts correlational analysis between explicitly rated strategies and efficacy as explicit measures, and codes for TAT stories as implicit measures. The study utilizes external ratings of teacher effectiveness as previous research has established a connection between effective coping and performance in other areas, like academics (Devonport & Lane, 2006). Additionally, using an external evaluation of effectiveness is important as factors like social desirability have been demonstrated to affect individual self-ratings of coping (Christiansen & Smith, 2016). In addition to these quantitative analyses, themes that appear in student teacher narratives will be identified and discussed.

Hypotheses

The qualitative identification of themes, in combination with the structured coding scheme allows for an in-depth, individualized analysis of how student teachers handle the stresses of their early experiences in the classroom. In the current study, correlational analysis is used to determine the relationship between codes from implicit measures, self-rated strategies and efficacy, and externally evaluated teaching performance. The hypotheses connected to these analyses are detailed below.

Hypothesis 1: There will be significantly correspondence within but not across methods of measurement, i.e. implicit measures will correlate significantly with each other but not with explicit measures. Specifically, implicit measures (coded TAT stories and narratives) will correlate highly with each other, but will not be significantly correlated with self-rated coping efficacy or specific strategies.

Hypothesis 2: Because implicit approaches examine the coping process as a whole and include considerations of effectiveness, coping scores based on Narratives and TAT stories (using criteria from Teglasi (2010)) will correlation significantly with Campus Supervisor and Field Supervisor Ratings, and self-reported coping efficacy from the Coping Competence Questionnaire (Schroder & Ollis, 2011) or specific coping strategies from the Adapted Ways of Coping scales (adapted from Lazarus & Folkman, 1984) will not. Research on Life Story narratives suggests that patterns within stories predict self-reported well-being and quality of life (Manczak, Zapata-Gietl, & McAdams, 2014), and research by Spangler (1992) indicates implicit measures are more strongly associated with outcomes in unstructured contexts. These findings suggest that narratives will be more strongly associated with outcomes and external ratings of successful teaching.

Chapter 3: Research Methods

Summary of Purpose

The primary purpose of the study is to compare implicit and explicit measures of coping, and to examine how each corresponds to external evaluations of teacher effectiveness. The current study examines coping as a multi-level process, which includes broad adaptive patterns and moment-to-moment transactions. Correlational analysis examines how implicit and explicit coping processes predict supervisor ratings of teaching effectiveness. The current study is part of a larger project that grew from a budding relationship between the School Psychology department and the Teacher Training Program at the University of Maryland, formed with the goal to understand and ultimately reduce the stress of students as they transition into their careers as teachers.

Design

The study is longitudinal and prospective and gathered information from student teachers throughout their senior year practicum placements (See Table 2 in Appendix A for a detailed timeline). The study compared self-rated coping strategies with narratives provided over the course of the student teaching experience, through the quantification of key aspects of coping observed in student narratives. The study used correlational analysis to compare self-report measures and quantitative codes of narratives. Correlational analysis was also used to compare these factors with supervisor-rated teacher effectiveness. The study also identified themes that characterize student teacher experiences and that appeared across their narratives.

Procedures

      Participants. The participants in the current study were enrolled as undergraduate education majors at the University of Maryland, College Park and ranged in age from 19 to 23 years old. The modal age was 21 years old (n = 23, 79.3%). The lack of variability in participants' ages reflects the population sampled and most frequent age of undergraduate college seniors. The majority participants of participants identified as female (*n* = 28, 96.6%), and the single male participant only completed the initial meeting. Participants were primarily white (*n* = 18, 62.1%), but the sample also included African American (*n* = 2, 6.9%), Asian American (*n* = 3, 10.3%), and Hispanic/Latino student teachers (*n* = 4, 13.8%). Two participants selected multiple races to describe their background. Demographic information is displayed in Table 3.

      Research buddy procedures. During the first few weeks of the fall semester, participants were recruited from classes of senior education majors on track to enter a second semester practicum at the University of Maryland, College Park. During recruitment, the research team provided information on participation requirements, payment, and the purpose of the study. Interested students provide contact information to the research team. Students were then paired with a member of the research team, a "research buddy," based on common availability.

      The research buddy became that student's primary point of contact throughout the course of the study. Individuals provided informed consent at the initial meeting, after being briefed of the purpose and methods of the study and after the opportunity to ask questions. Research Buddies continued to meet with assigned participants for each phase of the study, sent email prompts and reminders, and were the consistent contact points for participants. Research buddies worked to build a personal connection with each

participant which facilitated continued engagement and communication throughout the yearlong study.

Phases of the study. The study was implemented in two phases. The first phase occurred during the fall semester, when participants were in their twice-weekly school placement. The second phase occured during the second semester, when participants are in their schools full time, and take over classroom responsibilities completely for a six-week period. During Phase One, participants met with their research buddies twice – once in the beginning of the semester and once toward the end. The focus of these meetings was to gather background information, have participants complete scale measures on different constructs, and to complete the story telling and initial writing tasks with the examiner present. During Phase Two, participants completed three writing prompts that were emailed to them over the course of six weeks. This method allowed for remote participation when participants have many teaching responsibilities. A final meeting between research buddy and participant occurred at the end of Phase Two, at the end of the semester. The final meeting was used for a final follow up interview and to pay participants for their time.

Maintenance of confidentiality. Before being paired with a research buddy, participants were assigned ID numbers to keep responses confidential. ID numbers, and not names, were attached to all participant contributions to the study, which allowed responses from the same participant to be compiled over time. Although a participant's research buddy was aware of their participants' ID numbers, the rest of the team was not. Only the "data manager," the PI, had access to both names and ID numbers.

When gathering ratings from supervisors and professors, to protect confidentiality of students both in and out of the study, the raters were sent a spreadsheet that included the names of all the students in their classes and corresponding numbers, uniquely assigned for this portion of the study only. Professors complete the ratings and then remove student names *before* sending the list back to the researchers. The researchers in the current study only had name-number connections for participants, and so were able to evaluate the effectiveness of the teachers in the study without revealing their names to their instructors or violating the confidentiality of non-participants.

Measures

Explicit coping measures. Explicit measures used for the current study include an adapted version of the Ways of Coping Checklist (Lazarus & Folkman, 1984) and an adapted version Coping Competence Questionnaire (Schroder & Ollis, 2011). These measures are considered explicit because they are self-report measures. Specifically, they ask participants to reflect and report on their own patterns of coping behavior. The measures are highly structured, include clear task demands, and constrained rather than open-ended response options. Means, standard deviations, and internal consistencies will be reported for both scales.

Adapted Ways of Coping. The Ways of Coping scale, created by Lazarus and Folkman (1984), and subsequently factor analyzed by Folkman et al (1987), was altered by the research team for the Teacher Stories study, to create the Adapted Ways of Coping scale. The original version of Ways of Coping Scale is a 67 item, 8-factor scale that assesses individual differences in the use of coping strategies by asking raters to indicate "the extent that they used" presented strategies on a four point Likert scale (Folkman et

al, 1986). In the current study, an adapted version was used. Both the original and adapted versions of the scale are discussed below.

The original Ways of Coping scale includes eight factors that describe different kinds of coping strategies. The current study utilized items from all eight factors, but in abbreviated form. First, the subscales will be described. Then, all modifications will be explained. The first factor, the *Confrontive Coping* subscale (α=.70), includes items that describe active problems solving in response to stress (e.g. "I stood my ground and fought for what I wanted"). The *Distancing* subscale (α =.61) includes items that are characterized by a mental avoidance or minimization of a problem (e.g. "I went on as if nothing had happened"). Items on the *Self-Controlling* scale (α =.70) describe the control and management of emotions (e.g. "I tried to keep my feelings to myself"). On the *Seeking Social Support* scale (α = .76), items describe the ways individuals might lean on others for help or guidance (e.g. "Talked to someone who could do something concrete about the problem"). The *Accepting Responsibility* subscale (α =.66) includes items that describe ways individuals take ownership or respond to their own role in negative events (e.g. "Realized I brought the problem on myself"). Items on the *Escape-Avoidance* subscale (α =.72) describe behaviors and thought patterns that reflect the avoidance of a problem (e.g. "Hoped a miracle would happen"). The *Planful Problem Solving* subscale (α =.68) includes items that describe active planning and problem solving behaviors (e.g. "I knew what had to be done, so I doubled my efforts to make things work"). Finally, the *Positive Reappraisal* subscale (α =.79) includes ways individuals might reframe stressful situations (e.g. "Changed or grew in a good way"). The listed internal consistency values for the scales are generally within the acceptable range, and the overall scale accounted

for 46.2% of the variance in coping outcomes (Folkman et. al., 1986). Although the original phrasing of items and scales were preserved for the current study, the structure and administration procedures were modified by the research team for the current study to create the Adapted Ways of Coping (AWOC). The changes are described below.

The first modification to the original scale used to create the AWOC reduced the number of items included in the overall scale. To shorten the measure, the three highest loaded items from each factor (taken from Folkman et al, 1986) were selected for use in the current measure, and remaining items were excluded. This modification reduced the number of items from 67 to 24.

The second modification incorporated research on Mindfulness, or the maintenance of self-awareness with compassion and acceptance. Mindfulness is associated with stress reduction and health benefits (Grossman, Niemann, Schmidt, & Walach, 2004). Items and factors from the Frieburg Mindfulness Inventory (Walach, Buttenmuller, Kleincnecht, & Schmidt, 2006), were incorporated into the Ways of Coping Scale. Specifically, two factors, "Show Myself Compassion" and "Accept Myself," with 3 and 2 items respectively, were added to the Ways of Coping Scale. The addition of these factors increased the number of items in the scale from 24 to 29. These factors were selected because they assess components of mindfulness related to how individuals react when things are stressful or do not go as planned.

The third modification altered the phrasing of the prompt. In the modified version, participants rated "how characteristic the strategy is for them in the past month" on a Likert scale from 1 *(Not at all)* to 4 *(A great deal)*, which differs from the original prompt that asked "how frequently" individuals used the presented strategies. The phrasing was

changed to assess individual beliefs about their overall tendencies and patterns of response. This allows for a comparison between individual self-ratings of general coping strategies with the assessment of implicitly measured adaptive coping patterns and schema from the TAT.

The fourth modification required participants to respond to items as part of a structured interview with standardized procedures that differed from the typical administration of a scale, where individuals are asked to complete items. During the interview, three steps were completed for each subscale of the Ways of Coping Scale. *1) Description of Scale*: Before answering items, the examiner read the participant a brief description of a coping strategy subscale that described an *action* to make it accessible for the participants. For example, "Confrontive Coping" was described as "Confront the situation." The descriptions used for each subscale can be obtained by contacting the author. *2) Participant Definition:* Based on the brief description, and without seeing items, participants were asked to describe what that strategy "looked like for them," and "how helpful they found the skill." *3) Participant Completes Items:* After answering the questions participants were then presented with the 2 or 3 Ways of Coping items for the strategy described by the examiner. Participants rated "how characteristic the strategy is for them" on the Likert scale from 1 *(Not at all)* to 4 *(A great deal)*. Once completed, the steps were repeated for the next scale until all 10 scales were complete. For the current study, only the self-ratings on the Likert items were used for analysis, and internal consistency was calculated for each subscale. Following the completion of the scales, the content of the open-ended responses was analyzed to determine whether students responded with teaching in mind.

In summary, four major changes were applied to the Ways of Coping Checklist to create the Adapted Ways of Coping Scale (AWOC-Interview). Scales were shortened in length, additional mindfulness scales were added, the phrasing of the prompt was changed slightly, and the items were administered as part of a structured interview rather than traditional scale format.

Perceived Coping Competence - Adapted. The second explicit measure is a modified version of the Perceived Coping Competence Questionnaire (CCQ) (Shroder & Ollis, 2013) created for the current study referred to as Adapted Coping Competence Questionnaire (A-CCQ). The original CCQ is a 12-item, one factor scale that, through self-report, captures the ability cope with and be resilient to hopelessness and helplessness, traits associated with depression. In the original scale, internal consistency was found to be excellent, with alpha levels above.90 (Schroder, 2004). Test-Retest Reliability was found to be .86, with a time lapse of 1 month between tests (Schroder & Ollis, 2013). High scores on the scale indicate a high self-rated ability to handle stressors and cope with their own emotions. High scores are negatively associated with Depression, Dysfunctional and emotion focused strategies (measured by the COPE scale), Negative life events, and daily hassles (Shroder & Ollis, 2013), which indicates that those with higher scores are less likely to experience depression and are more likely to cope effectively (Schroder & Ollis, 2013a). For the current study, the CCQ was changed in a number of ways to create the Adapted Coping Competence Questionnaire (A-CCQ). The details are described below.

In the original CCQ, items described intensely negative thoughts or emotions. The first way the items were changed to create the Adapted Ways of Coping Questionnaire

was to "soften" the phrasing of the items to make them seem less intense, and more applicable to daily stress that might be encountered by teachers. The modifications made to Item 5 illustrate how items were modified. In the original CCQ, Item 5 says, "When I am confronted by unusual demands, I feel helpless." In the CCQ version, Item 5 says, "When facing an unexpected requirement, I feel unprepared and at a loss for what to do." The phrase "unexpected requirement" is relevant to daily work or teaching experiences, and "feeling unprepared" or "at a loss" is event specific and less extreme than the description of total helplessness included in the original item. Such changes make the items relevant to daily stressors. All items, with the exception of item four ("Failures shake my confidence for a long time"), were modified in this way.

In the original CCQ, all items were negatively worded. For the modified version of the CCQ used in the current study (A-CCQ), half the items were changed so respondents rated items about positive or adaptive responses to stressful encounters. For example, Item 12 was changed from "When I do not instantly succeed, I am at a loss" to "If I am not doing well, I usually think I can turn things around." These changes reflect both the intensity of the wording ("doing well" vs. "instantly succeed"), and nature of response (positive vs. negative). The original reflects an inability to cope, and the altered version for the A-CCQ reflects a more positive response. This modified wording created more variety in structure and phrasing of items, and prevents habitual responding of the same number repeatedly across items (Weijters, 2013). Six items, including items 1, 2, 3, 6, 11, and 12 were updated in this way.

Finally, the scale directions were altered for the current study. The original directions were general and non-specific, which allowed participants to reflect and select

their response with any kind of stressor in mind. The A-CCQ asks individuals to respond

with their day-to-day experiences in mind, to ensure that participants respond in ways

that reflect their perceived ability to cope with daily stressors, like those that might occur

in the classroom, rather than major life stressors or events.

For analysis, appropriate items were reverse coded, and the mean of ratings across

items was calculated to determine a mean rating, where a high score of six reflected a

high level of competence in coping, and a low score of one reflected low self-rated

coping competence.

Implicit Measures and Coding Procedures. The study used two implicit

measures of coping, the Thematic Apperception Test (Morgan & Murray, 1935) and

personal narratives about teaching. These measures are considered implicit because they

are open ended, contain few direct instructions, and do not have a clear "correct" way to

respond. They require structured analysis on the part of the examiner to infer

characteristics about participants.

Thematic Apperception Test. For the TAT, participants told full stories with a

beginning, middle, and end, about a standard set of images. The black and white images

depict tension or unfinished business. The current study uses cards 1, 2, 3, 4, 5, and 7. For

the current study, members of the research team code stories for Coping using the coding

system from Teglasi (2010). The three-level Coping coding system focuses on how fully

and effectively characters in participant's stories cope with the presented stressor, and are

described in detail below and in Appendix A.

Personal narratives. At four points in the study, participants wrote about their

teaching experiences in response to researcher-generated prompts. Participants wrote

once at the end of Phase 1, and three times over six weeks during Phase 2. Modeled after Pennebaker's paradigm for the use of narratives in research (e.g. Pennebaker & Chung, 2007; Gortner, Rude, & Pennebaker, 2006), the prompts in the current study asked participants to write for twenty minutes about a meaningful experience in their classrooms. The stories were coded using a modified version of TAT codes from Teglasi (2010), discussed below.

   Coding and analysis procedures for implicit measures. Both TAT stories and experience-based narratives were coded using the three level codes for Coping from Teglasi (2010). When TAT stories are coded using this method, stories are examined for the coping processes used to deal with the tensions depicted in the scene or identified by the participant. Codes focus on the effectiveness and completeness of coping strategies utilized by characters. Because there is no common stimulus in individual narratives, stories were coded for how completely and effectively the participant copes with the situation as defined. Criteria for coding the experience-based narratives were modified to be more appropriate to individual experiences. Please contact the author for more specific details of the coding manual. Across both tasks, stories were coded at one of three possible levels. The lowest level is "Non-Coping." Stories coded at this level include characters stuck or unable to deal with the tensions they experience, or the use of unrealistic or inappropriate strategies given the situation. The Second is "Incomplete or Partial Coping." In stories coded at this level, tensions are resolved or addressed, but only in the short term or ways that do not fully address the problem. The final level is "Long Term Coping." Stories coded at this level include characters that effectively cope with problems in ways that go beyond the immediate situation

Inter-rater Reliability. All TAT stories and narratives assigned codes by two independent raters. Story sets from 12 participants (66 TAT stories, 30 Narratives) were used to establish and refine the current coding system and were not used in reliability analyses as coding decisions were discussed and agreed upon collaboratively. The remaining 17 story sets (102 TAT stories, 45 Narratives) were coded independently by each rater, and used in the calculation of inter-rater reliability.

Inter-rater reliability was evaluated using an Intraclass Correlation Coefficient (ICC, 3, 1) model– a two-way mixed-effects model of consistency between two raters. A consistency model was selected for analysis over absolute agreement as the directionality and closeness of individual ratings reflects some degree of agreement between raters since TAT stories and Narratives are coded on a continuum. Cicchetti (1994) provided guidelines for the interpretation of ICC values, specifically that values less than .4 are considered "Poor," values between 0.40 and 0.59 are considered "Fair," values between .6 and .74 are considered "Good," and those between .75 and 1.00 are considered "Excellent." All ICC values that estimated the relation between raters on the TAT and Narratives fell in the Good or Excellent range and are displayed in Table 4.

Outcome measures. Student teachers' professors (called PDS coordinators in the program, and referred to as Campus Supervisors for the purposes of this paper) and county supervisors (referred to as Field Supervisors for the purposes of this paper) were to rate the effectiveness of the student teacher[1]. The prompt reads: *How would you judge*

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[1] Although for the purposes of the current study participants are rated on a single scale that estimates their effectiveness as a teacher, it is recognized in the broader education literature that effectiveness is a complex and multifaceted construct. For more information on this topic, the reader is directed to work by Charlotte Danielson, which identifies four domains of effectiveness on which teachers should be evaluated: Planning and Preparation, Classroom Environment, Instruction and Professional Responsibilities (Danielson, 2013).

the student's effectiveness as a teacher on the ten-point Likert scale below? Points 1-3 on the Likert scale represent "degrees of concern" about the student teacher. Points 4-7 reflect the range from low to high average, and points 8-10 represent "degrees of excellence" that the student teacher might rate. This measure provides an assessment of students functioning outside their own estimates of effectiveness in teaching.

Relation between Campus and Field Supervisor Ratings. A Pearson Correlation was used to assess the relation between effectiveness ratings from the Field and Campus supervisors *(r = .649**, p < .01)*. The two raters responded to the same scale, and demonstrated a high level of agreement in their ratings of the students who participated in the current study. In a review of correlation research, Meyer et al (2001) noted that the agreement between raters was typically around .3, a modest correlation. Thus, the correlation of between ratings from Campus and Field supervisors can be considered a high level of agreement, and suggests that Field and Campus supervisors drew comparable conclusions regarding student-teacher effectiveness.

Chapter 4: Results

Participation and Attrition

     Attrition. Identification numbers were assigned to 31 participants who signed up

for the study. Of the 31 who received identification numbers, 29 attended the first

meeting and provided demographic information (Summarized in Table 3; See Appendix

A for this and all other tables in this chapter). One participant did not continue

participation after the first meeting, but the remaining 28 participants attended all

remaining meetings with their research buddy. Of the 28 participants who completed all

meetings, 21 provided complete data sets that included all measures as well as all three

weekly writing prompts. After leaving the internship program, one participant did not

complete weekly writing prompts. However, the participant completed all other measures

from the second phase of the study. The participant also completed an alternate writing

prompt not included in analysis. For a summary of participation rates across prompts and

meetings please refer to Table 6.

Internal Consistency

     Cronbach's Alpha was utilized to calculate internal consistency for the explicit

and implicit measures of coping in the current study. Alpha values of .70 or above are

widely considered acceptable in research, although DeVellis (1990) considered alpha

values between .60 and .70 as not unacceptable, although generally undesirable. Using

these guidelines, internal consistency was established for the Adapted Coping

Competence Questionnaire (12 items; α = .78), TAT (6 items, α = .93), Personal

Narratives (4 items, α = .92), and six of the ten Adapted Ways of Coping subscales (See

Table 7), as Cronbach's Alpha fell within the acceptable range. The "Seeking Social Support" scale fell within the "not unacceptable range" (3 items, α = .64).

The Adapted Ways of Coping scale included three subscales that did not demonstrate internal consistency. Specifically, the scales "Confront the situation" (3 items, α = .50), "Take responsibility…" (3 items, α = .55), and "Accept Myself" (2 items, α = .48) all resulted in Cronbach's Alpha values that fell below the acceptable range. Tavakol and Dennick (2011) state that low Cronbach's Alpha values can occur due to low number of items, low item correspondence, or the assessment or heterogeneous constructs. Because the Adapted Ways of Coping scales all include two or three items, the length of the scales utilized in the study likely contributes the low internal consistency values.

To correct for the influence of scale length, Spearman-Brown corrections were calculated for the three scales that fell below the acceptable range or in the "not unacceptable" range. The Spearman-Brown correction provides an estimate of a scale's internal consistency if the scale length was increased by a specific factor or number of items. Using such a correction accounts for the influence of scale length on internal consistency. Spearman Brown prophecy correction was calculated to estimate internal consistency if the three scales with inadequate alpha values contained 6 items instead of 2 or 3, and used the equation:

$$\rho^*_{xx'} = \frac{k\rho_{xx'}}{1+(k-1)\rho_{xx'}}$$

where k represents the factor by which the scale increased in length (6 / # of items in a scale), and where $\rho_{xx'}$ represents the scale's original Cronbach's Alpha value.

With the correction, estimates of internal consistency (if the scale had 6 items) fell in the acceptable range for "Look to others for support" (α = .781), "Take Responsibility…" (α = .71), and "Accept Myself" (α = .73). The correction values suggest that the low alpha values calculated for these scales reflect the low item count for the scale rather than specific outliers or patterns of response. For the "Confront the Situation" scale, a correction to a six-item scale produced a new alpha value that fell in the "not unacceptable" range (α = .67), which, although undesirable, is considered high enough to establish consistency (DeVellis, 1990). Thus, with the Spearman Brown correction, all scales demonstrate acceptable internal consistency to continue with analysis.

Descriptive Statistics

Descriptive Statistics for measures of coping and teacher effectiveness, including means, standard deviations, ranges, and skew are summarized in Table 8. Skew for the measures ranged from -.75 to 1.00, and fall within the +/-2 range, which is considered normal (Lomax & Hahs-Vaughn, 2012). Coping scores from the TAT demonstrated a slight positive skew (1.0), as did coping scores from narratives (.94). Ratings from Field Supervisors demonstrated a slight negative skew (-.75).

Supervisors received a scale that ranged from 1 to 10 to describe the effectiveness of the student teachers they supervised, they did not provide ratings that utilized the full range of the scale. Campus Supervisors provided ratings that ranged from 2 to 10, and Field Supervisors provided ratings that ranged from 4 to 10.

Adapted Ways of Coping – Identified Topics

Because the Adapted Ways of Coping scale asked participants to reflect on items and coping strategies *generally*, rather than about teaching in particular, a review of the qualitative responses for each scale was conducted to determine whether participants were reflecting on the ways in which they cope with the stresses associated with their teaching experience. Responses for each participant were coded into four possible categories related to the contextualization of each response.

The first category, *No Context,* was used to label descriptions of coping behaviors without reference to a particular context or situation (e.g. call my mom about something stressful to vent; no specific context provided). The second category, *Context – Teaching Only*, was assigned to responses where the description of coping behavior was illustrated with an example from their student teaching experience (e.g. asking a mentor teacher or another student teacher for help with classroom management). The third category, *Context – Other*, was assigned to responses that included a context that was unrelated to teaching (e.g. other jobs, social relationships, conflicts with roommates) The final category *Context – Teaching & Other*, was used to label responses in which participants described multiple contexts for a given coping strategy, mentioning an example from teaching *and* from another area in their life. For some analyses, the responses from this final category were added to the Teaching Context and Other context totals. Frequency of each type of response across participants and across specific scales can be viewed in Tables 9 and 10 in the Appendix, and are discussed below.

Each AWOC scale had at least one response that included teaching as a context for the participants' coping response. Over fifty percent of responses to two scales, "Confront the Situation" and "Look to others for support," were focused on teaching,

which indicates that these approaches to coping may be especially salient for the student teachers who participated in the study. Additionally, a review of the coded responses revealed that 24 out of the 27 participants (88.89%) mentioned teaching at least once. Of the 270 answers across the 27 participants, no context was provided for 159 responses (58.9%), teaching was provided as a context for 105 responses (38.9%), and other contexts were only mentioned 12 times (4.4%). Analysis of individual responses demonstrated that when a context was provided, individual participants consistently provided teaching as a context more frequently than any other context across the 10 scales. Additionally, there were no participants whose responses were coded as "Context – Other" who did not also provide teaching as a context in at least one other response. Taken together, the patterns of response suggest that the participants in this study likely considered their student teaching experience when reflecting on their patterns of coping, and that their responses are relevant to the outcome measures of the study, focusing on teaching effectiveness.

Hypothesis 1: Relation Within and Across Methods of Measurement

Hypothesis 1 predicted significant correlations within methods of measurement and non-significant correlations across methods of measurement – specifically, that the implicit measures of the study (mean TAT and Narrative codes) would be significantly correlated with each other, but not with the explicit measures (AWOC, ACCQ). Similarly, it was expected that explicit measures (AWOC, A-CCQ) would be correlated with each other, but not with the implicit measures (TAT, Narrative Codes). A series of Pearson correlations tests this hypothesis.

Relation between implicit measures. A Pearson correlation assessed the relation

between the implicit measures of coping – specifically mean TAT coping codes and

mean Narrative coping codes for each participant (see Table 11). Mean TAT codes were

significantly correlated with mean Narrative codes ($r = .93**$, $p < .01$), which indicates a

strong relation between the two implicit measures of coping. Coping codes from

individual TAT cards and individual experience narratives were also significantly

correlated within and across the TAT and Narratives and followed the same pattern as the

overall scores. This pattern of results supports the hypothesized pattern of significant

correlation within methods of measurement by demonstrating a significant correlation

between two implicit measures.

Relation between explicit measures. Pearson correlations assessed the relation

between the explicit measures of coping – specifically, between each individual coping

strategy scale from the AWOC and the A-CCQ. The analysis revealed significant

correlations between some of the AWOC and the A-CCQ. See Table 12 for all

correlations. Specifically, self-rated coping competence was significantly correlated with

the AWOC scale: "Control the Impact of my Feelings" ($r = .44*$, $p < .05$), which indicates

that the scale focused on managing the impact of individual feelings was also related to

individual ratings of overall coping competence.

There were other significant correlations between specific strategies within the

AWOC. The "Control the impact of my feelings" scale was also significantly correlated

with the "Accept Myself" scale ($r = .45*$, $p < .05$). The scale "Seek social support" was

significantly correlated with the "Confront the Situation" scale ($r = .37*$, $p < .05$), and

"Make and follow a plan of action" ($r = .51**$, $p < .01$). The two mindfulness scales

were also significantly correlated with each other ($r = .69^*$, $p < .05$). The correlations

reflect moderate to strong relationship between the self-rated coping strategies.

Based on previous research, it would not be expected that all coping strategies

correlate with all other coping strategies, as individual will display specific patterns of

coping strategy use (e.g. problem focused vs. emotion focused strategies). However, it is

notable that only one strategy was correlated with the A-CCQ. The relation between

individual strategies indicates a grouping of strategies based on confrontation, efficacy,

and seeking social support. The significant correlations between the explicit measures

provide some initial support for the hypothesized pattern of correlation within methods of

measurement. However, the results should not be over-interpreted. Using an alpha level

of .05, across the 55 correlations between different explicit measures and scales, one

could expect 2.75 Type I errors – or the identification of a significant relationship where

there is none. In current analysis, 5 significant correlations between explicit measures

were identified, which is not sizably larger than what could be expected by chance.

Additionally, due to the small sample size, current analysis only has the power to detect

moderate to high correlations. This raises the possibility that with increasing participation

rates, some correlations would then be flagged as significant. Because some significant

correlations exist, in combination with the demonstrated relation between implicit

measures, these results provide some initial support for a pattern of significant correlation

within methods of measurement that aligns with the first hypothesis of this study.

Relation between implicit and explicit measures. Pearson correlations assessed

the relation between the explicit and implicit measures in the current study. There were

no significant correlations between any of the Implicit and Explicit measures (see Table

48

13). This pattern of non-significant relation provides support for the hypothesis that there would not be significant correlations *across* methods of measurement.

Conclusion. The series of Pearson correlations described above provides some initial support for the hypothesized pattern of significant correlations *within* but not *across* methods of measurement. Implicit measures of coping were significantly correlated with each other, but not with any of the explicit measures of coping. Similarly, there were significant correlations between some of the explicit measures, but no scales from the explicit measures were correlated with implicit measures. Overall, the results align with the hypothesized pattern of correspondence within but not between methods of coping measurement.

Hypothesis 2: Relation with Outcome Measures

The second hypothesis posited that implicit measures of coping would correlate significantly with external ratings of teacher effectiveness, but that explicit measures of coping would not. To examine this hypothesis, Pearson correlations assessed the relation between supervisor ratings and the different measures of coping used in the study (See Table 14). Specifically, individual AWOC Scales, Self-Rated Coping Competence as measured by the A-CCQ, TAT mean coping score, and Narrative mean coping score were correlated with the effectiveness ratings from the Campus Supervisor, Field Supervisor, and mean rating from both supervisors to determine patterns of significant correlation.

Individual and mean supervisor ratings were significantly correlated with all implicit measures. TAT mean coping scores were significantly correlated with effectiveness ratings from the Campus Supervisor (r = .47*, p < 05), Field Supervisor (r

49

= .53**, $p < .01$), and mean effectiveness rating ($r = .56$, $p < .01$). Narrative coping

scores were significantly correlated with Campus Supervisor ratings ($r = .48*$, $p < .05$),

Field supervisor ratings ($r = .55**$, $p < .01$), and mean effectiveness rating ($r = .56**$, $p <$

.01). Notably, the correlations between implicit measures and Field Supervisor

effectiveness ratings fall in the "strong" range, while the correlations between Campus

Supervisors fall in the "moderate" range. This pattern of results suggests a consistent,

significant, and positive relationship between high implicit coping scores and external

evaluations of a student teacher's effectiveness in the classroom.

There was only one significant correlation between explicit measures of coping

and supervisor effectiveness ratings. The "Confront the Situation," scale was significantly

and *negatively* correlated with Field Supervisor ratings of effectiveness ($r = -.44*$, $p <$

.05), which suggests that student teachers who rated themselves as active problem

solvers, likely to confront a situation received low effectiveness ratings from their Field

Supervisors. All other correlations between explicit measures and effectiveness ratings

provided by Field Supervisors were non-significant and can be viewed in Table 14.

In summary, the data supported the second hypothesis that analysis would reveal

significant correlations between implicit measures and outcomes, but not between

explicit measures from outcome. The only unexpected result was the significant negative

correlation between the AWOC scale "Confront the situation" and Field Supervisor

ratings. This significant relation was not expected under the current hypothesis. However,

the overall pattern of correlation supports the hypothesized trend of implicit (but not

explicit) measures demonstrating significant correlations with teacher effectiveness, as

rated by Campus and Field Supervisors.

Exploratory Analysis of Narratives

Themes in student teacher experiences were identified through the analysis of story imports and through close reading of the student teacher narratives. As the independent raters coded for coping, they also identified themes. Once coding was complete, the raters discussed the identified themes until no new themes emerged. Then, based on a re-reading of a sample of stories, themes were refined and organized conceptually.

Using this process, nine broad themes were identified and are summarized in Table 15 (found in the Appendix). The broad themes reflect the types of experiences that are meaningful and that student teachers cope with on their journey towards becoming professional teachers. Identified include concerns related to behavior management, student academic and social emotional needs, student relationship building, relationships with mentor teachers, stress management, teacher development, parent teacher conferences, and supervisor evaluations and observations. The most frequent topics of discussion were: behavior management, development as a teacher, and student social/emotional needs. The implication and significance of these themes will be explored further in the discussion section of this paper. As data collection continues, the identified themes and categories will be revisited to ensure they fully encompass the experiences of student teachers.

Chapter 5: Discussion

In a year-long study with student teachers, the current project sought to expand the literature on coping measurement and theory by comparing implicit and explicit assessments of coping, and by investigating both forms of measurement in relation to the performance of student teachers – specifically, external ratings of teacher effectiveness in the classroom. Explicit measures of coping included participants' self-reported coping strategy use (AWOC) and coping competence (A-CCQ), and reflect the most frequently utilized approach to coping measurement in research. Implicit measures of coping included the Thematic Apperception Test and Personal Narratives, both of which were coded to assesses overall coping effectiveness and appropriateness - embedded within a specific context. This approach to coping measurement is distinct from previous research that uses self-ratings to focus on the categorization of strategies and on labeling them as effective or ineffective approaches.

Research on motivation suggests that implicit measures are more highly correlated with real-world outcomes than explicit measures (Spangler, 1992), and that the structure of TAT stories reflects the ways in which individuals understand problems, tensions, challenges, and ways to resolve them (McClelland et al, 1989). These findings inspired the hypothesis in the current study that the novel implicit measures utilized to assess coping will demonstrate significant correlations with the outcome measures, but the explicit measures will not.

The current study embraces a conceptualization of coping as a multilevel process – not only as an ongoing cycle of response and reappraisal to a situation one identifies as overwhelming, but an adaptive process where one develops coping schemas that influence a person's overall well-being and functioning during stress. Although the

definition of coping as a process is widely accepted in the literature (beginning with

Lazarus & Folkman, 1984), measurement of coping has remained focused on individual

coping strategies or styles rather than on an individual's complete *process* of appraising,

coping, and learning from stressful events. This focus may in part exist due to the

legitimate challenge of assessing a complex interaction between a person and their

environment. However, by incorporating implicit measures of coping that assess the

overall effectiveness of a student teachers' coping *process* in relation to their

performance, the current study contributes to research by providing support for alternate

forms of measurement through which researchers and practitioners can understand the

ways in which people respond to stressful situations and adapt to specific contexts. By

utilizing external evaluations of effectiveness in conjunction with explicit and implicit

measures, it becomes possible to understand how each contributes to one's overall

adaptive outcomes – specifically, an estimate of teachers' ability to function in the

classroom that is not subject to the same biases in self-perception that may influence their

other self-ratings.

Finally, themes were identified through the examination of student teachers'

narratives. Because coping is defined as a process embedded within context,

classification of experiences into themes that are specific to student teachers provides

information on the kinds of issues they most commonly face, and gives insight on the

contexts for coping that are specific to the participants in our study. The classifications in

the current study are preliminary, and represent the beginning of an ongoing effort to

qualitatively understand and describe the experience of student teachers. The

identification of themes for the current study is important because characterizing coping

with no information on the types of situations and problems that are being dealt with

would only provide surface information on how teachers handle stress. Including

information on context provides insight for teacher training programs. For instance, there

are certain areas that can be addressed with didactic lessons but others such as managing

one's own emotions or relationship with the mentor teacher require a more experiential

approach that may be built in at various stages of the training program. By addressing

challenges in a dynamic and ongoing way through experiential learning and structured

discussion, programs can provide supports to equip student teachers to cope with the

specific, anticipated challenges associated with intern year, as well as support them in

developing the flexibility and anticipation skills to handle unanticipated challenges that

arise.

Relationship between Implicit and Explicit Measures of Coping

The first hypothesis posited significant correlations within methods of

measurement (i.e. between implicit measures or between explicit measures), but not

across methods of measurement. The hypothesis was informed by research that suggests

that implicit and explicit measures capture different elements of constructs that may not

always be directly connected. Data analysis supported the hypothesized relationship

between the types of variables, as significant correlations were found between the

implicit measures (coping codes from the TAT and Narratives), between explicit

measures (Adapted Ways of Coping Scales and ratings of Coping Competence using the

A-CCQ), but not between implicit and explicit measures of coping.

Implicit measurement. The significant correlation between the implicit measures

has important implications because it establishes a connection between a projective

measure (the TAT), and the ways in which people describe their own experiences in narrative. Both measures were coded for coping – evaluated based on the appropriates and effectiveness of coping actions. Both assessments are designed to capture coping at an adaptive level – to assess the generic coping schemas that individuals develop over time but that also influence more context-specific coping decisions that appear in narrative. The relationship between the two measures suggests that adaptation of the TAT coding system for use with narratives was effective, and the novel coding system captured similar patterns of coping across TAT stories and narratives about personal experience.

Beyond the mechanics and applicability of the coding system, the strong correlation between measures also suggests that individuals demonstrate and reveal common coping schema and patterns of understanding across contexts, and that individuals describe coping processes of similar quality in projective measures and in accounts of their own experiences. Methods for resolving conflict and handling negative events may be embedded in implicit schemas that are revealed through implicit measures like TAT stories, and applied in contexts about which individuals write narratives. These patterns provide insight into the ways individuals interpret and respond to stress, and suggest a common underlying structure in the ways in which individuals understand and respond to problems.

Explicit measurement. The correlations between explicit measures of coping suggest that across individuals, there may be consistent patterns in the ways individuals self-rate their own coping style and efficacy. However, it is important to note that, given the number of analyses, the number of correlations falls only slightly above what might

be expected by chance, and should not be over interpreted. The goal of examining these correlations is to focus on patterns in relationships and interpret the results with an eye to areas that warrant future exploration with a larger sample size.

Self-rated coping efficacy, assessed with the Coping Competence Questionnaire, was correlated with the "Control the impact of my feelings" subscale of the Adapted Ways of Coping questionnaire. This significant correlation suggests that individuals who rated themselves as effective copers also endorsed strategies focused on managing and controlling their emotional reactions. This relation is not surprising given the focus of the original Coping Competence Questionnaire – it was designed to assess the extent to which individuals believed they could manage and cope with their emotions in an effective way – in a sense, control the impact of their feelings. The two measures seem to capture overlapping coping constructs related to managing one's emotions or automatic responses when stressed.

There were also some significant correlations between the Adapted Ways of Coping subscales. The scale "Control the impact of my feelings" was also significantly correlated with the mindfulness scale "Accept Myself," which may indicate that those who can accept and recognize their negative reactions are also more able to control the impact of those feelings. Significant relations also existed between the two Adapted Ways of Coping mindfulness scales, which indicates that the two facets of mindfulness are closely related – an expected outcome since they are assumed to be two components of an overall mindfulness construct (Walach, Buttenmuller, Kleincnecht, & Schmidt, 2006). This cluster of correlations connects awareness and acceptance of one's emotions with the self-rated ability to recognize and minimize their impact when stressed.

The Adapted Ways of Coping scales "Confront the situation" and "Look to others for support" were significantly correlated with each other. The items of both scales include a focus on others for solutions – either by confronting or expressing anger to a person viewed as part of the problem, or through seeking resources or insight from another to find a solution. The correlation between the two scales might suggest that those who are likely to confront situations directly by talking to others, may also seek instrumental support from others to try and resolve tensions or stress. This may suggest a pattern where some student teachers place responsibility for problems (and their solutions) on others as a consistent approach to coping. Such an approach might have mixed results for student teachers – although accessing resources and supports is an important way to learn and grow – confrontation and placing responsibility for the cause and resolution of stressful situations on others may be problematic in a student teaching situation where increasing responsibility and independence is expected. Level of responsibility and independence in relation to coping may be an important area of future exploration for understanding the development of effective student teachers. It is also important to note that "Confront the Situation" and "Look to others for Support" were the two scales of the AWOC on which participants referenced teaching explicitly most frequently. This suggests that these two strategies are not only related, but also especially salient in the context of teaching.

Although these significant relationships are interesting to consider, addressing the specific meaning of the individual correlations in great depth is beyond the scope of this study, especially given the small sample size and limited power. However, in the context of the current research questions the relevance of these correlations lies in what they

mean for the measurement of coping and how it is assessed. The pattern of significant correlations suggests that when facets of coping are measured explicitly, there are common patterns of strategy use and efficacy in how student teachers understand and rate their own patterns of coping. Relationships such as these, which exist between explicit measures, define previous research (and resulting knowledge) on coping behaviors and strategies. However, if self-rated coping behaviors are not connected to well-being or performance measures they become only a cross section of individual patterns of response or self-perception. By incorporating implicit measures and external evaluations, the current research assesses coping in ways that go beyond patterns in self-ratings. The correlations found between explicit measures is only a piece of the picture. This limitation in self ratings alone is what lead to additional exploration between methods of measurement and outcomes.

Implicit and explicit measurement. The lack of correlation between implicit and explicit measures of coping is meaningful because it suggests that the two forms of measurement capture distinct and unrelated elements of the coping process. Additionally, because the TAT and the personal narratives capture the effectiveness of the coping process as a whole, it is notable that these measures were not significantly correlated with any of the specific strategies from the Adapted Ways of Coping Scales. Previous research often defines common coping strategies and categorizes them as "adaptive" or "maladaptive," by connecting them with outcomes. However, even *without* considering the broader outcome measure of external evaluations of effectiveness, the lack of relationship between individual strategies and effectiveness as captured by the TAT, suggests that there was little connection between strategies labeled as effective and how

well individuals were able to resolve tensions. This lends support to the idea that specific coping strategies are not inherently adaptive or maladaptive or predictive of success and effective coping, but that effective coping instead must be viewed and evaluated within a context. The lack of correlation between the explicitly reported strategies and coping strategies implicit in narratives suggests the traditional adaptive/maladaptive dichotomy may be inappropriate – that specific strategies are not universally adaptive or maladaptive, but are instead adaptive or appropriate for a given event, and that adaptive coping may be defined instead by an individual's ability to select and adjust their coping responses to fit an ever-changing situation. Finally, the lack of correlation between measures suggests that using a single approach to measurement (implicit or explicit) may not provide the full picture of an individual's response to stress.

Relation Between Coping and Teacher Effectiveness Outcomes

The pattern of results generally supported the hypothesis that implicit measures of participants' coping (but not explicit ones) would correlate with ratings of effectiveness from the students' supervisors – external evaluations that link the assessment of coping to a broader, adaptive outcome. Specifically, the TAT and Narrative coping codes correlated with ratings from both supervisors, which demonstrates that implicit measures of coping are correlated with outcomes for student teachers. Because effectiveness ratings are a performance outcome, and represent a theoretical outcome of coping as an adaptive process (Skinner & Zimmer-Gembeck, 2007), and the TAT and narratives provide an assessment of adaptive coping, the correlation between the two supports the posited connection between the two.

As predicted, explicit measures were not significantly correlated with any of the outcome measures, except for a single significant negative correlation between "Confront the Situation" and effectiveness ratings from students' Field Supervisors. This result may suggest that student teachers who see themselves as more likely to confront others are seen as ineffective in managing the demands of teaching by their supervisors. The individual items on this scale include the expression of anger, talking to someone who could do something, and trying to get someone to change their mind so the problem could be resolved. These individual items focus on confronting others about a problem, perhaps rather than taking steps to solve the problem individually or independently. It is notable that Confront the Situation is one of the two scales on which over 50% of participants mentioned teaching directly when responding to the open-ended portion of this scale, which lends support to the idea that these strategies are salient for student teachers in the classroom *and* viewed as ineffective by their supervisors. As discussed previously, such approaches may be viewed as ineffective by supervisors in the classroom because they involve placing responsibility others, or expressing anger, which might be inappropriate in certain classroom contexts. For example, although student teachers may feel frustrated with students, consistently expressing anger might reflect a reactive response pattern in coping, where one immediately acts on their internal response than on active problem solving. Since it is clear that a majority of student teachers were considering teaching when responding to this prompt, the conclusions drawn about the relation between this scale and the effectiveness outcome are that much stronger.

The pattern of results raises questions about the connection between self-rated coping as a construct and the ability to actively and continuously problem-solve in a real-

life setting. A student teacher's effectiveness in the classroom reflects this ability to cope

with the demands of a profession with increasing independence. Through the lens of

coping research, it reflects the ability to cope both with their own internal reactions *and*

the external expectations of what it means to be an effective teacher. The pattern of

results suggests that these components of coping as a construct are not captured by self-

ratings, but instead are captured in the analysis of implicit measures, and the

understanding gained about problem solving processes as a whole.

The results also align with previous research by Spangler (1992) and McClelland

et al (1989) that demonstrated that implicit and explicit measures are associated with

different kinds of outcomes. Spangler (1992) demonstrated that implicit measures

correlated with career success motivation for achievement when given intrinsic, task

oriented incentives, while explicit measures are correlated with career success with social

or external incentives. McClelland et al (1989) noted that implicit measures predicted

spontaneous, naturally occurring patterns of behavior, and explicit measures predicted

behaviors when participants were being evaluated in a structured setting. Together, the

results suggest that implicit measures are more associated with independent, naturally

occurring behaviors over time, while explicit measures relate to performance when social

evaluation is involved. Although the participants in the current study are being evaluated

by their supervisors for their training – the effectiveness ratings reflect a holistic

evaluation of student teacher's behavior over time, both when they are being formally

observed *and* when they are not. The effectiveness of a teacher depends on intrinsic

motivation to complete the job, and the ability to perform independently and cope with

stressors without observation. Therefore, the correlation between effectiveness ratings

and the TAT and Narrative coping codes fits within a broader pattern of correlation between implicit measures and spontaneous, naturally occurring patterns of behavior.

The lack of correlation between the explicit measure of coping competence in the current study and the outcome measure suggests that self-rated coping does not predict overall or spontaneous coping behaviors the way implicit measures do. Given the pattern of results from Spangler (1992) and McClelland et al (1989) – that explicit measures correlate with outcomes related to social or evaluative incentives, it is possible that explicit measures would correlate with *other* measures of student teacher performance not utilized in the current study. For example, it is possible that self-rated coping competence might correlate with performance on a specific, structured classroom assignment. A potential limitation of the current study is the lack of a more structured outcome measure for the purposes of comparison.

The relation established in this study between implicit measures of coping and teaching outcomes suggest that implicit coping processes identified through the coding system are associated with the student teachers' performance in the classroom, and their supervisors' appraisal of their ability to manage the demands of the profession. Thus, assessing the coping process as a whole – the sum of many factors in context – is closely related to ratings of student teacher effectiveness. Significantly, the results also suggest that students own evaluations of their coping actions and competence *do not* relate to their performance in real world settings or supervisors' evaluations of their effectiveness. The overall pattern of results is important because it suggests that individual self-ratings of coping skills are not related success or effectiveness in teaching (as defined by an external evaluator) in their role as an early career teacher. Instead, the results suggest that

evaluations of implicit coping processes are closely related to student teacher effectiveness.

Coping Themes in Student Teacher Experience

The narratives that were coded for coping were also examined for themes of experience, common situations that student teachers coped with during their placements. The themes that appeared in student teacher narratives encompass a broad range of concerns related to their first experiences in the classroom. Themes that appeared most frequently across narratives included Behavior Management, Concerns about Student Social-Emotional Development, and reflections on their own professional development as teachers. This suggests that what student teachers are most concerned about, and reflect on most commonly, included elements of the teaching process *outside* the actual teaching of material. These experiences may be the most novel for them, and the ones that may be the most difficult to prepare for in a college classroom. The novelty of these experiences, and the fact that they may reflect the kinds of situations and skills that must be learned about through experiences may be why they are so salient for the student teachers in our population.

Other frequent themes included reflection on student academic success and needs, on teacher's own self-management and regulation, and on relationship building with students in their classrooms. Reflection on the academic success and needs of their students often focused on their students' needs and fit with curriculum, and the best ways to present or share information. The student teachers also often discussed their relationship with specific students with whom they worked, often as they focused on a specific academic skill or deficit. Teachers also often reflected on their own self-

management in the classroom, whether the management of their emotions or the difficulty of balancing the many demands on their time as a student teacher.

Other themes that appeared less frequently included concerns about observation and evaluations from supervisors, parent teacher relationships, and student-teacher relationships with their mentors. In combination, these themes reflect some concern about evaluation from others as new teachers, whether the evaluation or feedback came from parents of their students, their mentor teacher, or their supervisor. The themes also reflect the importance of relationships and guidance for the student teachers, that feedback is not only a source of anxiety but also an important resource and source of support. Notably, in the limited research on student teachers' coping, some work has identified some comparable themes of experience. Using a survey, Paquette and Rieg (2016) found that time management, behavior management, and overall workload as significant stressors in a population of student teachers.

Although planning lessons can be a challenging and time-intensive process for student teachers and the basis for formal evaluations in their training programs and for licensure, the themes that appeared in the current set of narratives suggest that student teachers cope with stress surrounding a variety of issues. This suggests that student teacher stress is due to classroom experiences beyond academic instruction, and may be due to a variety of intersecting challenges. The findings suggest that training programs might provide additional supports for their students through a space to reflect and problem solve about the challenges that are new and novel for them in their full-time placements to complement the explicit instruction they receive. Specifically, additional space to discuss issues of behavior management and student social emotional well-being,

strategies to manage their own reactions in the moment, and an emphasis on growth and development may be especially important for building student teacher efficacy.

Conclusions

In summary, the current study utilized multiple methods to understand and explore the experience of student teachers. Correlational analysis examined the relationship between explicit and implicit measures of coping, and demonstrated that the two capture distinct aspects of the coping process – that individual self-ratings do not correlate with the coping scores assigned to narratives and TAT cards. Furthermore, results demonstrated that the implicit measures of coping were correlated with effectiveness ratings, while explicit self-ratings were not. These results have significant implications for coping research and for conceptualizations of the coping process. Although there are common patterns of correlation within self-rated coping, these self-ratings are unrelated to ratings of teacher effectiveness. This indicates that traditional methods of coping measurement may be incomplete when attempting to understand individual functioning or performance within a specific context. The results also suggest that a complete assessment of coping must include methods that go beyond the exclusive assessment of individual strategies – implicit measures that integrate and account for coping strategies, context, and the transaction between the two.

Qualitative analysis of narratives revealed that at the beginning of their careers, student teachers face a broad range of challenging experiences that span from concerns about managing the behaviors of their students to reflection on their own role and identity as a teacher. In these narratives, participants revealed consistent patterns of coping effectiveness that also appeared in their TAT stories. This suggests that individuals apply

common coping schema across contexts and situations that can be assessed implicitly, and that is correlated with their performance in real-world contexts.

Limitations and Future Directions

The most significant limitation in the current study is the limited sample size. The small sample affects the interpretation of the results of this study in a number of significant ways. First, due to the small sample size, it is possible that significant relationships between variables were not detected or marked as significant in analysis. Although the pattern of results existed as hypothesized, it is important to note that additional significant relationships between variables assessed in the study (outside the hypothesized pattern) could be revealed with increasing sample size. Second, because of the small sample size, analysis was limited to a correlational approach.

Additionally, the current sample is limited to students from a single teacher-training program. Using this sample gives specific insight into this population, but it is important to recognize that the results may be specific to the current population of teachers. In future iterations of the current study, it may be important to expand to other teaching programs to ensure the data collected generalizes beyond the current setting. However, the teacher in the current study were placed across diverse settings, so the experience for each student teacher is not completely uniform. Furthermore, to gain insight into teacher development, future research will include follow up measures to track the student teachers beyond their time as students, with a follow-up, one year after the student teachers completed their internship placements. An additional limitation of the current sample is the overrepresentation of female teachers. Although elementary education is a profession dominated by women (US Department of Education, National

Center for Education Statistics, 2016), the current sample is comprised of nearly all females. This prevented any analysis or exploration on gender differences in coping, or in the student teaching experience.

Finally, future research on the relationship between coping measurement and classroom performance should be expanded to incorporate individual differences like temperament, reactivity, or social desirability that may influence appraisals and coping schema. Other research has demonstrated that these constructs are related to both coping and performance, so including them in the current model would provide insight into interactions between personal factors, coping, and performance in the classroom.

Appendices

APPENDIX A: TABLES AND FIGURES

Table 1
Study Timeline

Phase	Meeting/Activity	Time	Measures and Interviews
Recruitment	Classroom Visit	Early Fall	*n/a*
Phase 1	Meeting 1	Early/Mid Fall Semester	• Demographic Information • *Thematic Apperception Test* (Morgan & Murray, 1935) • *Coping Competence Questionnaire* – Adapted (Schroder & Ollis, 2011)
	Meeting 2	End of Fall Semester	• Teaching Experience Story
Phase 2	Home Writing	Three times over 6 weeks; February - March	• Meaningful Teaching Experience
	Final Meeting	End of Spring Semester	• Adapted Ways of Coping (Lazarus & Folkman, 1984). • Supervisor and Professor ratings

Table 2
Coping Levels and Measures

Process Level	Definition	Measures
Adaptive	Coping over adaptive time; aggregate of many coping experiences	• Thematic Apperception Test • Adapted Ways of Coping • Coping Competence Questionnaire
Episodic	Coping over episodic time; how individuals cope with a specific instance or problematic situation	• Personal Narratives • Adapted Ways of Coping
Interactional	Coping over real time; how individuals react and act moment to moment when stressful events are occurring	• Thematic Apperception Test

Table 3

Demographic Information

Category	N	Percent
Age		
19	1	3.4
20	1	3.4
21	23	79.3
22	3	10.3
23	1	3.4
Total	**29**	**100**
Race		
White	18	62.1
African American	2	6.9
Asian American	3	10.3
Hispanic Latino	4	13.8
More than one race indicated	2	6.9
Total	**29**	**100**
Gender		
Male	1	3.4
Female	28	96.6
Total	**29**	**100**

*Includes demographics from the 29 participants who participated in the first meeting

Table 4

Inter-rater Reliability: Two Way – Mixed IntraClass Correlation Coefficient

Measure	Intraclass Correlation Coefficient (ICC 3,1)
TAT	
Card 1 *(17 out of 28)*	.88
Card 2 *(17 out of 28)*	.84
Card 3 *(17 out of 28)*	.81
Card 4 *(17 out of 28)*	.92
Card 5 *(17 out of 28)*	.86
Card 7 *(17 out of 28)*	.87
TAT Total *(102 out of 168)*	.85
Narratives	
Significant Teaching Experience 1 *(13 out of 27)*	1.0
Weekly Writing 1 *(10 out of 26)*	.66
Weekly Writing 2 *(10 out of 24)*	.87
Weekly Writing 3 *(12 out of 25)*	.92
Narrative Total *(45 out of 75)*	.90
Total (102 TAT stories, 45 Narratives)	**.87**

Note: Reliability was calculated for 17 sets of stories. The other 12 stories were used to established and refine the coding system.

Table 5

Correlation between Campus and Field Supervisors

Rater	Program Supervisor	Field Supervisor
1. Program Supervisor	-	.65**
2. Field Supervisor	.65**	-

* = p < .05 (2-tailed), ** = p < 0.01 (2-tailed)

Table 6
Phase Completion

Phase	*n*
Assigned ID Number	31
Phase 1	
Meeting 1 (TAT)	29
Meeting 2 (Significant Teaching Experience)	28
Phase 2	
Weekly Writing 1	26
Weekly Writing 2	24
Weekly Writing 3	25
Completed All 3	21
Final Meeting	28

Table 7

Internal Consistency for Study Measures

Measure	Cronbach's Alpha
Explicit Measures	
Coping Competence (A-CCQ; 12)	.78
AWOC: Confront the Situation (3)	.50 (.67[a])
AWOC: Put some distance between my emotions and the situation (3)	.70
AWOC: Control the impact of my feelings (3)	.71
AWOC: Look to others for support (3)	.64 (.78[a])
AWOC: Take responsibility for my actions and what happened (3)	.55 (.71[a])
AWOC: Wish the problem would go away (3)	.76
AWOC: Make and follow a plan of action (3)	.80
AWOC: Find the positive impact (3)	.84
AWOC: Accept myself (2)	.48 (.73[a])
AWOC: Show myself Compassion (3)	.87
Implicit Measures	
TAT Cards 1, 2, 3, 4, 5, 7	.93
Narrative STE, WW1, WW2, WW3	.92

Note: AWOC = Adapted Ways of Coping;

    Number of items of each scale are denoted in parentheses after the scale name.

  [a] *Cronbach's Alpha value with Spearman-Brown correction, # of items increased to 6*

Table 8
Descriptive Statistics

Measure	*n*	*M*	*SD*	Min	Max	Skew
Explicit Measures – Mean Scores						
Coping Competence (A-CCQ; 1-6)	29	4.29	.69	2.92	6	.55
Adapted <u>Ways of Coping (1-4)</u>						
Confront the Situation	28	2.06	.57	1	3.33	-.02
Put some distance between my emotions and the situation	28	2.25	.63	1	3.33	-.103
Control the impact of my feelings	28	2.73	.71	1.33	4	.07
Look to others for support	28	3.11	.62	2	4	.07
Take responsibility for my actions and what happened	28	2.61	.55	1.67	4	.62
Wish the problem would go away	28	2.38	.78	1	4	.23
Make and follow a plan of action	28	3.13	.72	1.67	4	-.59
Find the positive impact	28	3.01	.81	1.67	4	-.06
Accept myself	28	2.14	.77	1	3.5	-.19
Show myself Compassion	28	2.47	.76	1	4	.09
Implicit Measures (1-3)						
TAT Cards 1, 2, 3, 4, 5, 7	29	1.60	.68	1	3	1.0
Card 1	29	1.69	.76	1	3	.61
Card 2	29	1.62	.77	1	3	.80
Card 3	29	1.66	.81	1	3	.74
Card 4	29	1.45	.69	1	3	1.27
Card 5	29	1.62	.82	1	3	.84
Card 7	29	1.62	.80	1	3	.84
Narrative: STE, WW1, WW2, WW3	28	1.65	.77	1	3	.94
Significant Teaching Experience	25	1.64	.91	1	3	.82
Weekly Writing 1	23	1.83	.83	1	3	.35
Weekly Writing 2	20	1.80	.83	1	3	.41
Weekly Writing 3	23	1.70	.82	1	3	.65
Supervisor Ratings (1-10)						
Field Supervisor	25	7.28	1.51	5	10	.26
Campus Supervisor	30	7.13	1.71	2	10	-.75
Mean Rating	30	7.16	1.43	4	10	-.13

Note. Range for each scale is listed in parentheses as "(X-X)"
      STE = Significant Teaching Experience.

Table 9
Frequency of Participants' References to Context in AWOC

Number of AWOC scales	No Context	Context: Teaching **Total**	*Context: Teaching Only*	*Context: Teaching + Oher*	Context: Other Only
0 scales	1	3	*3*	*0*	0
1 scale	0	3	*3*	*1*	6
2 scales	1	6	*5*	*1*	0
3 scales	3	4	*4*	*1*	0
4 scales	4	1	*1*	*0*	0
5 scales	5	3	*3*	*0*	0
6 scales	0	4	*4*	*0*	0
7 scales	5	2	*1*	*0*	0
8 scales	4	7	*8*	*0*	0
9 scales	10	0	*0*	*0*	0
10 scales	10	1	*0*	*0*	0

Table 10:
Context Provided for Coping Scales

Adapted Ways of Coping Scale	No Context	Context: Teaching Only	Context: Teaching + Other	Context: Other Only
Confront the Situation	11	14	1	1
Put some distance between my emotions and the situation	13	12	1	1
Control the impact of my feelings	20	7	0	0
Look to others for support	7	18	1	1
Take responsibility for my actions and what happened	17	9	1	0
Wish the problem would go away	17	9	0	1
Make and follow a plan of action	16	11	0	0
Find the positive impact	16	10	1	0
Accept myself	23	4		
Show myself Compassion	19	5	1	2
Total	159 (58.9%)	99 (36.7%)	6 (2.2%)	6 (2.2%)

Total (Any mention)   *Teaching:* 105 (38.9%) *Other*: 12 (4.4%)

Table 11

Relation Between Implicit Measures of Coping

Measure	TAT	Narrative
TAT	-	.934**
Narrative	.934**	-

* = p < .05 (2-tailed), ** = p < 0.01 (2-tailed)

Table 12

Relation Between Explicit Measures of Coping

Measure (Mean)	1	2	3	4	5	6	7	8	9	10	11
1. Coping Competence (ACCQ)	1.0	.01	-.33	.44*	-.20	-.10	.14	.06	-.11	.15	.33
Adapted Ways of Coping											
2. Confront the Situation		1.0	-.20	-.08	.37*	-.004	-.01	.23	.16	.26	.15
3. Put some distance between my emotions and the situation			1.0	.17	-.36	.07	.15	-.17	.02	.17	.10
4. Control the impact of my feelings				1.0	.01	.29	.31	.19	.37	.33	.45*
5. Look to others for support					1.0	.29	.11	.51**	.04	-.21	-.16
6. Take responsibility for my own actions and what happened						1.0	.35	.19	.30	-.06	-.11
7 Wish the problem would go away							1.0	-.24	-.13	.12	.19
8. Make and follow a plan of action								1.0	.30	-.12	-.01
9. Find the positive impact									1.0	.11	.13

		1.0	.69**
10. Accept myself			
11. Show myself Compassion			1.0

*= p < .05 (2-tailed), ** = p < 0.01 (2-tailed)

a. WOC = Indicates subscale from Ways of Coping

Table 13

Relation Between Implicit and Explicit Measures

	Implicit Measures	
Explicit Measures	TAT	Narrative
Coping Competence (A-CCQ; Mean)	-.10	-.14
Adapted Ways of Coping Scales (Means)		
Confront the Situation	-.18	-.14
Put some distance between my emotions and the situation	.06	.11
Control the impact of my feelings	-.02	.05
Look to others for support	.18	.25
Take responsibility for my own actions and what happened	-.03	.03
Wish the problem would go away	-.19	-.19
Make and follow a plan of action	.17	.25
Find the positive impact	-.02	.01
Accept myself	.09	-.03
Show myself Compassion	.08	-.01

All scales reflect mean scores for each explicit scale, and mean rating from the TAT and on Narratives.

*= p < .05 (2-tailed), ** = p < 0.01 (2-tailed)

Table 14

Relation Between Coping Measures and Supervisor Effectiveness Rating

Measure	Program Supervisor	Field Supervisor	Supervisor Mean
Explicit Measures (Mean)			
Coping Competence (A-CCQ)	-.11	-.16	-.14
Adapted Ways of Coping			
Confront the Situation	-.23	-.44*	-.36
Put some distance between my emotions and the situation	.02	.11	.08
Control the impact of my feelings	-.22	.05	-.10

Look to others for support	.16	-.003	.09
Take responsibility for my actions and what happened	-.03	.14	.05
Wish the problem would go away	-.03	-.28	-.10
Make and follow a plan of action	.03	.22	.07
Find the positive impact	-.28	.33	-.06
Accept myself	-.27	-.25	-.22
Show myself Compassion	-.27	-.20	-.18
Implicit Measures (Means)			
TAT	.47*	.53**	.56**
Narrative	.48*	.54**	.56**

* = p < .05 (2-tailed), ** = p < 0.01 (2-tailed)
All scales reflect mean scores for each explicit scale, and mean rating from the TAT and on Narratives.

Table 15
Themes from Student Teacher Narratives

Theme	Description	Frequency
Behavior Management	Reflection on how to manage the behaviors of individual or groups of students.	35
Whole Class	• Decision to be "fun" or set firm rules • Decision to implement lesson plan or address problematic behavior	
Individual Students	• Strategies to manage behaviors of particular "problem" students during instruction • Handling frustration with disrespect from individual students. • Handling disrespectful, intrusive, or aggressive interactions among peers during the lessons.	
Student Academic Success/Needs	Reflection on how to successfully meet student's academic needs; acquisition of material and student learning	21
Whole Class	• Considers strategies for presenting material to entire class • Reflects on academic needs of class as a whole; what skills to they have and do they need?	
Individual Students	• How to meet the academic needs of individual students with unique needs • Meeting individual/students at their academic level; seeing progress and motivation	
Student Social Emotional Needs	Addressing the needs of students beyond their behavior and academic needs; emotional functioning, overall well-being, classroom climate	30

Whole Class	• Promoting whole class positive social emotional climate	
Individual Student	• Addressing individual student social emotional well being • Addressing emotion regulation skills of individual students	
Bullying & Negative Peer Interactions	• How to support students who have been bullied • How to address relational bullying • Ways to address group bullying behaviors – ways to handle class ganging up on an individual student	
Student Teacher Relationships *Whole Class*	Reflection on personal connections between students and teachers • Feeling that they are treated differently than mentor teacher • Connectedness to class as a whole	20
Individual Students	• Building personal connections with individual students; relationship building.	
Trainee & Mentor Teacher/Staff Relationships	Reflection on relationship with mentor teacher or other staff in the school	9
Trainee Self-Management *Self-Management – Emotion – Implicit*	Reflection on ways one is able to manage their responses or handle the stresses of student teaching and related emotions. • Self-management of emotion is at issue in the story and very significant, but in a way that is unrecognized by the narrator.	25
Self-Management – Emotion – Explicit	• Student is actively reflecting on own self-management; noticing their own patterns of response, emotion, thought	
Self-Management – Time	• Reflection on ability to manage the many demands on one's time as a student teacher; balancing different tasks and responsibilities.	
Development as a Professional Teacher *Reflection on Teaching Practices*	Reflection on issues related to the development into a "real" teacher, personal practice or identity development • Explicit reflection on **specific** skills or strategies used in the classroom, with individual students or with the entire class. • Successful or (unsuccessful) lesson implementation • Reflection on skills lesson and how to improve	30

	• Feeling that preparation paid off	
Reflection on identity/role as a teacher	• Reflection on what kind of teacher they want to be - what is their experience like? (e.g. conflict between enforcing rules and maintaining relationships with students; how institutional practices—testing for instance, affects teacher sense of identity/autonomy). • Reflection on their role in students' lives beyond school; (e.g. attending parent funeral; concern about student's home life and well-being beyond the classroom)	
Parent Teacher Conferences	Reflection about talking to parents; (e.g. influence of parents and feedback during parent teacher conferences, other conversations with parents).	9
Supervisor evaluations/observations	Reflection on supervisor observations of independently lead lessons (e.g. anxiety about observation and evaluation from supervisors, responses to supervisor feedback, process of EdTPA)	8

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