Growth through Adversity: A Mixed Methods Study of Teachers' Mental Health in the Aftermath of COVID-19

Submitted by

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A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy in Leadership

with a specialization in Curriculum and Instruction

Concordia University - Chicago

River Forest, Illinois

Date: July 12, 2022

CONCORDIA UNIVERSITY CHICAGO

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Date: July 12, 2022

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Abstract

The importance of teacher mental health as a critical focus of educational research and school improvement efforts has taken on additional urgency due to the long-term and sustained impact of the COVID-19 pandemic on schools and teachers. It is critical that research efforts explore the impact of COVID-19 on teachers and what is needed to function and grow in the face of unprecedented challenges. This mixed methods study explored the experiences of teachers in response to the trauma of the COVID-19 pandemic, seeking to understand the factors that teachers attributed to influencing their quality of mental health and posttraumatic growth. Quantitative and qualitative methods were combined to give a representation of a picture of trauma responses and growth outcomes among teachers. Mental health symptoms of depression, anxiety, and stress, and posttraumatic growth outcomes, and the relationship between teachers' mental health and posttraumatic growth experiences in response to COVID-19 were examined among elementary and high school teachers. Significant differences in mental health symptoms were identified between female and male. Significant positive correlations were discovered between symptoms of depression and stress and posttraumatic growth. Interviews were conducted in the qualitative phase to further explore the mental health and posttraumatic growth experiences of the teachers, including the factors teachers associated with mental health and growth outcomes revealed in six essential themes: *loss and gain, personality, conflicted concern, relationships, self-efficacy,* and *role and purpose.* Integration of quantitative and qualitative data revealed teachers' experience of COVID-19 as a lived paradox, including a struggle with *loss and gain*, *personality and experience*, *relationships and isolation*, *relief and concern*, *strength and weakness*, and *role and purpose*.

Keywords: Depression, Anxiety, Stress, Teacher Mental Health, Posttraumatic Growth

Dedication

Ideas are like seeds; once planted they take root. This dissertation is the result of a seed that was planted years ago by a mentor who encouraged me to pursue the vision of a dream that I had not yet considered for myself, but she saw for me. She believed I was capable, and her work, skill, accomplishment, and dedication inspired and challenged me to forge ahead on a journey leading to much growth. This dissertation is dedicated to her and those who nurtured that seed with their support of my work, their deep understanding and appreciation for who God made me to be, and their love and commitment to my vision that became a part of their lives in so many ways.

The most significant title I have in life will always be that of wife and mother. My husband Brian is a partner in life who has continually supported my work with enduring faithfulness. His leadership skills are incomparable as he serves and loves others. The ease you find in developing relationships with your students and those you coach is something we should all aspire to. It is no wonder they love you, as you have shown love. Thank you is not adequate for the many ways in which you have ensured that I was able to complete this journey.

My children have spent a number of years of their life as a part of my doctoral journey. They save seen an example of sacrifice and dedication that I can only hope will have a positive lasting impact. Lilia, your experience throughout the past few years have required great strength, flexibility, and resilience in the face of challenges and change. You inspire me to challenge myself, as I have seen you dedicate yourself to learning while you are on your own journey. Kennedy, your stability has been a great source of comfort to me as I have learned from your contentment in any circumstance, and your easygoing nature. Madelyn, you have brought me great joy and laughter with your energy and personality. The seed I wish to plant in the three of

you is this: you will always give your attention to something; pay close attention to what you focus on, because what you focus on grows. Ideas are like seeds, and once planted they take root. (See Colossians 3:2.)

Finally, this dissertation is dedicated to all my students have made me want to be better for them: my genius beatboxing kindergartener, my high school anatomy student and future doctor whose excitement over dissections surpassed my own, the soccer and basketball superstars who also were inspired to play together as duet partners on the piano, the student who secretively left me comforting verses after the death of my father, the one who gave up her lunch hour to come to lessons, the choir members who have known the joy and deep connections found in even a brief moment in music, my adult students whose improvement plans and reflections are inspiring and exemplify professionalism, and many more creators, planners, thinkers, and doers who have sat in my classrooms throughout the years. You have made my work a joy, and you may not have known how you have nurtured the seeds within me. Teachers live a privileged life indeed, as the seeds we plant bloom in many unknown ways in the future. I pray the results of this study will lead to many seeds planted that will bloom into new understandings that makes education better for you.

Acknowledgements

Throughout this journey, I have learned the most from the professors who have challenged me and have been willing to be critical of my work and thinking. I have had the privilege of learning from a number of such teachers in my experience at Concordia University-Chicago. I would like to express my gratitude and deep appreciations for those professors, and for my committee, whose support, encouragement, and critical commentary has been invaluable throughout this research study. As instructors, Dr. Lyutykh guided me to think deeply about qualitative research through thought-provoking and challenging questions and practical experience, while Dr. Schwartz helped me to grasp the complexities in quantitative research that I originally felt were beyond comprehension. Under their instruction, I first began to view myself truly as a researcher. I am grateful for their influence as I prepared for my dissertation journey. When approached about my desire to conduct a mixed methods study, they both demonstrated confidence and support in my ability to complete such an undertaking. Dr. Lyutykh's organization, patience, and dedication as chair have deeply inspired me, and it has been a great privilege to work under her guidance. Research is the result of seeds of thought planted and carried out through the process of rumination over time, and I look forward to further lines of inquiry inspired by such a philosophical mind. Dr. Kacker-Cam provided expertise and insights for this study that have been invaluable in approaching such a complex topic. I extend my sincere appreciation to each of them for assisting in the completion of this research project.

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Chapter 1: Introduction

Drastic and rapid changes have recently occurred in schools across the country due to the pandemic of COVID-19. Many requirements and mandates have been imposed upon teachers in both public and private schools to meet the needs of their students in such unprecedented times. Teachers have been presented with increasing amounts of stressors that challenge their mental health as they respond to those changes, attempt to cope, and adapt to the work required of them (Baker et al., 2021; Kim & Asbury, 2020). The past several years delivered numerous professional obstacles that demanded increasing amounts of effort and dedication to continuing in the profession despite the many changes and challenges. This environment created by the COVID-19 pandemic led to an increase in challenging conditions that have the potential to impact teachers, schools, and the teaching profession well into the future depending upon how teachers respond to these conditions. Research on effective instruction for improving teaching and learning regularly conducted in past decades (Seidel & Shavelson, 2007) will likely be woefully inadequate in an environment where there are significant disruptions and adversities that challenge teachers' mental health. An exploration of teachers' experiences as they responded to the COVID-19 pandemic highlights teachers' mental health in contemporary educational contexts and is necessary to respond to the impact of adverse events on teachers. This research study investigated the factors that teachers attribute to influencing their quality of mental health and posttraumatic growth in response to circumstances brought about by the pandemic.

Background of the Study

COVID-19 has significantly disrupted education and the work of teachers. Based upon previous understandings of the impact of trauma and adverse events, this disruption has the potential to negatively impact the mental health of teachers as they attempt to function in the

wake of this disruption. Previous pandemics have been linked to increases in mental health disorders (Shah et al., 2020), and teachers are not immune to such an impact. The quality of the mental health of teachers has previously been linked to teachers' workload, stress, job satisfaction, and burnout (Abós et al., 2019; Bauer et al., 2007; Borrelli et al., 2014, Boyle et al., 1999; Hakanen et al., 2006; Kuwato & Hirano, 2020). Furthermore, researchers have demonstrated that the mental health of teachers is linked to poor student outcomes and the potential to influence the mental health of students (Harding et al., 2019; Oberle & Schonert-Reichl, 2016). Such knowledge establishes teachers' mental health as a justifiable priority for research that has the power to impact both teachers and students.

Mental Health

A clear definition of mental health is not universally recognized among nations or health organizations. Despite this lack of agreed upon general definition, the term *mental health* is widely used as a substitute for *mental illness* (Manwell et al., 2015). According to Ramsay (2020), it is not helpful to use the term mental health as a synonym for concepts of well-being, mental distress, and mental illness; rather, mental health should be acknowledged as a "continuum that we journey back and forth along, from absolute wellbeing to illness and everything in between- our sense of mental health neither being fixed, nor black and white" (p. 1306). When discussing mental health as optimal functioning or a quality state of being, mental health includes biological, social, emotional, mental, and psychological factors (Glazzard & Rose, 2019; Manwell et al., 2015). One's mental health can be impacted by stress or events that have the power to decrease the quality of mental health. This negative impact is evidenced in potential outcomes of depression, anxiety, psychological distress, emotional exhaustion, job satisfaction, and burnout (Ferguson et al., 2012; Fortes-Ferreira et al., 2006; Maslach et al., 2001;

Mazure,1998; Pogere et al., 2019). This list of outcomes is neither exhaustive nor limited; research also demonstrates a link between mental health, social relationships, and physical symptoms (Gonge et al., 2002; Howick et al., 2019).

Mental health is not limited to a term used to designate the absence of an illness or an optimal level of happiness or well-being; it also includes facets of human functioning such as self-esteem, the ability to maintain relationships with others, and mastery (Scheid & Wright, 2017). Therefore, mental health is a term that encompasses the quality of functioning of an individual in their environment, whether it be evident in terms of optimal well-being or problems or disorders. Mental health is a complete state of being that includes both the absence of illness and the presence of positive functioning and this approach to understanding mental health is known as the *complete state model* (Keyes, 2017*).* The complete state model differs from the single continuum model described by Ramsay (2020), where well-being is fixed on one end and illness fixed on the other, and individuals move along the continuum throughout their lives as they fluctuate between well-being and illness. Alternatively, the complete state model makes use of two continua: one indicates the presence and absence of positive mental health, while the other indicates the presence or absence of mental illness (Keyes, 2017). This model of mental health does not view mental health in terms of either positive functioning or illness, it views mental health as a construct that includes both positive functioning and absence of illness.

Since this understanding of mental health recognizes an emphasis on both health and illness, a deeper understanding of mental health will explore the *etiology*, or the cause, of the illness. The sociological approach to understanding mental health and illness emphasizes that health and illness are "not just qualities of individuals but stem from various aspects of social circumstances" (Horwitz, 2017, p. 8). This approach focuses on the social origins of mental

illness, regarding mental health and illness as aspects of social circumstances. According to the sociological approach to understanding mental health, social circumstances have the power to impact mental health outcomes. Life events, living conditions, social conditions and structures, roles, relationships, and cultural systems are social circumstances that have the potential to impact mental health (Horowitz, 2017). According to Thoits (2017), the sociological approach to mental health focuses on external factors such as the environment or context as opposed to individual factors and regards the outcome of mental illness as a response to overwhelming environmental conditions.

There are currently three approaches to understanding mental illness: biological, psychological, and sociological (Thoits, 2017). The biological approach identifies mental illness as a disease related to a defect in the body or in the brain. This approach is also known as the medical approach because mental illness would be treated as a disease unique to the individual that can be potentially identified and treated as one would treat any other health disorder or physical ailment. The psychological approach views mental illness as an internal condition, but also views the illness present in the mind or patterns of thinking. The sociological approach to mental illness differs from both the biological and psychological approaches by identifying the cause of illness as an external cause (the person's social situation or environment) that leads to a breakdown in mental health, leading to mental illness (Thoits, 2017). The dissimilitude between approaches lies in the identification of different causes of the illness as well as different treatment implications. The sociological approach to understanding mental illness is in alignment with the sociological approach to viewing mental health as a product of social circumstances.

In this research study, teachers' mental health was explored according to a sociological approach, identifying the conditions created by COVID-19 as external factors with the potential

to impact the mental health of teachers. With this approach, mental health is understood as a complete state, considering both the absence or presence of illness, and the absence or presence of positive functioning as teachers have responded to the social conditions that have resulted from the pandemic.

COVID-19 and Mental Health

There has been a demonstrable link between the outbreak of past pandemics and mental health, specifically the presence of mental disorders (Shah et al., 2020). Global pandemics cause fear, disruption, and concern that impacts all individuals, including those who have been personally impacted by the pandemic, as well as those who are concerned about the potential impact. Previous pandemics (e.g., SARS, Ebola, MERS, or influenza outbreaks) have demonstrated negative outcomes of depression, anxiety, panic attacks, suicidality, and psychotic symptoms (Shah et al., 2020; Xiang et al., 2019). Previous pandemics have impacted the mental health of many different segments of the population including the general population (Shah et al., 2020) and healthcare workers (Bai et al., 2004; Maunder et al., 2003; Park et al., 2018; Shah et al, 2020). While COVID-19 is a recent pandemic, a significant amount of research has already shown that this pandemic is not unlike past pandemics, and has been found to impact the mental health of the general population (Shapiro et al., 2020; Summers-Gabr, 2020; Xu & Sattar, 2020), healthcare workers (Labrauge & De Los Santos, 2020; Laurente et al., 2021) college students (Chi et al., 2020; Essadek & Rabeyron, 2020; Son et al., 2020), and teachers (Allen et al., 2021; Baker et al., 2021; Beames et al., 2021; Kim & Asbury, 2020; Ozamiz-Etxebarria et al., 2021; Zhau & Yao, 2020) across the globe as well as in the United States.

Similar to previous pandemics, COVID-19 has led to concerning adverse outcomes in terms of mental health. From the period of August 2020 (several months after quarantines and

restrictions were implemented in the United States) to February 2021, the CDC found the percentage of adults with recent symptoms of an anxiety or depressive disorder increased significantly from 36.4% to 41.5% (Vahratian et al., 2021). Furthermore, the number of adults reporting that they needed mental health counseling but did not receive it increased from 9.2% percent to 11.7% (Vahratian et al., 2021). There are multiple reasons for these outcomes; quarantines due to COVID-19 and the infection itself have been shown to cause cognitive distress and anxiety (Xiang et al., 2020). The demonstrated increase of negative outcomes and the potential impact on mental health of many segments of the population have led many experts to position mental health as a priority for research and intervention strategies as the world responds to the pandemic, advocating for strategies moving forward that consider the long-term mental health impact (Cullen et al., 2020; Holmes et al, 2020; Kumar & Nayar, 2020; Rajkumar, 2020; Ramsay, 2020; Shah et al., 2020).

Teachers' Mental Health

Research is clear about the adverse mental health outcomes that teachers experience. The most researched outcomes related to poor quality of mental health include anxiety, depression, stress, job satisfaction, and job burnout. When research reports "poor mental health," it is often measured in terms of such outcomes, most often through self-reported quantitative standardized tools of measurements. Prior to the COVID-19 pandemic, there were concerning statistics regarding the mental health of teachers by measuring such outcomes. Husain et al. (2016) explored the role of stress, anxiety, and depression as determinants for Pakistani teacher turnover among male and female teachers with job strain. Mental health levels were measured using the Depression, Anxiety, and Stress Scale (DASS) (Lovibond & Lovibond, 1995), while job strain and turnover intentions were measured using the Job Strain Scale (Parker & DeCotiis, 1983) and

the Turnover Intention Scale of the Michigan Organizational Assessment Questionnaire (Camman et al., 1979). Depression, anxiety, and stress increase teachers' turnover intentions (Husain et al., 2016). Teachers' mental health impacts teachers' intention to leave the profession.

Othman and Sivasubramaniam (2019) used the Malaysian version of the DASS to examine the depression, anxiety, and stress levels among Malaysian secondary school teachers. Their findings revealed an alarming prevalence of these symptoms, with 43% of teachers reporting depression symptoms, 68% reporting anxiety symptoms, and 32.3% reporting stress symptoms. Ferguson et al. (2012) measured the majority of these concepts including stress, depression, anxiety, and job satisfaction among Canadian teachers, finding that stress and depression negatively impacted teachers' job satisfaction, while workload was a predictor of anxiety and depression.

Unfavorable working conditions experienced by teachers have been associated with a low quality of mental health (Borelli et al., 2014; Bauer et al., 2007; Kuwato & Hirano, 2020). Borelli et al. identified job strain as a predictor of mental illness evidenced in levels of anxiety and depression among Italian school teachers. They found that 49% of teachers scored above the threshold for depression, while 11% scored above the threshold for anxiety (Borelli et al., 2014). Borelli et al. positioned work stress as a major risk factor for anxiety and depression present in teachers in high percentages already in existence before the pandemic. Kuwato and Hirano also identified work stress as a factor impacting teachers' mental health quality. Kuwato and Hirano conducted a quantitative study to identify the factors that predict mental health among Japanese high school teachers. Their findings revealed work stressors as factors that undermine and negatively impact the mental health of teachers prior to the pandemic (Kuwato & Hirano, 2020). Likewise, Bauer et al.'s study of German teachers found nearly 30% of teachers were suffering

from significant mental health problems, linked to poor working conditions reported by teachers. Working conditions vary in terms of what stressors impact teachers' mental health, but common conditions or factors that predict teachers' mental health. Students' behavior, lack of autonomy or shared decision-making, and workload stressors are all conditions that have detrimental effects on teachers in terms of mental health as evidenced by anxiety, depression, and stress symptoms (Abos et al., 2019; Bauer et al., 2007; Boyle et al., 1995; Schonfeld et al., 2017).

Teachers' mental health has been well documented as a concern in research prior to the COVID-19 pandemic. This study examined the quality of mental health of teachers in response to COVID-19 by measuring the commonly used indicators of depression, anxiety, and stress. Initial research findings related to teachers' mental health as an outcome of the pandemic detailed in the next section are cause for continued, if not intensified, concern.

Impact of COVID-19 on Teachers' Mental Health

Beames et al. (2021) referred to teachers as "the forgotten frontline workers of COVID-19" (p. 19). They drew attention to the impact of COVID-19 on Australian teachers, highlighting that teachers' jobs have been upended with workloads that have increased since the pandemic, new skills that have been required of them with little time for preparation, caring for the mental health of students as an added stressor, and efforts to cope that have led to deteriorating mental health conditions (Beames et al., 2021). They stated that teachers have made contributions on the frontline of the pandemic that have helped the community, helped to suppress the spread of the virus, and helped to keep education moving forward in a time of great distress, deserving consideration that places them as a priority for recovery efforts (Beames et al., 2021).

The COVID-19 pandemic has indeed placed additional demands on teachers, resulting in increasing amounts of stress and an impact on the quality of mental health of teachers throughout

the world. Circumstances of teachers have changed drastically and rapidly in response to the COVID-19 pandemic as teachers have reported increasing their workload, adapting and reinventing instruction with new technologies, learning new ways to engage and motivate students, experiencing an emotional toll of caring for students through a trauma, and being challenged to do so while having little control over their working environment (Allen et al., 2020; Beames et al., 2021; Kim & Asbury, 2020).

Despite the recentness of the pandemic, research efforts globally give a picture of the significant impact of COVID-19 on the quality of mental health of teachers, including their stress, anxiety, and depression levels (Baker et al., 2021; Casimiro Urcos et al., 2020; Kumawat, 2020). Baker et al. explored the experience of teachers in New Orleans, Louisiana during the first few months of the pandemic in 2020 and found that demands due to COVID-19 caused stress and negatively impacted the mental health of teachers, making it difficult for them to cope. Stress from teaching during COVID-19 was found to be related to poorer quality of mental health, decreases in coping, and lower quality of teaching. Kumawat (2020) conducted a quantitative study using descriptive statistical analysis to explore the stress and burnout levels of online teachers in India and found moderate (66%) and high levels (13%) of stress among those teachers. Casimiro Urcos et al. measured the stress and anxiety levels of university teachers in Latin America in response to COVID-19 and found severe levels of stress and anxiety among them. Moderate and high levels of stress have been documented to negatively affect mental health (Kumawat, 2020) and both studies illustrate the need for concern due to the fact that teachers are experiencing levels of stress that can be detrimental to their mental health.

Lizana et al. (2021) found a significant decrease in quality-of-life perceptions among teachers in Chile in response to the COVID-19 pandemic. This study is especially notable in that

it was able to track the quality-of-life scores before and during the pandemic, directly linking the decrease in scores to the pandemic. In a study on Spanish school teachers, Ozamiz-Etxebarria et al. (2021) found an alarmingly high percentage of teachers demonstrating stress, anxiety, and depression when using an abbreviated version of the DASS, the DASS-21: 50.6% of teachers suffered from stress, 49.5% suffered from anxiety, and 32.2% of the teachers suffered from depression, with 7.5% having severe or extremely severe depression (Ozamiz-Etxebarria et al., 2021). These results were reported when schools and universities in the county reopened after closures due to COVID-19, confirming the fact that a high percentage of teachers have indeed suffered a significant and negative impact on their mental health due to the pandemic.

Trauma and Adverse Events

The evidence is clear: there is a full range of outcomes in response to adverse or major stressful events. Tedeschi et al. (2018) used the terms *crisis*, *major stressor*, and even the word *trauma* to refer to an event or circumstance that "significantly challenge or invalidate important components of the individual's assumptive world" (p. 4). According to Tedeschi et al., a traumatic event is not merely a daily stressor of a problem in life; it is a life-changing circumstance that may not be a single event but could be a period or events. It is with this understanding that the sociological approach to mental health will be utilized to position COVID-19 as a trauma that has significantly challenged the lives of teachers over a length of time, consisting of a variety of adverse events that teachers have experienced that may have impacted them both professionally and personally.

COVID-19 is an ongoing and long-term adverse event that has introduced life-changing circumstances for teachers. It has challenged previously held beliefs about education and invalidated some beliefs by requiring teachers to reinvent their work as they attempt to respond

to the extreme environment caused by the pandemic. According to Tedeschi et al. (2018), trauma is characterized as a "highly stressful and challenging life-altering event" (p. 4). This description of trauma constitutes COVID-19 as a traumatic event, even though not all people will respond to this event in the same way. There are multiple potential outcomes for individuals in response to a trauma, including negative impacts to the quality of mental health. While research efforts related to COVID-19 clearly document teachers experiencing negative impacts to the quality of their mental health (Baker et al., 2021; Casimiro Urcos et al., 2020; Kumawat, 2020), it can be assumed that not all teachers will suffer, and not all teachers will suffer to the same extent. Research on suffering adversity paints a perspicuous picture that exhibits many colors and shades of responses. Potential responses range from negative to positive in close alignment with the complete state model and dual continua of mental health that includes both positive functioning and mental illness (Keyes, 2017). Some experts suggest that struggle and adversity can also coexist with or lead to growth (Tedeschi et al., 2018). The following section will detail a more positive outcome related to the experience of trauma and adversity and will provide an understanding of the outcome known as *posttraumatic growth*.

Posttraumatic Growth

Growth is a concept that views responses to trauma or adversity within a positive framework. There is a large body of literature that links the experience of trauma with improved outcomes, positive life changes, or a transformative experience (Helgeson et al., 2006, Semeijn et al., 2019; Tedeschi et al., 2018). These traumatic experiences include, but are not limited to, the death of a loved one, sexual abuse or assault, experience of violence, hurricanes or earthquakes, burnout, or a negative medical diagnosis (Bianchini et al., 2019; Oginska-Bulik & Kobylarczyk, 2016; Semeijn et al., 2019; Tedeschi & Calhoun, 2004; Tedeschi et al., 2018).

While negative events are often associated with negative psychological effects and poor mental health outcomes, the possibility of growth can also be associated with these negative events. This type of growth is a permanent change that is not merely a return to previous functioning; it is a transformative experience that "involve positive changes in cognitive and emotional life that are likely to have behavioural implications" (Tedeschi et al., 2018, p. 5). This growth is known as *posttraumatic growth* (Tedeschi et al., 2018). Posttraumatic growth (PTG) implies a struggle to respond to trauma that begins with efforts to simply cope and survive the trauma. PTG later occurs because of this struggle as one deals with adversity and changes are made to the way one thinks and believes; it is both a process and an outcome. PTG has been linked to mental health including stress, anxiety, and depression (Bianchini et al., 2017; Johnson & Boals, 2015) and five dimensions of personal growth including personal strength, relating to others, new possibilities, appreciation of life, and spiritual change (Shakespeare-Finch et al., 2013; Taku, Cann et al., 2008). In addition, individuals can experience both growth and depreciation while responding to a trauma (Baker et al., 2008; Zieba et al., 2019). While some teachers may experience negative mental health outcomes due to the experience of COVID-19, there are others who may have experienced COVID-19 as a trauma, struggling through the adversity and experience, leading to transformative change known as posttraumatic growth. This research study seeks to understand how posttraumatic growth and distress in terms of depression, anxiety, and stress have been experienced by teachers in response to the COVID-19 pandemic.

Problem Statement and Significance of the Study

The importance of teachers' mental health as a critical focus of educational research and school improvement efforts has taken on additional urgency due to the long-term and sustained impact of the COVID-19 pandemic on schools and teachers. Teachers have struggled with

circumstances that challenge their quality of mental health as they respond to those conditions. The current problem this study will address is the pressing need for research to get a pulse on the status of teachers' mental health and teacher experiences during the COVID-19 pandemic. This study is important to better understand the impact of COVID-19 on teachers and what is needed for them to function and grow in the face of such an unprecedented challenge.

Theoretical Foundations

According to Grant and Osanloo (2014), the theoretical framework for a study is a clear structure and vision for the research and outlines the underlying thinking regarding how the researcher understands and explores the research topic. It provides the "guiding principles" for the research that guides the entire design and justifies the importance of the research (Grant & Osanloo, 2014, p. 16). Posttraumatic growth theory (Tedeschi et al., 2018) guided the approach to this research study and has been used as a framework for understanding the experiences of teachers related to mental health. This study situated the exploration of teachers' mental health within the context of the experience of the teacher during the COVID-19 pandemic.

Posttraumatic growth theory (Tedeschi et al., 2018) states that a highly stressful life event can lead to transformative and positive change that results from a process of psychological struggles that are negative and unpleasant. At the core of this theory is the belief that "growth and distress can coexist" (Tedeschi et al., 2018, p. 62). The distress experienced by an individual due to trauma can lead to growth and transformation in one or more of the following five common dimensions: personal strength, relating to others, new possibilities, appreciation of life, and spiritual/existential change (Tedeschi et al., 2018). These five themes are positive post-trauma outcomes that have been supported by research and interviews with individuals who have experienced trauma. Survivors of trauma who have experienced PTG demonstrate an increase in

personal strength and confidence, positive changes in relationships and connections with others, the identification of new possibilities or a desire for new experiences in life, a greater appreciation for life or an identification of the important things in life, and an increased engagement with religious, spiritual, or existential beliefs and questions (Tedeschi et al., 2018).

The Post Traumatic Growth Inventory (PTGI) was developed using these themes as a quantitative measure of PTG (Tedeschi & Calhoun, 1996). Exploring the impact of COVID-19 on teachers' mental health through the lens of posttraumatic growth theory establishes the foundation that there are multiple responses when faced with adversity, and that not just one outcome is an ideal. It invites the researcher to position COVID-19 as a traumatic event that has disrupted teachers' lives, and develops a deeper understanding of this experience as one that has the potential to have an adverse impact upon the mental health of teachers, but also as one that may have propelled teachers through the process of challenge, growth, and change that is known as PTG. Posttraumatic growth theory has been used to explore levels of PTG among frontline nurses during the COVID-19 pandemic (Cui et al., 2020). Zhai et al. (2021) studied levels of PTG among the general population, including male and female college students and employed people, to better understand the impact of COVID-19 and the relationships between emotional creativity, mental health, and PTG. Posttraumatic growth theory has also been used to guide pre-pandemic studies related to trauma experienced by firefighters in their work (Oginska-Bulik & Kobylarczyk, 2016), levels of PTG among workers who had previously recovered from burnout (Semeijn, 2019), and the association of depression and PTG among young survivors two years after the experience of an earthquake (Bianchini et al., 2017). Posttraumatic growth theory is established in the literature as an ideal approach to studying the responses of individuals or groups to wide varieties of trauma.

Researcher's Positionality

This research proposal investigated the status of teachers' mental health as experienced in response to the COVID-19 pandemic. As an educator in a private parochial school system who experienced the rapid changes and demands imposed upon schools during the pandemic including school closures, online and hybrid instruction, re-opening requirements, required health mandates, and supporting learners through their own experience of the trauma, I am familiar with the emotional and psychological impact of the pandemic. I recognize my beliefs and opinions on the phenomenon are influenced by my own personal experience as well as the experiences of colleagues who have shared their personal struggles. I have experienced frustration with a focus on effective teaching strategies or technology integration that leaves out the holistic picture and the human element of teaching with a focus on the teacher. I have the experience of teaching at multiple levels of education, from early childhood to high school and college students. This vast experience has led me to consider the question of how teachers overall have experienced mental health during the COVID-19 pandemic, but also if there are differences in how they have experienced it based upon context or teaching environment. Due to these experiences and personal values, the goal of this research has been the prioritization of the mental health of teachers during the trauma of COVID-19 and the disruption to schools that poses a threat to the positive functioning of teachers.

Purpose of the Study

The purpose of this mixed methods research study was to explore the experiences of teachers in response to the trauma of the COVID-19 pandemic. An exploration of teachers' mental health and posttraumatic growth has highlighted the status of teachers' mental health situated in the unique and contemporary context of the pandemic, while seeking to understand

the factors that teachers have attributed to influencing their quality of mental health and posttraumatic growth in response to the pandemic. This knowledge serves to identify and confront the challenges to teachers' mental health and the experiences of teachers as they continue to respond to COVID-19 and equips schools and society to respond with appropriate support. This research study has provided a more nuanced understanding of teacher experiences with PTG and mental health in response to the trauma of COVID-19.

Research Questions

COVID-19 has been a significantly stressful and traumatic event that has impacted the mental health of many teachers. This study assumes a sociological approach that regards mental health as a product of the social circumstances created by the COVID-19 pandemic. Guided by this approach, this study perceives mental health not just as an individual quality: it is an outcome that stems from the circumstances related to COVID-19. This study aimed to describe the experiences of teachers during the COVID-19 pandemic, including teachers' mental health in response to the pandemic and their PTG experiences. The following research questions guided this mixed methods study: how do teachers in a Midwestern metropolitan area experience mental health and posttraumatic growth (PTG) in response to the COVID-19 pandemic?

1. How does the quality of mental health differ among groups of teachers based upon gender, years of teaching experience, and teaching level?
2. How do PTG outcomes differ among groups of teachers based upon gender, years of teaching experience, and teaching level?
3. To what degree is teachers' mental health related to PTG?
4. What factors do teachers attribute to influencing their quality of mental health and PTG in their response to COVID-19?

Rationale for Methodology

This study makes use of a mixed methods research design, where quantitative and qualitative methods are predetermined and planned at the start of the research process (Creswell & Plano-Clark, 2007). The use of mixed methods is driven by the research questions using a typology-based approach selected due to the study's purpose and overarching question. For this study, completeness is one of those reasons where the "researcher can bring together a more comprehensive account of the area of inquiry in which he or she is interested" if both methods are employed (Creswell & Plano-Clark, 2007, p. 62). Process is also a reason, "when quantitative research provides an account of structures in social life, but qualitative research provides a sense of process" (Creswell & Plano-Clark, 2007, p. 62). In this case, the quantitative strand of research will establish context for the study, providing a picture of the status of self-reported mental health and PTG among teachers while the qualitative strand of research will further explore the PTG experiences of teachers in the context of the current pandemic.

A mixed methods approach is ideal for studying the topic of teachers' mental health and PTG experiences during the pandemic because neither quantitative of qualitative measures on their own would be sufficient to give an adequate picture of the phenomena under study. Mixed methods research capitalizes on the strengths of both quantitative and qualitative research while also minimizing the weaknesses of both (DeCuir-Gunby & Schutz, 2017). Qualitative research provides a voice to teachers that could not be established if quantitative research were to be the sole methodology. The stories of teachers must be shared, because "Positive changes can arise out of such events when the individual narratives are shared and integrated into the social narrative in such a way that the events are recognized as turning point" (Tedeschi & Calhoun, 2004, p. 14). Mixed methods combine the "power of stories and the power of numbers" (Pluye &

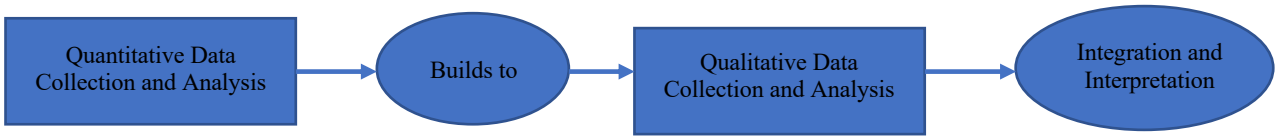
Hong, 2014), which is necessary in this study to develop a complete picture of the ways in which teachers have experienced mental health and PTG during the COVID-19 pandemic.

Sequential Explanatory Design

This mixed methods sequential explanatory design consisted of two phases: quantitative followed by qualitative (Figure 1). The dominant status was placed on the qualitative methods conducted in the second phase of research (Johnson & Onwuegbuzie, 2004). The qualitative data was used to expand upon the quantitative data to explain the factors contributing to, and a more comprehensive and nuanced understanding of, the relationship between mental health and PTG in response to the trauma of COVID-19.

Figure 1

Research Design (Creswell & Plano-Clark, 2007)



For both phases of research, data were collected from elementary and high school teachers in a Midwestern metropolitan area using purposive sampling techniques. Participants in the first quantitative phase included 59 private parochial elementary and high school teachers which provided a strong and reliable quantitative sample. Participants were recruited based upon school location to ensure similar experiences of circumstances related to COVID-19 restrictions and mandates imposed upon schools. Based upon the findings and trends discovered in the quantitative phase, purposeful sampling was utilized to select a small group of five teachers previously surveyed to develop rich information related to the qualitative research questions.

Data Collection

Quantitative Data

Quantitative data were collected in the first phase using a survey to collect demographic data and previously validated instruments to provide measurements of mental health and PTG of teachers. PTG "theory also suggests that growth and distress can coexist and that they are probably best viewed as independent dimensions" (Tedeschi et al., 2018, p. 62). This study considered distress in terms of stress, anxiety, and depression, and growth in terms of PTG. Mental health outcomes of depression, anxiety, and stress were measured using the Depression Anxiety Stress Scales, also known as the DASS (Lovibond & Lovibond, 1995). PTG was measured using the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) to explore the presence of the five dimensions that are outcomes of PTG. Descriptive statistics were used to organize and describe the characteristics of the data (Salkind, 2017). A *t*-test for independent means was used to determine if there was a statistically significant difference between groups based upon gender, teaching level, and years of teaching experience for each variable of depression, anxiety, and stress on the DASS and also on the PTGI. A Spearman's correlation coefficient was used to test for an association between mental health and PTG, examining correlations between each variable on the DASS and each of the five dimensions that are outcomes of PTG. Data were analyzed using SPSS and the findings are presented with tables to enhance understanding.

Qualitative Data

Qualitative data were collected in the second phase through semi-structured interviews conducted with participants selected from the initial quantitative survey using purposeful sampling to select five participants with criteria established based upon the significant findings

from the quantitative analysis. To gain the most meaningful amount of information, this study made use of purposeful sampling to select participants who were able to provide a deeper understanding of the experiences of PTG during the pandemic (Merriam & Tisdell, 2016). Interview questions sought to identity the factors that teachers attributed to influencing their quality of mental health and PTG experiences in response to COVID-19. Additional questions were included to further explore any significant findings revealed in the quantitative phase, specifically in terms of a deeper exploration into how the five factors of PTG relate to mental health levels. The interview responses were audio recorded, transcribed, analyzed, and coded to identify themes, consider implications, and make connections to the quantitative results. Interview participants were provided the opportunity to review their responses for clarification or to add or expand upon their original ideas through the process of member checking, utilizing a synthesized member checking approach (Birt et al., 2016). Qualitative data were collected to give voice to the teachers who have experienced the trauma of teaching through COVID-19, leading to a deeper and more nuanced understanding of the factors teachers attribute to influencing their quality of mental health and PTG in their response to COVID-19.

Data Integration

Mixed methods research utilizes data analysis techniques of both quantitative and qualitative data, but a key feature and strength of mixed method research is data integration. Data integration can occur at various phases of research and can refer to the analysis techniques used in mixed methods research as well as the interpretation. According to Creswell and Plano Clark (2018), “integration is the point in the research procedures where qualitative research interfaces with quantitative research” (p. 220). Integration occurred in multiple ways and at multiple times throughout the study, including: the design as a sequential explanatory approach;

in the methods by *connecting* the phases through sampling, *building* the data collection approach using quantitative results to inform the qualitative data collection, *merging* data through analysis and comparison; and integration at the reporting level by combining the discussion using a narrative approach (Creswell & Plano Clark, 2018; Fetters et al., 2013).

Definition of the Terms

The following key terms are central to the topic of this research study:

Mental health: A universally accepted definition of mental health is not recognized among organizations or within the literature. Despite this lack of agreement, it is commonly understood that mental health is an optimal state of being, and that one's mental health can be impacted by stress or events that have the power to decrease the quality of mental health. According to the *complete state model* of mental health (Keyes, 2017), mental health is a complete state of being that includes both the absence of illness and the presence of positive functioning. The complete state model makes use of two continua: one indicates the presence and absence of positive mental health, while the other indicates the presence or absence of mental illness (Keyes, 2017). This model of mental health does not view mental health in terms of either positive functioning or illness, it views mental health as a complete construct that includes both positive functioning and absence of illness.

Posttraumatic growth: Posttraumatic growth (PTG) is defined as positive and transformative psychological changes that result due to an experience with highly challenging life circumstances or events (Tedeschi & Calhoun, 2004). It is "personal growth, resulting from a struggle with major life crises" (Tedeschi et al., 2018, p. 31). PTG is not immediate changes that occur directly after the trauma or event, but it is the long-term changes that result. It is considered both a process and an outcome. Posttraumatic growth refers to new ways of thinking,

feeling, and behaving as a result of a traumatic event (Tedeschi et al., 2018).

Trauma: According to Tedeschi et al. (2018), trauma is characterized as a "highly stressful and challenging *life-altering* event" (p. 4) that is significant enough to "challenge or invalidate important components of the individual's assumptive world" (p. 4). What constitutes a traumatic event may depend upon one's perception of the event and how an individual experiences it, but trauma is a highly stressful event or period of time that involves undesirable circumstances that challenge an individual and may lead to personal change.

Summary and Organization of the Remainder of the Study

COVID-19 has had an impact on education unlike any other event in recent history. It has changed delivery methods of instructions, expectations for teacher work, concerns for equity as efforts were made to meet the needs of students, and it has the potential to worsen an already concerning scenario of the future of the teaching profession as teachers consider leaving the profession (Allen et al., 2020; Bailey & Schurz, 2020). COVID-19 has rocked the foundation of an already unstable building of the educational system of the U.S. It is imperative that research be undertaken to reveal the status of teachers' responses to this trauma that has upended the personal and professional lives of many. An understanding of how teachers are dealing with the aftermath of COVID-19 will serve to equip schools and society with the ability to tailor responses and interventions based upon the current needs of teachers. Mixed methods research will provide rich information for those seeking to understand, influence, and improve education moving forward from the pandemic. As posttraumatic growth theory portrays, growth is possible, and transformative growth with long-lasting change is a potential outcome of adversity.

The remainder of this paper will further detail these concepts and the intended focus of this research study. Chapter 2 will present a review of current research relevant to an

understanding of teachers' mental health and PTG. It will investigate questions related to the quality of mental health in response to a trauma, as well as factors related to posttraumatic growth outcomes. Chapter 3 will describe the methodology of this research study, including the research design and procedures for this investigation.

Chapter 2: Literature Review

Introduction to the Chapter and Background to the Problem

It has been well-established that the work of teaching is accompanied by the potential to negatively impact the quality of mental health among teachers (Bauer et al., 2007; Braeunig et al., 2018; Borelli et al., 2014; Ferguson et al., 2012; Kuwato & Hirano, 2020; Schonfeld et al., 2017). COVID-19 has demonstrated a far-reaching influence, having touched the professional and personal lives of many. Many teachers have felt this reach impact their own health, the health of their relatives and friends, and the health of their students and families. Furthermore, teachers' working lives have been upended by the vast changes forced upon them by reinventing how education is carried out during a pandemic. The past years of teaching during a pandemic have demanded flexibility, creativity, additional time, personal resources, commitment, and new mindsets to approach the work of teaching in the environment brought about by the pandemic.

The work of teaching has been vastly different than previously experienced for many teachers, leading to challenges and ongoing stress that has the potential to negatively impact the professional and personal lives of teachers. Factors that have previously been found to negatively impact the mental health of teachers have intensified in this unprecedented world of education. It is well-documented that high levels of job stressors adversely affect the mental health of teachers (Schonfeld et al., 2017). Job stressors and factors that have been linked to the quality of mental health of teachers include high job demands, low decision-making opportunity, low support (Borrelli et al., 2014), student-related difficulties related to classroom management (Renshaw et al., 2015), workload (Bauer et al., 2006), job resources such as social support and feedback (Bermejo-Toro et al., 2015), and stress over working conditions (Kyriacou, 2001). COVID-19 has caused these typical challenges present in the work of teaching to be intensified and has

introduced new challenges brought about by efforts to adapt teaching to school closures, online learning, health and safety mandates, and potential personal health concerns.

These challenges have been ongoing since the introduction of the pandemic into the U.S. in early 2019 and continues in the present. Chronic stress, or stress that is continued or prolonged, is known to lead to anxiety and depression (Kahn & Kahn, 2017). Stress, anxiety, and depression are the most common variables studied in research on teachers' mental health (Asa & Lasebikan, 2016; Borerelli et al., 2014; Clavevillas & Perez, 2020; Othman & Sivasubramaniam, 2019; Schoenfeld et al., 2017; Taher et al., 2016). These variables are typically examined by measuring the prevalence of high levels of symptoms as opposed to a formal medical diagnosis of a mental disorder. Table 1 depicts global research on the quality of mental health of teachers measure by prevalence of symptoms as studied prior to the COVID-19 pandemic. Table 2 depicts the quality of mental health of teachers and non-teachers as studied after the beginning of and during pandemic, demonstrating COVID-19 to be a concern for the mental health of both the general population and teachers in specific.

Table 1

Quality of Mental Health Among Teaching Population Prior to COVID-19

Source	Target Population	*n* =	Variable/s Measured	Tool	Findings
Bauer et al. (2007)	German Teachers	949	Mental Health Problems	General Health Questionnaire 12 (GHQ-12, Goldberg and Williams, 1988)	29.8% significant mental health problems
Ballou (2012)	American Teachers Washington State	240 Teachers 379 Civil Servants, non-teachers	Minor Psychiatric Disorders (MPD): somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression	General Health Questionnaire (GHJQ-28) (Goldberg & Hillier, 1979)	62.9% of teachers with indicators of MPD 46.4% of civil servants with indicators of MPD

Borrelli et al. (2014)	Italian Primary/Middle Level Teachers	113	Anxiety Depression	Self-rating Anxiety Scale (Zung, 1971) Center of Epidemiological Studies Depression Scale (CES-D) (Radloff, 1997)	11% scoring above threshold for anxiety 49% scoring above threshold for depression
Asa & Lasebikan (2016)	Nigerian Secondary School Teachers	477	Stress Anxiety Depression	Teacher Stress Inventory (Fimian, 1984) Hospital Anxiety and Depressive Scale (HADS, Abiodun, 1994)	72.2% prevalence of stress 29.3% prevalence of depression 29.5% prevalence of anxiety
Taher et al. (2016)	Libyan Teachers Primary Secondary	200	Depression Anxiety Stress	Depression Anxiety and Stress Scale-21 (DASS-21, Lovibond & Lovibond, 1995)	44.5% reporting depressive symptoms, 9.9% severe to extremely severe 56% reporting anxiety, 23.3% severe to extremely severe 39.5% reporting stress, 7% severe to extremely severe
Othman & Sivasubramaniam (2019)	Malaysian Teachers Secondary	356	Depression Anxiety Stress	Malay Depression Anxiety Stress Scales (DASS)	43% reporting depressive symptoms 68% reporting anxiety 32.3% reporting stress symptoms
Clavevillas & Perez (2020)	Filipino Private School Employees	112	Depression Anxiety Stress	DASS-21(Lovibond, 2004)	28.58% reporting severe to extremely severe levels of depression 17.85% reporting severe to extremely severe levels of anxiety 8.93% reporting extremely severe to severe levels of stress

Table 2

Quality of Mental Health Among Teaching and Non-Teaching Population During COVID-19

Source	Target Population	*n*	Variables Measured	Tool	Findings
Zhao & Yao (2020)	Chinese Teachers Primary/Secondary	751	Acute Stress Symptoms	DSM-5 Acute Stress Disorder Diagnostic Criteria B (American Psychiatric Association, 2013)	9.1% probable Acute Stress Disorder
Baker et al. (2021)	American Teachers, New Orleans	454	Stressors Mental Health	Epidemic-Pandemic Impacts Inventory (Grasso et al., 2020)	Teachers with more stressors likely to report worse overall

				Single-item Indicator of Mental Health (Ahmad et al., 2014)	mental health, B =-.28, p = .03
Lizana et al. (2021)	Chilean Teachers	63	Quality of Life	Short-Form 36 Health Survey (Ware & Sherborn, 1992)	Significant decrease in QoL reports during the pandemic ($p <$ 0.01)
Extebarria et al. (2021)	Spanish Teachers, Nursery to University	1633	Depression Anxiety Stress	DASS-21 (Ruiz et al., 2017)	32.1% reporting depression, approximately 8% severe or extremely severe 49.5% reporting anxiety, approximately 16% severe or extremely severe 50.6% reporting stress, approximately 19% severe or extremely severe
Shapiro et al. (2020)	Israeli General Population	503	Anxiety Depression	Patient Health Quesionnaire-2 (Mitchell et al., 2016)	24% high or very high anxiety 12% at risk for depression

The findings of these studies illustrate the mental health of teachers as measured by depression, anxiety, and stress levels as occurring in significant percentages, including at severe levels. Based upon these studies, it is appropriate to conclude that a significant percentage of teachers suffer from depression, anxiety, and stress symptoms both before and after the start of the pandemic, with studies showing up to 49% of teachers suffering from depression (Borelli et al., 2014), 68% of teachers suffering from anxiety (Othman & Sivasubramaniam, 2019), and 72.2% of teachers suffering from stress (Asa & Lasebikan, 2016). Greater stress is linked to lesser quality of mental health (Baker et al., 2021), making this statistic of notable concern. Since most of these studies are cross-sectional, it is difficult to compare the mental health symptoms of teachers before and after the start of the pandemic. By contrast, the research of Lizana et al. (2021) stands out as a longitudinal study capable of making a comparison of the quality of life, including mental health quality of life perceptions, of teachers in Chile before and during the

pandemic. Lizana et al. (2021) measured the quality of life of teachers both before and during the pandemic, finding a significant decrease in teachers' mental health related quality of life perceptions after the beginning of the pandemic. While similar longitudinal studies are scarce, such work serves to establish the context for the importance of further study on the mental health of teachers due to the negative impact of the pandemic.

As such, the current research study explored the mental health of teachers and how they have responded to the COVID-19 pandemic. In this study, mental health is understood according to the sociological approach (Thoits, 2017), where environmental conditions contribute to mental health. According to the sociological approach, life events, living conditions, relationships, and other social circumstances have the power to impact mental health (Horowitz, 2017). This research study positions the COVID-19 pandemic as a life event and social circumstance that has the power to impact mental health outcomes. The purpose of this mixed methods research study is to understand the experiences of teachers in response to the trauma of the COVID-19 pandemic, exploring the positive and negative potential outcomes among teachers.

The aim of this literature search was to identify studies related to the impact of COVID-19 on teaching and teachers, mental health studies focused on teachers, and research on posttraumatic growth (PTG). When searching for appropriate articles, key terms such as *COVID-19*, *pandemic*, *teachers' mental health*, *anxiety*, *depression*, *stress*, *posttraumatic growth*, and *PTG*. Key terms were often paired with the phrases *in/and teachers* or *in/and teaching* or were paired with one another. Search engines that were used included PubMed Central, PsychINFO, ProQuest, EBSCO, and Google Scholar. The search initially focused on articles published since 2019 with a focus on COVID-19, and then expanded to include articles published prior to COVID-19 and after 2010, unless older research had been cited by scholars in the current search.

Qualitative and quantitative studies were included, and a specialized search for mixed methods was conducted. Articles were also considered based upon their definition of PTG, selecting those in alignment with the research and definitions provided by Tedeschi et al. (2018). These criteria positions this study within current discussions on the impact of COVID-19 on the mental health of teachers and establishes the pandemic as a trauma and a priority for research on PTG.

There is a substantial amount of literature on overcoming adversity, challenges, or trauma that suggests individuals have varied responses to trauma including negative and positive outcomes. Varied terms exist for these positive outcomes, as well as a significant body of research on them. Terms such as flourishing (Seligman, 2012), thriving (O'Leary, 1998) resilience (Masten, 2001; Ledesma, 2014), and recovery (Bonanno, 2004) are among the terms used to describe an individual's positive response to stress, trauma, or challenging events. These terms should not be conflated with PTG, which is also based upon the idea that there can be challenges experienced that lead to positive growth or change (Tedeschi et al., 2018). An increased understanding of PTG outlined in this literature review will serve to clarify the uniqueness of the term *posttraumatic growth* as it is used in this study. The following sections of this review will include an in-depth review of the origins, outcomes, and process of PTG theory and its relationship to mental health to provide a framework for the investigation of the extent to which teachers' mental health is related to PTG during the COVID-19 pandemic.

Posttraumatic Growth Theory

The term *posttraumatic growth* (hereafter referred to as PTG) was first coined and identified as a phenomenon by Tedeschi and Calhoun (1996). The definition used by Tedeschi and Calhoun since then has been and continues to remain "positive psychological changes experienced as a result of the struggle with traumatic or highly challenging life circumstances"

(Tedeschi et al., 2018, p. 1). Johnson et al. (2017) characterized PTG as "the silver lining in the dark cloud of trauma's psychological pain and suffering" (p. 383), and a psychosocial resource that can help to mediate the impact of severe stress. Tedeschi and Calhoun's study remains the seminal influence on PTG theory and continued efforts to understand the psychology of trauma and an individual's response to pain and suffering. Many researchers have attempted to better understand the responses of people to challenging or traumatic circumstances, the personal changes that occur as a result, and the cognitive processes that occur throughout this process (Tedeschi et al., 2018). The following sections describe consistent factors that have been found to characterize the phenomenon of PTG.

Posttraumatic Growth Origins and Functions

Defining Trauma

Individuals facing challenging life events typically experience distressing emotions, and those circumstances can impact a person leading to both physical and psychological reactions (Khan & Khan, 2017; Schneiderman et al., 2005). There are some stressors that are extreme experiences serious enough in their potential impact that the unique term *trauma* has been applied (Wheaton & Montazer, 2017). Trauma is commonly understood in such a way, but the most recent version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2013) defines trauma as "actual or threatened death, serious injury, or sexual violence" (p. 271). Therefore, a medically defined trauma is limited to an immediate threat to life, which excludes situations such as non-terminal cancer, illness, divorce, bereavement, heart attacks, or other negative life event experiences. This has created controversy in the application of the term trauma in both research and diagnosis (Pai et al., 2017). While it is beyond the scope of this literature review, this definition does present ramifications for the

diagnosis and treatment of symptoms of individuals, as well as a consideration for researchers as they attempt to study individual responses to trauma and other negative events.

Tedeschi and Calhoun (2017) diverged from this limited definition, and use *trauma*, *crisis*, and *major stressor* as synonymous terms to describe events that significantly challenge an individual. They do not restrict the definition of trauma to be life-threatening, and instead clarify trauma as a "highly stressful and challenging *life-altering* event" (Tedeschi & Calhoun, 2017, p. 4). In essence, trauma is dependent upon how an individual experiences the event and cannot be determined in advance due to differences in how one may perceive the event. Tedeschi and Calhoun (2017) also base their clarification of the definition of trauma as rooted in research on PTG that has found no difference between the DSM-5 definition and other definitions in terms of PTG outcomes (Tedeschi & Calhoun, 2017). Wheaton and Montazer (2017) broadened the definition of trauma to include childhood exposure to abuse, parental divorce during childhood, the death of a child, emotional abuse, or living through a major disaster as the type of stressors that have the potential to be traumas. It is not a single event but is one that involves many components that have led to additional different events or sets of circumstances. In this way, the COVID-19 pandemic can and should be considered a traumatic experience that has the potential to lead to multiple other traumatic experiences for individuals (Baker et al., 2021). In this research study, then, COVID-19 is considered to be a trauma that has led to life-changing circumstances as outlined by Tedeschi and Calhoun and Wheaton and Montazer.

Defining Posttraumatic: Timing of the Changes

Posttraumatic refers to the timing of the positive changes in response to a trauma: they are long term changes that result *after* an event as opposed to during the event. While PTG is focused on long term changes, there is not a consensus as to a specific length of time in which

PTG occurs. Frazier et al. (2009) conducted a study attempting to measure actual growth in relationship to perceived growth after a trauma by assessing participants at two different points in time, two months apart. Individuals who reported experiencing a trauma between these two points in time were evaluated regarding their self-reported changes. This short amount of time was justified by the authors, who referenced other studies using similarly short timeframes (Ransom et al., 2008).

Using similar methods, Johnson and Boals' (2015) research design was also focused on identifying the effects of trauma that occurred between two different points in time, also two months apart. Since both studies were primarily focused on identifying accurate measurements of PTG, consistency between designs was a strength, but neither study focused on whether or not the length of time after the trauma occurred was important. Other studies have identified the length of time as a crucially important factor in the development of PTG (Helgeson et al., 2006). By contrast, studies such as one conducted by Shakespeare-Finch et al. (2013), did not use the length of time after the trauma had been experienced as a consideration for a qualitative evaluation into the validity of measuring PTG. This study is noteworthy to consider because its authors include Tedeschi and Calhoun, the pioneering researchers behind PTG theory. In this case, the length of time after the trauma occurred was not considered to be a crucial factor in considering how the participants experienced PTG.

Varied approaches to studying PTG exist, and many approaches do not use timing of the trauma in relationship to growth as a key factor in determining valid PTG outcomes. Zieba et al. (2019) focused on participants who experienced a trauma using a longer timeline than previously discussed studies; their research examined PTG and other symptoms after trauma that had been experienced in the previous 12 months. Despite this longer time frame, the researchers did not

distinguish more recent trauma from trauma that was experienced in the extended past. Such methodology appears to be common practice in research on PTG. In fact, Taku et al. (2008), who also included Calhoun and Tedeschi as authors, used confirmatory factor analysis to examine a large number of participants who had experienced trauma. Participants were included who had experienced events that occurred less than 6 months prior, between 7-12 months prior, between 13-24 months prior, between 2-4 years prior, and more than 4 years prior. This participant data set was chosen to study patterns in PTG with a focus on fourteen previously conducted studies using a variety of samples. This approach appears to emphasize the consideration of the factors that appear to be outcomes of experiencing trauma, as opposed to the timing of the trauma. Such tendencies in research support the approach used in this research study of examining COVID-19 as a trauma experienced by teachers with little regard to the specific timeline of the trauma.

Defining Growth

Growth is a key feature of the PTG phenomenon. It involves positive and transformative changes that are the result of the struggle with trauma. According to Tedeschi and Calhoun (2017), the growth experienced because of the struggle is usually unexpected and unintentional. In other words, in PTG, individuals do not struggle to grow, they grow because of the struggle with a traumatic experience. PTG has a transformative quality that moves a person beyond pre-trauma levels of functioning and is often viewed as a deep or profound change (Tedeschi & Calhoun, 2004). This type of growth has been documented after a wide range of circumstances and among a wide range of cultures and individuals. Growth has been found to be a universal response to trauma in individuals around the world (Taku et al., 2021; Weiss & Berger, 2010). Despite this universality, differences have been documented according to gender (Vichnevsky et al., 2010), age (Wen et al., 2020), and with culture-specific growth experiences (Exenberger et

al., 2019). Therefore, PTG has been observed as a phenomenon across cultures, different groups of individuals, and with varied traumatic experiences. It is therefore logical to explore trauma as a phenomenon experienced by teachers, as is the purpose of this study.

Growth and Distress. The literature identifies an important issue to consider related to PTG: the coexistence of both growth and distress. PTG does not indicate a resolving of the struggle or decrease in distress. In fact, "growth experiences do not put an end to distress in trauma survivors (Tedeschi & Calhoun, 2004, p. 13). There are several studies that indicate a relationship between growth and psychological stress. Eisma et al. (2019) studied PTG and depression, anxiety, grief, and posttraumatic stress levels of a group of bereaved adults. Among these individuals, the highest levels of PTG were experienced by those who had moderate levels of anxiety and depression. Those who had lower symptoms reported less PTG. These findings indicate that PTG levels are influenced by moderate levels of distress as evidenced in anxiety and depression levels.

There is a similar connection between depression and PTG. Bianchi et al. (2017) found moderate levels of depression promoted PTG in Italian university students who had survived an earthquake. These negative states of depression and anxiety have been documented as negative changes that occur due to trauma and are linked to increased PTG, but stress related to trauma as measured by PTSD has also been linked to increased PTG. In a longitudinal study, Dekel et al. (2012) examined the negative state of PTSD as well as PTG levels among Israeli former prisoners of war over a 17-year time period. This study demonstrated higher levels of PTG among those with PTSD than those who did not have PTSD. This co-existence of positive and negative changes after trauma is not yet fully understood or consistently documented in the research. Schneider et al. (2019) conducted a study of survivors of Hurricane Sandy, which

occurred in 2012. They examined anxiety and depression symptoms, PTSD scores, and PTG levels, and found anxiety and depression scores were not associated with PTG levels, while PTSD scores were significantly associated with PTG levels. This lack of consistent consensus in the literature regarding the presence of PTG and distress and the association between the two highlights the need for further study into growth and distress, especially in terms of mental health as measured by anxiety and depression. Further studies are needed to examine both the positive and negative changes simultaneously to understand predictors and outcomes of PTG. This research study attempted to contribute to a better understanding of the coexistence of growth and distress by exploring both mental health and PTG outcomes among teachers as they experience the COVID-19 pandemic.

PTG Dual Nature

PTG can be conceptualized as a dual nature phenomenon. According to Tedeschi and Calhoun (2017), it is considered both a process and an outcome, and research has approached PTG exploring both aspects of the phenomenon. As a process, PTG is initiated by a traumatic event, which in turn prompts additional phases of the psychological struggle that leads to growth outcomes. As an outcome, there are changes made to an individual that become a permanent part of the changed self. Both conceptualizations are supported by previously published studies that have led to consistent understandings of the common themes of the process of PTG and the validated outcomes that are evidenced in PTG. A more detailed discussion of the outcomes and processes of PTG will include research that supports the dual nature of PTG.

Posttraumatic Growth Outcomes: Five-Factor Model

This study investigates demonstrable PTG growth outcomes identified by Tedeschi and Calhoun (1996) as *domains*. Five PTG domains have been empirically developed and include:

appreciation of life, personal strength, new opportunities, relating with others, and spiritual or existential change (Tedeschi & Calhoun, 1996). Research on PTG outcomes has supported the identification of these five domains as valid when examining PTG due to a variety of traumas (Exenberger et al., 2019; Palmer & Graca, 2012; Saltzaman et al., 2015; Taku, Cann et al., 2008). PTG is associated with changes in each of these domains after the experience of trauma. The description of each of these domains is generally positive, but Tedeschi and Calhoun (2004) stated that the presence of growth evidenced by changes in these domains does not indicate an end to the distress experienced due to trauma.

While these domains are framed as positive and have been found to be empirically valid, Shakespeare-Finch et al. (2013), in collaboration with Tedeschi and Calhoun, have also found that individuals can experience a change in the negative sense in some of these areas. For example, in new possibilities, individuals may become interested in new activities, but they might also no longer be interested in previous hobbies or activities. They may also choose to eliminate relationships as opposed to strengthening current ones. These domains are commonly referred to in research as the 5-factor model used to identify evidence of PTG. The following sections describe these five domains of PTG outcomes that have been used in the present study.

Personal Strength. This domain is an increased sense of personal strength, or newfound sense of confidence and belief in one's ability to overcome. Growth in this domain is associated with an increased sense of vulnerability, which is in contrast to the sense of strength discovered by the person (Tedeschi & Calhoun, 2004). This domain includes a personal sense of resilience that makes one feel more capable of dealing with future events (Shakespeare-Finch et al., 2013).

Relating to Others. The experience of positive changes in relationships with others are evident in those who experience PTG. These changes can include positive attitudes towards a

relationship, behaviors in a relationship, or the decision to eliminate relationships no longer seen as beneficial (Tedeschi & Calhoun, 2017). This also includes being thoughtful of the needs of others and demonstrating increased compassion for others (Shakespeare-Finch et al., 2013).

New Possibilities. Those who experience PTG may develop new interests or identify new possibilities in their life. This includes the identification of "new paths" for one's life (Shakespeare-Finch et al., 2013). Tedeschi and Calhoun (2004) used the example of a woman who was motivated to become an oncology nurse in order to help others struggling with pain and loss (p. 6). New careers, new habits, new behaviors, or interests in new activities are common ways in which individuals experience life-altering changes.

Appreciation of Life. In this domain, a person's sense of what is important leads to a greater appreciation for life. There is a recognition of the importance of things in life that were not previously appreciated. More time is spent on the things in life that are appreciated, including relationships. According to Shakespeare-Finch et al. (2013), trauma serves to clarify what is important in life, and individuals recognize that life should not be taken for granted.

Spiritual or Existential Change. There is a spiritual element to PTG experienced by individuals who are both religious and non-religious. For those who are religious, a deeper faith can result, or a greater openness to religious change can occur (Calhoun et al., 2000; Shaw et al., 2005). This domain also includes the concept of existential and philosophical changes that may occur.

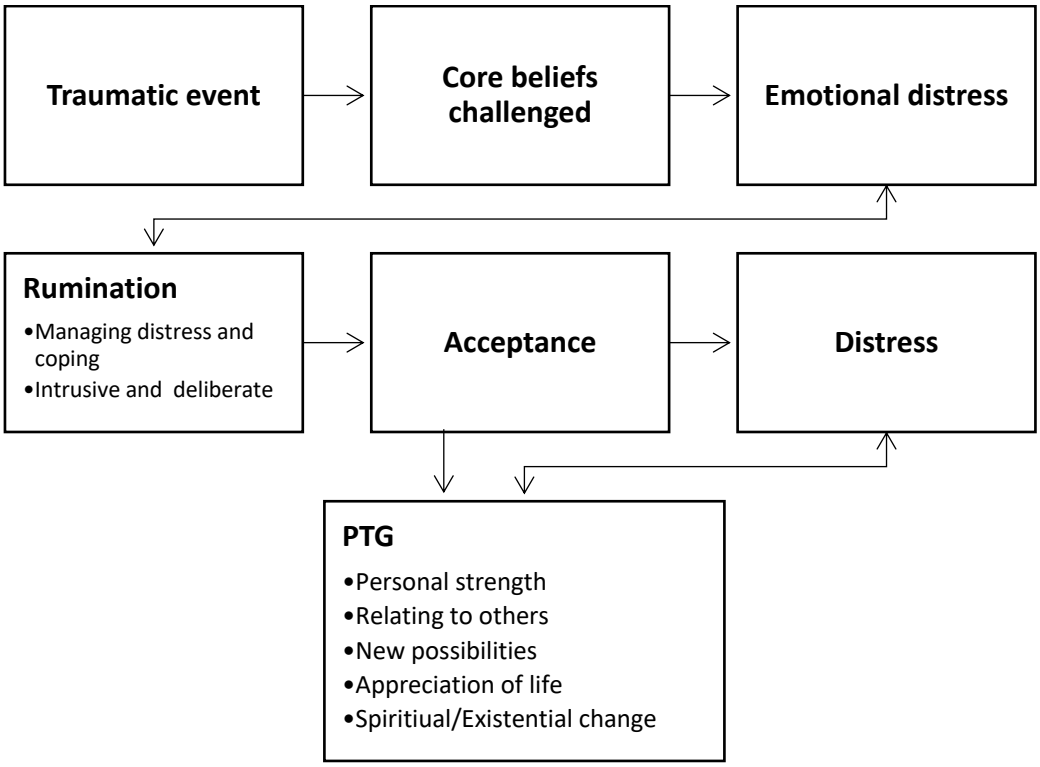
Posttraumatic Growth Process

PTG is first initiated by a traumatic event, which can then lead the individual through the process of a struggle towards growth. Tedeschi et al. (2018) identified a cognitive framework that describes the process of growth, which is an individual's incorporation of the trauma and

future events into a new reality of life. Since 1995, Tedeschi and Calhoun have made several revisions to a model of general psychological processes that lead to growth. The model depicts what processing trauma into growth entails and gives a general overview of the elements involved in PTG as a process, and highlighting a complex interaction between challenged beliefs, rumination, and distress as key to the experience of PTG (Tedeschi et al., 2018). Figure 1 is an adapted model of Tedeschi et al.'s (2018), depicting PTG as a process, showing the event of trauma and how individuals experience it.

Figure 1

Model of Posttraumatic Growth (Adapted from Tedeschi et al., 2018)



Challenge to Core Assumptive Beliefs. When an individual encounters a traumatic event, there is a set of beliefs and assumptions about the world that helps to provide perspective for the situation. The process of PTG begins when those assumptions and beliefs are challenged, causing the individual to struggle with the reality of the trauma. This is known as "threats to the

assumptive world" of an individual, and "are accompanied by significant levels of psychological distress" (Tedeschi & Calhoun, 2004). In some cases, not all trauma will lead to PTG, but in order to lead to PTG, the event must be significant enough that it challenges the core beliefs of an individual. Zhou et al. (2015) examined challenges to core beliefs and PTG in middle school students who had experienced an earthquake. The students were assessed 4.5 years after the earthquake, and their findings suggest that challenges to core beliefs had a positive impact on PTG. Likewise, Lindstrom et al. (2013) found that challenges to core beliefs of an individual were the main predictor of PTG when studying college students who had experienced a stressful event in the previous two year. These two studies differ in that the first group experienced the same collective trauma, while the second study focused on participants who experienced a self-identified stressful event. Both studies examined participants after a significant amount of time passed, and both studies identified challenges to core beliefs as a predictor of PTG. Significant challenges to core beliefs are likely an antecedent to PTG and are clearly part of the process necessary to produce growth.

Rumination. In cases where the traumatic event is significant enough to challenge core assumptive beliefs, the process leads to rumination, or thinking, about the event. There are two different types of rumination that may occur in this process: one is automatic or intrusive and the other is more reflective and deliberate to understand what has happened. Intrusive rumination is said to be a normal part of initial responses to trauma (Tedeschi et al., 2018). Intrusive rumination includes unwanted thoughts or even nightmares that can occur immediately after the trauma. These thoughts generally fade with time and are often replaced by more deliberative and purposeful rumination, which may also be considered more reflective thinking. Rumination is a

key component in the cognitive process of PTG. Intrusive rumination has been found to lead to distress, while deliberate rumination has been found to lead to PTG (Taku, Calhoun et al., 2008).

Zeng et al. (2021) examined the impact of COVID-19 on Chinese university students to better understand the changes in students in response to the pandemic in terms of PTG, creativity, and the relationship between self-efficacy and deliberate rumination. Deliberate rumination was confirmed to increase PTG, as well as creativity and self-efficacy. Similarly, Cui et al. (2021) studied the influencing factors on PTG among frontline nurses in China during COVID-19. Using a cross-sectional survey, they assessed PTG levels and rumination, finding deliberate rumination to be one of the main positive influences on PTG. Furthermore, their work identified intrusive rumination as being negatively correlated with PTG. In both studies, rumination was related to PTG, having the ability to impact PTG in both negative and positive directions depending upon the type of rumination. As recent studies linking COVID-19 and PTG, they are strong examples that support the positioning of COVID-19 as a trauma that has the potential to lead to PTG.

Some authors have studied both types of rumination categorized by timing of when the rumination occurs in relationship to the trauma. Taku et al. (2009) examined intrusive and deliberate rumination that occurred soon after the event and recent intrusive and deliberate rumination that occurred closer in proximity to the present as opposed to the trauma. A positive association was identified between intrusive rumination that occurred soon after the event and PTG and between deliberative rumination and PTG. In this case, intrusive rumination that occurred close to the timing of the event was likely to lead to PTG. It may be that intrusive rumination that occurs soon after the event leads to the type of changes in thinking and behaviors

or deliberate rumination that will lead to PTG, whereas intrusive rumination that is ongoing leads to greater distress and potential for negative psychological impacts.

Distress. While growth is the focus of PTG, this experience of growth has not been found to put an end to the distress that trauma survivors experience. It is possible for an individual to continue to experience ongoing distress alongside the growth that occurs in PTG due to the nature of the trauma as a highly stressful experience. The distress discussed in this section is not referring to the initial emotional distress that occurs due to the disruptive event of the trauma and the challenge to core beliefs; this is enduring stress from the trauma. This type of distress can be ongoing or intermittent and can serve to keep the focus on personal change and growth (Tedeschi et al., 2018). Some studies suggest that higher levels of distress are associated with higher levels of PTG. Chopko (2010) conducted a study on posttraumatic distress and PTG in police officers, finding posttraumatic stress to be positively related to PTG.

Dekel et al. (2012) examined the relationship between posttraumatic stress and PTG in Israeli ex-prisoners of war, finding higher levels of PTG among individuals with posttraumatic stress. Chopko's (2010) work was correlational, completing their assessments at one point in time, while Dekel et al. was able to follow participants using a longitudinal design, following participants over 17 years. Longitudinal studies are valuable to the body of research on PTG to examine causal relationships among variables and to better understand how distress and growth may change over time. Both studies highlight distress as being related to PTG, but there is mixed evidence in findings regarding this relationship between distress and PTG. These differences are seen in a study by Wang et al. (2017). Female cancer patients who had undergone surgery were assessed multiple times in a 24-month period following the surgery, and the authors found a direct effect of PTG on distress levels. PTG was associated with less distress over time.

Likewise, Frazier et al. (2001) found less distress among sexual assault survivors who demonstrated higher levels of growth, assessing changes in distress levels over 12 months.

Growth may be accompanied by a reduction in distress levels, but the model presented by Tedeschi et al. (2018) does not make any predictions about this relationship. Rather, the model focuses on the fact that pain and growth may coexist for some people (Taku, Calhoun et al., 2008; Tedeschi & Calhoun, 2004; Tedeschi et al., 2018). The research included here measured distress as evidence of the ongoing struggle towards growth after a trauma. Other studies include variables in addition to distress to measure the psychological impact of trauma, including depression (Frazier et al., 2001), psychological well-being (Ruini et al., 2013), and anxiety (Johnson & Boals, 2015). When conceptualizing PTG as a process, distress appears to be an ongoing part of that process, even though the extent of the distress suffered varies among individuals. Based upon the model proposed by Tedeschi et al. and the available research, the inclusion of distress in the PTG process, which is focused on positive outcomes after suffering, should not be surprising or concerning. Distress appears to be a natural occurrence in the PTG process, providing a pathway to growth that may not always be pleasant, and may not fully subside as the research discussed here supports.

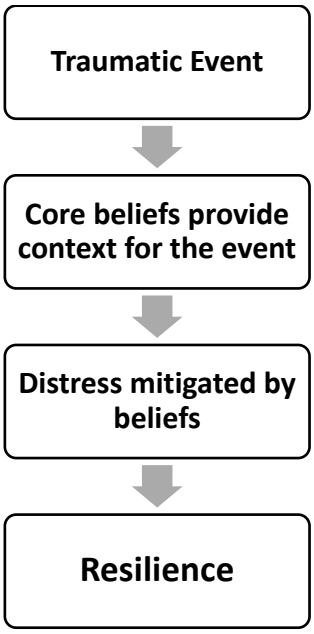
Resilient Outcomes

Tedeschi et al.'s (2018) model provides an additional pathway through trauma that does not lead to PTG but is still considered to be a positive outcome. Resilience is proposed as an additional response to trauma that occurs when the core beliefs of an individual are challenged, but that challenge doesn't lead to rumination, distress, and changes that are PTG outcomes. In some cases, the individual can process the trauma within the context of their beliefs. Stress is then mitigated, leading to resilience, which gives the person a sense of the ability to cope and

well-being without leading to the great personal change or growth that is PTG. Figure 2 depicts this alternate pathway through trauma producing resilience.

Figure 2

Pathway to Resilience Model (Adapted from Tedeschi et al., 2018)



There is an abundance of literature on the topic of resilience that is beyond the scope of this research study. It is beneficial to clarify that resilience is recognized as a phenomenon in possession of its own full body of research. The brief discussion in this chapter will be limited to an exploration of the question of the link between resilience and PTG, and resilience among teachers.

Resilience and PTG. Resilience is described by Masten (2001) as a good outcome in spite of adversity and has been extensively discussed by Ledesma (2014) in terms of history and varied conceptualizations. Bonanno (2004) pointed out that resilience in the face of adversity is a common experience, and that there are multiple paths to resilience that differ between individuals and experience. Along with Westphal, Bonanno further questioned PTG as a theory

that is not well understood and argued that growth and resilience are not the same concept even though they are often equated with one another (Westphal & Bonanno, 2007).

Ogińska-Bulik and Kobylarczyk (2016) attempted to identify the relationship between resiliency and PTG among firefighters who had experienced traumatic situations as part of their job. They base their study on the lack of research clarifying the relationship between the two constructs, and on the work of Tedeschi and Calhoun (1996). Furthermore, they stress that PTG and resilience are not the same thing since resilient individuals may not experience PTG, because not all events are challenging enough to lead to newfound growth and change. To better understand this, the researchers postulated that an individuals' appraisal of the stress as a trauma impacts how positive changes such as PTG occur. No relationship between resiliency and PTG was found, but when the variable of stress appraisal was introduced, resilience and PTG were both associated with stress appraisal. Firefighters with resilience were less likely to assess a situation as a threat, and more likely to view it as a challenge. Stress viewed as a threat suppressed PTG, while stress viewed as a challenge was conducive to PTG.

Ogińska-Bulik and Kobylarczyk (2016) highlights several important concepts regarding resiliency and growth: 1) PTG and resilience are not the same, 2) there are multiple responses when individuals experience trauma, and 3) perception of stress impacts growth after trauma. Indeed, the authors state that resiliency could be considered a factor that favors only some of the changes that are considered part of PTG, but also that those who experience PTG may be benefitted by trauma, thus building their capacity for resilience in the face of future trauma. In such cases, they may be protected from adverse events, but not truly grow. Studies such as this do not serve to clarify the relationship, if any, between resilience and PTG, but serve to emphasize the lack of complete understanding of the differences between resilience and PTG

present in the literature. Available research also does not justify the stance that either resilience or PTG is a more desirable outcome (Westphal & Bonanno, 2016). There are individual differences in responses to trauma, as demonstrated by Ogińska-Bulik and Kobylarczyk. A broader understanding of those differences can be developed by furthering the research and understanding of the underlying mechanisms of PTG and other factors related to PTG. PTG outcomes should be explored within the framework of individual differences; therefore, this research study examined those differences among teachers' responses to COVID-19.

Resilience Among Teachers. Resilience theory has been applied to several studies involving teachers. Brouskeli et al. (2018) quantitatively explored the levels of teacher resilience and occupational well-being of teachers in Greece, finding teacher resilience levels to be above average in a social environment that was facing an economic crisis. They also found that resilience was positively correlated with the occupational well-being of teachers. Arnup and Bowles (2016) investigated the job satisfaction, intention of teachers to leave the profession, and resilience levels among Australian teachers. They found that lower levels of resilience were related to higher intention to leave the profession. Gu and Day (2013) focused on the long-term capacity for teacher resilience in a qualitative study focused on the conditions that contribute to teacher resilience, which was considered to be a condition necessary for the continuing ability to teach. Like Brouskeli et al., Gu and Day's study was able to link external factors that contribute to teacher resilience, outside of the internal factors or personal characteristics that influence resilience. Gu and Day postulated a research focus on the external factors that influence teacher resilience in order to make improvements in education and teacher preparation. Accordingly, the present study will consider the external factors that contribute to mental health and PTG levels of teachers. While this study was not focused on resilience, it is focused on the influence of factors

related to COVID-19 that have challenged teachers and the potential outcomes in the face of such adversity.

Posttraumatic Growth Measurement

Based upon initial studies of PTG and the goal of quantifying the phenomenon of growth that was seen among individuals in response to experiencing a trauma, Tedeschi and Calhoun (1996) developed a quantitative measurement tool to examine the outcomes of PTG. Using quotations from interviews with individuals who had experienced trauma, the Posttraumatic Growth Inventory (PTGI) was developed to measure positive post-trauma outcomes. It identifies three themes of PTG including, changes in self-perception, changes in relationships with others, and changes in philosophy of life. Those three themes were used to further identify five domains of PTG, referred to as the five factor model, with 21 self-report items used to assess the presence of the five domains. The PTGI is the most commonly used quantitative measure of PTG, validated by use in countries across the world and with participants who had endured a variety of traumas (Tedeschi et al., 2018).

A number of quantitative studies have been conducted to examine the validity of the PTGI, demonstrating its effectiveness at measuring PTG (Shakespeare-Finch et al., 2013; Taku, Cann et al., 2008). In addition, qualitative studies have been conducted to assess the content validity of PTGI and have confirmed its use as a valid instrument in measuring positive changes that result from trauma (Kapman et al., 2015; Shakespeare-Finch et al., 2013). Furthermore, the PTGI has been translated for use in other countries and has been found to be a valid and reliable tool for measuring PTG (Amiri et al., 2020; Garcia da Silva et al., 2018; Weiss & Berger, 2006). Despite this strong support for the validity of the PTGI, as research on PTG increases, there are

questions and concerns that have been voiced regarding the validity of the quantitative measures included in the PTGI.

Christiansen et al. (2015) argued that the lack of consistency regarding the definition of trauma is problematic, as well as generalizability to multiple populations. In addition, there is concern over the measurement of perceived or illusory growth as opposed to actual growth (Frazier et al., 2009). Osei-Bonsu et al. (2011) found the five factor model to be a poor fit when used with individuals who meet the qualifications for a traumatic event as specified by the DSM-IV, but were unable to offer an alternative model that was a better fit for studying PTG in such individuals. Despite these concerns, there is no consistent alternative tool that has been used in research to the same extent as the PTGI. There are many variables that contribute to PTG, including personality characteristics, the ability to manage emotions, supportive individuals and resources, the type of trauma, socially shared events that impact society, and previous life experiences (Tedeschi & Calhoun, 2004). All these factors make it a challenge to develop an instrument that is consistent between traumas, individuals, timeframes, and cultures. The domains measured in the PTGI are representative of the growth that individuals can experience in response to trauma, and it is a well-documented tool for use in measuring PTG outcomes. It is for this reason that the present study has utilized the PTGI to measure PTG outcomes experienced by teachers due to COVID-19.

Posttraumatic Growth Influences

Many researchers have questioned the influences that impact the development of PTG. Attempts to answer this question have been grounded in the position that PTG is a desirable positive outcome for individuals dealing with trauma. Therefore, attempts have been made to understand the process of PTG to discover ways to enhance or promote this process. Those

efforts have led to the determination that there are both internal and external factors that influence PTG.

Internal Influences

In the same way that there have been questions linking the type of trauma experienced to individual levels of PTG, there have also been questions related to individual differences in PTG levels whose answers point to internal influences such as personality characteristics of the individual. Personality characteristics have been found to impact individual PTG outcomes.

Emotional Creativity. Emotional creativity is a personality trait that consists of the ability to experience and express emotions, and the way in which individuals do so. Emotional creativity has been positively correlated with both mental health and PTG. Prior to the pandemic, Orkibi and Ram-Vlasov (2019) studied a group of Israelis and found exposure to a greater number of traumatic events was positively related to emotional creativity and PTG. They also found a negative association between trauma experience and symptoms related to mental health. Zhai et al. (2021) studied a group of participants, predominately made up of college students and employed individuals during the COVID-19 pandemic. Similar to Orkibi and Ram-Vlasov, there was a positive association between emotional creativity and PTG and also a negative association with mental health problems of anxiety and depression. Regarding these findings, it could be stated that emotional creativity is a protective factor for mental health problems during COVID-19, and also serves to assist in growth. This study was limited in its ability to predict or measure the influence of emotional creativity on mental health or PTG over time, as it was cross-sectional as opposed to longitudinal design.

"Big Five" Personality Traits. Several research studies have linked specific personality traits with PTG in both positive and negative directions. The Big Five Model of personality

traits, also known as the five-factor model of personality, is a widely recognized and accepted theory of personality that identifies five core fundamental factors of personality: openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism (McCrae & Costa, 1999). An et al. (2017) studied adolescent earthquake survivors and tested the relationship between the five personality traits, coping skills, and PTG. Nearly four years after the earthquake, participants were found to have medium levels of PTG. Extraversion, conscientiousness, agreeableness, and openness were found to predict greater levels of PTG. Other studies have linked personality traits to both positive and negative outcomes following traumatic events. Similar to An et al., Mattson et al. (2018) identified extraversion, agreeableness, and openness to be significantly correlated with PTG, but they also found neuroticism to be negatively correlated with PTG and positively correlated with posttraumatic stress disorder symptoms. These and other studies have demonstrated a relationship between personality and PTG. In fact, Garnefski et al. (2008) investigated the extent to which PTG could be explained by personality and found personality to explain 18% of the variance in levels of PTG among patients who had experienced a first-time acute heart attack. Research consistently supports personality as an internal influence that impacts PTG in both positive and negative directions. Since personality varies on an individual basis, this work supports the individual framework of differences in responses to trauma.

Pre-Trauma Mental Health. Since PTG studies are typically focused on the experience of the individual after the trauma occurs, there are few studies that capture the experience or status of the individual prior to the trauma. Tedeschi et al. (2018) suggested that pre-trauma mental health status is likely to affect PTG. They suggested that individuals with poor mental health status prior to the traumatic event may be more likely to be overwhelmed by the trauma

without the ability to develop PTG (Tedeschi et al., 2018). By contrast, those who have better mental health prior to the trauma may be more likely to develop PTG. Due to the nature of longitudinal studies necessary to demonstrate such a relationship, there is little research that directly demonstrates the validity of such a prediction. Su and Chen (2015) conducted such a study, focusing on pre-trauma psychological factors in relationship to PTG. While their study did not assess prior mental health in terms of anxiety and depression, they did examine the psychological factors of neuroticism, maladjustment, and posttraumatic stress symptoms. Their results showed that these pre-trauma factors were not related to PTG, which was contrary to their expectations. However, their results confirmed the findings of previous studies, noting that pre-trauma and deliberate rumination was associated with PTG.

Ristvedt and Trinkaus (2009) conducted a longitudinal study of cancer survivors. They assessed 80 patients two times over a two-to-five-year time period. They assessed trait anxiety, health related quality of life, and post-traumatic stress symptoms to determine the influence of anxiety levels on quality of life and post-traumatic stress symptoms. Higher levels of anxiety were associated with lower quality of life and higher levels of post-traumatic stress symptoms. While this study links mental health status to post-traumatic experiences, it did not study PTG in specific. Notably, it also assessed anxiety levels after initial treatment for cancer, not prior to the cancer diagnosis. The timing of this assessment may have therefore identified higher levels of anxiety than would have otherwise been captured. However, the authors argue that anxiety levels remained stable over the two-to-five-year time period, suggesting that levels persisted long enough to be evidence of trait anxiety, as opposed to only being in response to the experience due to cancer. Regardless of the study weakness, the study design is a rare example of one designed to capture the pre-trauma mental health status of individuals.

Parslow et al. (2006) also conducted a longitudinal study screening participants for post-traumatic stress disorder (PTSD) both before and after a natural disaster. Their findings linked poor pre-trauma mental health with PTSD symptoms. This study did not screen for PTG but was instead focus on the negative outcomes of experience with trauma of PTSD. They also found levels of education and being female to a greater association with PTSD symptoms. Hapke et al. (2006) also showed the probability of PTSD after trauma as being higher in females. By comparison, their work was more expansive in considering mental health in terms of anxiety and depressive disorders pre-trauma, finding anxiety and depressive disorders to increase the risk of PTSD symptoms. Pre-existing mental health symptoms were clearly linked with negative outcomes after a trauma. Like Parslow et al., this study was not focused on the positive outcome of PTG. It also used pre-existing statistical diagnoses of anxiety and depressive disorders according to the DSM-IV, as opposed to measuring only evidence of the symptoms of such disorders. Studies on pre-trauma risk factors are limited but do link pre-trauma factors such as mental health with post-trauma outcomes. Further research focused on outcomes beyond PTSD, including PTG, are needed to support the suggestion made by Tedeschi et al. (2018) that pre-trauma status is likely to impact PTG.

External Influences

Internal influences such as emotional creativity, personality traits, and pre-trauma mental health have been found to impact PTG and individual responses to trauma. In addition to those internal influences, there are external factors that have been demonstrated to impact responses to trauma, including PTG. Social support and prior stress exposure are factors outside of the individual that can impact trauma response in both positive and negative ways.

Social Support. There is a well-documented impact of social support on PTG present in the literature. Such studies are significant, supporting the premise that strong social support is necessary for the development of PTG. This is not the same as the social support as an outcome of PTG that may occur in improved relationships that are a part of PTG changes; this is the idea that social support can serve as a pathway to PTG, or a predictor of PTG. In a recent study of teachers during the COVID-19 outbreak, Zhou and Yao (2020) examined the role of social support in relieving acute stress symptoms. Due to the nature of COVID-19 as a public health event, the authors considered mental health problems of stress, anxiety, and depression to be of great concern for teachers. They voiced the concern that teachers are confronted with their own mental health problems caused by the pandemic, but they also have the responsibility of caring for students who may have mental health problems of their own, thus, alleviating the stress of teachers is important for long-term health, teaching quality, and the long-term health of students (Zhou & Yao, 2020). At the time of their study in March of 2020, the prevalence of acute stress in teachers was at 9.1%. They found that social support given to teachers could relieve acute stress symptoms when the support satisfied basic psychological needs of competence, relatedness, and autonomy, and improved the sense of teacher control. This study did not explore PTG levels among teachers, but social support was identified as a factor during COVID-19 that influenced negative outcomes of acute stress symptoms.

Jia et al. (2017) explored the relationship between social support and PTG among adolescent survivors of an earthquake. Following up with individuals at 12, 18, and 24 months after the earthquake, they found social support to predict PTG. PTG specifically was found to be an outcome of social support. Jia et al.'s study is an example of the direct link of social support in influencing PTG. Drew and Sosnowski (2018) explored the construct of teacher resilience,

using situational analysis to develop a theory of teacher resilience, including risk factors and protective factors that enable teachers to respond to stressful events. This study uniquely used qualitative efforts to collect and code data into a theory on teacher resilience made up of three themes. Their findings identified the third theme of relationships as a way that teachers endure challenges. Relationships, and the social support received from those relationships, were identified as a protective factor that enhances positive conditions and promotes teacher resilience. This study in particular serves as a guide for the present research study that is focus of this paper. The qualitative nature of Drew and Sosnowski's study highlights the importance of understanding the lived individual experiences of teachers that are factors contributing to PTG. While their work is not focused on PTG specifically, it demonstrates the nature of positive outcomes despite working though challenges, and the factors related to those outcomes, making a valuable contribution to knowledge of the link between social support and trauma outcomes. Other studies have supported this link, demonstrating a positive relationship between social support and PTG, such as the work of Shakespeare-Finch et al. (2015). This study assessed social support, PTG, and symptoms of PTSD in emergency medical dispatchers, and found receiving social support to be a significant positive predictor of PTG and a significant negative predictor of PTSD. In this case, social support not only served to increase the positive outcome of PTG, it also served to minimize the negative outcome of PTSD.

Additional research has explored potential negative outcomes associated with social support and trauma. Wild et al. (2016) highlighted the negative outcomes that may be linked to social support. Their study focused on trauma experienced among individuals who were new paramedics. Low social support and history of mental disorders were found to be linked with PTSD and major depression after a trauma. Among those paramedics who experienced PTSD

and depression, long term quality of life was severely impacted by negative symptoms of missing work, burn-out, poor sleep, and weight gain. This study highlights the need for adequate social support for those who are exposed to trauma. These authors also remind that past mental health history and trauma experience can't be modified, but research needs to instead target factors, predictors, or things that can be modified. Social support is an external influence that can have a powerful influence on outcomes in response to trauma. This study therefore supports research into the factors that contribute to trauma outcomes, including PTG and mental health, and is used as a guide to explore those external factors that influence teacher outcomes related to PTG and mental health due to trauma.

Prior Exposure. Research suggests that there are cumulative effects of multiple trauma experiences. Multiple traumatic events have been associated with high PTSD, anxiety, and depression (Cloitre et al., 2009; Green et al., 2000; Suliman et al., 2009). Suliman et al. studied the cumulative effects of trauma on adolescents, finding those exposed to multiple traumas more likely to experience more severe PTSD and depression, but not more severe anxiety. This study was conducted in an area in South Africa with high rates of violent and life-threatening trauma, leading to caution in generalizability. In fact, when removing life-threatening events, this study found that past childhood abuse, neglect, and stressful life events did indeed influence the severity of anxiety. Furthermore, the study was cross-sectional in nature, relying on memories of the childhood trauma. Despite these limitations, the findings do indicate that multiple life-threatening trauma leads to more severe symptoms of PTSD and depression than in those who experience a single event. The authors conclude that multiple trauma may lead to severe symptoms, but the number of traumas experienced are technically irrelevant, as "the degree of having one traumatic event can be as devastating as multiple events" (Suliman et al., 2009, p.

126). This research suggests that prior exposure does influence the severity of negative outcomes that can be a part of the trauma experience.

Other researchers have considered the hypothesis that the experience of multiple stressors could increase the ability to cope, leading to more positive future outcomes in experience with stress. Fernandez et al. (2020) conducted a study considering the question of whether or not past stress could actually enhance an individual's ability to cope with future stress, increasing resilience and reducing vulnerability to negative mental health outcomes. They assessed individuals with no history of PTSD or major depression to determine if a history of a stressful life event previously experienced could protect against the development of PTSD or major depression after experiencing an earthquake in Chile. Their findings did not support the hypothesis that past stress strengthens an individual's ability to cope with trauma. In fact, multiple stressors increased the likelihood of developing PTSD and/or major depression after the trauma of an earthquake.

Such findings lead to the question of whether or not ongoing trauma should be considered according to the same question of whether or not multiple experiences increase one's ability to cope or decrease the quality of mental health leading to negative symptoms. Research studies such as those discussed in this section point to the consistent answer that prior exposure to trauma or even stressful experiences can negatively impact mental health outcomes. If multiple trauma experiences or prior exposure impact trauma responses, it could be hypothesized that ongoing trauma, such as the ongoing experience with COVID-19 that challenges teachers, could likely lead to negative health outcomes. Past research indicates that to be the potential. However, there is also existing research that indicates that individuals can develop PTG in spite of extensive and ongoing trauma. Dagan and Yager (2019) found PTG development to occur in

individuals with PTSD associated with ongoing and extensive trauma, including those associated with a history of ongoing child sexual abuse. While there are many confounding factors that are related to the development of PTG, including personality traits and supportive relationships, such a study provides light at the end of the dark tunnel of trauma in that there is hope for positive outcomes even when experiencing ongoing or extensive trauma as opposed to a singular event.

Posttraumatic Growth and Posttraumatic Depreciation

As discussed earlier, PTG combines the elements of growth and distress. This mixture of positive and negative outcomes associated with PTG contributes to its paradoxical nature. Research discussed thus far has presented both positive and negative elements of PTG in terms of growth and mental health symptoms as the changes experienced in response to trauma. Growth is understood as PTG, but distress can also be understood using the term *posttraumatic depreciation* (PTD). PTG is the positive changes in response to a trauma, while PTD is considered to be the negative changes. Baker et al. (2008) proposed PTD as a term referring to the negative changes in the same five domains that are used to identify the positive changes associated with PTG: personal strength, new possibilities, relating to others, appreciation of life, and spiritual/existential change. Zieba et al. (2019) found that both PTG and PTD can co-exist, often within the same domains. A negative relationship between PTG and PTD was identified, and also between PTG and symptoms of anxiety and depression, while a positive relationship between PTD and depression was discovered. Zieba et al.'s findings are similar to the previous studies of Baker et al., who also found that there can be negative changes in the same areas in which people report growth. The PTGI tool used to measure PTG outcomes only focuses on growth. Considering the reports of finding depreciation along with growth, the authors developed a tool parallel to the original questions on the PTGI to allow respondents to report depreciation in

the same domains as measured by the PTGI. This study found no correlation between growth and depreciations scores, suggesting that they are independent factors. In addition, PTG was reported at higher levels than PTD. Both studies presented in this section do not confirm an explanation for the paradoxical changes that individuals experience in response to trauma; however, they do provide a foundation for understanding that a focus only on growth in PTG research may leave additional information uncovered. The negative changes also need to be explored to reveal the full picture of PTG experiences. This principle was a primary factor in the determination to explore both growth and the possible negative outcomes related to mental health in the PTG experiences of teachers in response to COVID-19 in this research study.

Research Methods on PTG

Quantitative and qualitative methods are both used to explore PTG, although quantitative methods appear to be more commonly used, likely due to the ease of use of measurement tools such as the PTGI. Since the PTGI is the most commonly used quantitative measurement tool to examine PTG, Shakespeare-Finch et al. (2013) attempted to qualitatively validate the study with trauma survivors who completed the PTGI and participated in an interview. Themes were identified within the interview responses that were consistent with the content included on the PTGI. While this study supported the PTGI as valid, the authors notably found that there was additional growth captured that was not included in the PTGI. Since PTG is a complex phenomenon that is experienced and expressed in multiple ways (Shakespeare-Finch et al., 2013), it is necessary to continue to explore how qualitative research can supplement the quantitative efforts made possible by the PTGI. Sun et al. (2021) used in-depth interviews to conduct a qualitative study of patients recovering from a COVID-19 diagnosis. They were able to code the interviews to develop themes that were representative of the growth that occurred

after their diagnosis. This study did not use the PTGI but identified themes that were consistent with those included on the PTGI, including greater appreciation of life, improved relationships, and perceived personal changes. Both approaches make use of cross-sectional or longitudinal design. However, as research has developed and PTG is better understood, more complex efforts have been designed to capture the nature of the phenomenon and its related variables.

Cross-Sectional

Cross-sectional approaches are advantageous in capturing the relationship between several variables at a given point in time. This is a very common approach to exploring PTG, used by Semeijn et al. (2019) to study PTG and burnout, Zhai et al. (2021) to explore emotional creativity, mental health, and PTG during COVID-19, and Ogińska-Bulik and Kobylarczyk (2016) to study PTG and stress appraisal. Due in part to the development of the PTGI, cross-sectional PTG research is commonly conducted using quantitative measurement to consider evidence of positive changes that are PTG. The PTGI enables the researcher to conduct a variety of analytic techniques on the data collected, including, but not limited to, correlations (Zhai et al., 2021). structural equational modeling (Semeijn et al., 2019), and ANOVA analysis (Bianchini et al., 2017). While cross-sectional approaches are useful in terms of time and ease of collecting large amounts of data, this method can be questioned in PTG research due to its lack of ability to track growth or change over time.

Longitudinal

Longitudinal approaches to studying PTG are much less common than cross-sectional approaches. Since time is needed for the development of PTG to occur after a trauma, longitudinal studies can assist in tracking changes over time. Jia et al. (2017) used a longitudinal approach to examine relationships between social support and PTG, following up with

participants over a two-year period of time. Using the longitudinal approach enabled the authors to identify that social support predicts PTG levels over time, ruling out the reverse relationship. Dekel et al. (2012) examined the relationship between PTSD, depression, anxiety, and PTG in a longitudinal study of ex-prisoners of war. The longitudinal approach enabled them to analyze PTG over time, contributing to the discussion on the notion of perceived versus actual growth. Longitudinal studies are valuable and contribute to the body of knowledge on PTG, but they are not without drawbacks. The time required for a longitudinal study allows for other events to occur between data collection points, leading to the loss of participants or the introduction of new trauma into an individual's life.

Mixed Methods

Discussion on mixed methods approaches is often not without controversy (Creswell & Plano Clark, 2018). This researcher assumes the approach that there are advantages to combining qualitative and quantitative approaches to better understand the phenomenon under exploration and the results of research. Mixed methods approaches to exploring PTG are very rare, but do exist. Exenberger et al. (2019) used a mixed methods approach to explore PTG domains within the German culture. The purpose of their study was to identify PTG characteristics that may be unique to the culture and not identified on the PTGI. Participants completed the PTGI and open-ended questions to reveal possible additional domains. The authors did identify two additional dimensions that would not have been uncovered by using strictly quantitative measures, demonstrating the strength of mixed method in revealing a more complete picture of PTG.

Hyun et al. (2021) used a mixed methods approach to explore PTG among healthcare workers who had experienced an outbreak of MERS, a respiratory virus with no specific vaccine or treatment. Quantitative methods were used to collect data on distress, resilience, coping, and

PTG, including the PTGI. Identifying those participants who experienced the highest levels of PTG according to the PTGI, qualitative interviews were conducted with 7 participants in order to better understand the development of PTG. Those who had experienced the outbreak of MERS showed high levels of PTG. The interview data emphasized the importance of resilience in developing PTG. This conflicts with the description of resilience modeled by Tedeschi et al. (2018), where resilience is considered to be its own unique outcome that does not lead to great personal change or growth reflective of PTG. Hyun et al. identified resilience as a pathway to PTG, based upon their interpretation of the data provided by qualitative interviews. This conflict in mechanisms, or descriptions, of pathways to growth may simply be a matter of philosophy or semantics (Bonanno, 2004; Westphal & Bonanno, 2007). It may also be that mixed methods provided additional perceptions that are not available when using quantitative methods alone.

Based upon an extensive review of the literature on PTG, it was discovered that mixed methods approaches to exploring the phenomenon are limited in number, but do provide additional deep perspectives. It may be necessary to include quantitative measures to explore data among specific groups of individuals or among those who have experienced specific traumas, but the addition of qualitative measure can enhance understandings of PTG by including individual experiences and descriptions of growth. This methodology was utilized in the present study to incorporate specific data on a group of teachers having experienced COVID-19 in addition to individual experiences of PTG. Studies on teachers and PTG are limited, with the use of mixed methods approaches even more sparse. Those factors enable this study to augment current research, making a valuable contribution to furthering the understanding of PTG and ways in which teachers grow through trauma.

Relationship Between Mental Health and PTG

One of the major purposes of this study was to investigate the relationship between teachers' mental health and posttraumatic growth experiences in response to COVID-19. Although not fully or consistently understood, a relationship exists between mental health and PTG. A common understanding of the relationship would state that PTG is related to stress and depression, because some level of psychological distress is likely necessary for PTG to develop. Several studies have supported this model of the relationship. Bianchi et al. (2017) found that moderate levels of depression and the related distress could promote growth and the drive to overcome after a traumatic event, in this case an earthquake. 59.6% of those studied showed levels of depression, while 13.3% showed symptoms of anxiety. PTG was found to be predicted by moderate levels of depression. In this case, the occurrence of moderate depression was associated with the development of PTG, which again highlights the nature of PTG as a phenomenon that includes both growth and distress.

Siqveland et al. (2015) also document the link between depression and PTG. In another study of survivors of an earthquake, Siqveland et al. questioned the survivors at both 2 and 6 years after the earthquake, finding low levels of depression were related to high levels of PTG, leading to greater quality of life. This relationship was not the same for those who had high levels of depression. Interestingly, they also found that the interaction was not significant at the first time of questioning but was highly significant at the second time. This suggests that while 2 years after a trauma may seem sufficient for the development of PTG, it may need even more time to develop. While questionings regarding the timing remain, this study does support the interaction between psychological distress and PTG. While the association between depression and anxiety and PTG has been documented in these studies, other researchers have failed to

identify these same associations. Schneider et al. (2020) examined both PTG and mental health symptoms in the aftermath of a hurricane. While PTSD symptoms were positively correlated with PTG at significant levels ($t = 6.05$, $p < .001$), anxiety and depression symptoms were not found to be associated with PTG. Despite this lack of direct association, when examined further, it was found that depression symptoms lessened the PTG of those who also demonstrated PTSD symptoms. Relationships between mental health and PTG are not always clearly positive or negative; at times they may demonstrate surprising interactions with additional variables, as demonstrated by Schneider et al.

Curvilinear Relationship

There have been recent suggestions that the relationship between growth and distress may not always be linear, leading to the suggestion that non-linear relationships be further examined (Lechner et al., 2006). There are multiple reactions to trauma, and studies often group participants according to the experience of the trauma, not how they have experienced the trauma. Those groups may therefore include those who do not perceive the event as a great challenge, which would lead to little growth or distress, while also including individuals who experience greater growth or greater distress. When grouping participants in this way, a linear pattern may not be evident, leading some researchers to identify what is known as a curvilinear relationship. The relationship between psychological distress and PTG has been examined by Eisma et al. (2019), who studied a group of bereaved adults, assessing both the concurrent and longitudinal associations between PTG and symptoms of depression, anxiety, grief, and PTSD. Highest levels of PTG were reported by individuals with moderate levels of anxiety, depression, grief, and PTSD, whereas those with lower symptoms reported less PTG, indicating a curvilinear relationship. PTG did not predict post-loss mental health levels. This relationship seems to

support the idea that an individual needs to experience a certain amount of distress in order to experience PTG, but high levels of distress may limit the development of PTG. This curvilinear relationship has been documented by other researchers exploring depression and PTG (Kleim & Ehlers, 2009), and also in a meta-analysis on PTG and symptoms of PTSD.

In a review of 42 studies that examined PTG and PTSD symptoms, a linear relationship was identified between PTG and PTSD, but it was even stronger as a curvilinear relationship (Shakespeare-Finch &Lurie-Beck, 2014). The strength of this relationship did change based upon the type of trauma experienced and the age of the individual who experienced the trauma. While studies such as the ones presented highlight the relationship between growth and distress, in both linear and curvilinear directions, they do not serve to identify specific levels that are predictive. They serve to highlight the paradoxical nature of PTG: growth and distress can and do occur in response to a trauma. Research that seeks to identify growth and distress and to better understand many factors and variables that influence the relationship between them, as it is not always straightforward, is needed to capture the complexities of PTG.

Five Factors of PTG and Mental Health

In the same way that there are variations among the five personality traits and their link to PTG outcomes, not all the five PTG factors (personal strength, relating to others, new possibilities, appreciation of life, spiritual/existential change) have been consistently linked to mental health outcomes. Some studies have approached studying the relationship between mental health and PTG using overall PTG scores on the PTGI (Schneider et al., 2019; Semeijn et al., 2019; Zieba et al., 2019), while others have approached this relationship using individual five factor scores (Bianchini et al., 2017; Karanci et al., 2012). Studies that approach PTG using overall PTG scores are limited in contributing to the understanding of various factors related to

the development of PTG, which may not adequately approach PTG as the complex phenomenon that it appears to be.

Karnaci et al. (2012) demonstrated the complexity of studying the five factor scores: their study examined the interactions between personality traits, posttraumatic stress, and each of the five factors of PTG. Their results reveal a complex relationship between the domains of PTG, mental health in terms of stress severity, and personality traits. The severity of posttraumatic stress contributed to the total PTG and to all of the individual domains except for appreciation of life. Interestingly, this study also examined growth in the five domains according to distinct types of trauma experienced, which is a very rare type of research within PTG studies. Their findings indicated that the type of event only significantly impacted two domains: relating to others and appreciation of life. This underscores the fact that the type of trauma experienced may lead to different types of growth. This study serves to highlight the complexities in examining and measuring PTG that is present in other literature: individual differences contribute to major differences in scores overall and when examined according to the five domains.

There are two applications from this study made when approaching the present study that is the focus of this paper. First, it is relevant to uncover whether there is a relationship between the type of trauma experienced and each of the five domains. Since all teachers have experienced the pandemic of COVID-19, there may be relationships stronger for one or more of the domains that are revealed. Such knowledge assists in contributing to a current gap in research on PTG on whether types of trauma are linked specifically to any of the five domains of growth. Secondly, additional research on mental health and the five domains serves to broaden the understanding of the factors linked to PTG and individual differences. By exploring the five domains of PTG in

addition to total PTG scores, this research study contributes to the understanding of those individual differences.

Caution

The results of the studies discussed in this section should be interpreted with caution; Tedeschi et al. (2018) state that some individuals may demonstrate PTG very early following a traumatic event, while others may take years to develop PTG, emphasizing PTG as a highly individualized process. Even though these studies link PTG and mental health, since PTG is an individualized process, it may be impossible to consistently identify levels of PTG linked to mental health even as experienced by individuals after the same event, as the timing for the development of PTG varies for each individual, and studies are both cross-sectional and longitudinal. To clarify functions of PTG, research must establish concurrent and longitudinal association of PTG and mental health problem, which can be a challenge due to study design. As previously discussed, an individual approach to learning more about the functions of PTG will serve to contribute to a deeper understanding of PTG and mental health. Qualitative research designed to focus on individual experiences is ideal for this purpose. The present study serves to further clarify the function of PTG and the relationship to mental health to support teachers experiencing stress and trauma, and understanding more about the individual factors contributing to mental health and PTG assists in building a more comprehensive picture of the process and function of PTG.

Mental Health Among Teachers

Holt et al. (2020) studied teachers' mental health and stress over an extended period, focusing on two cohorts or generations of teachers including a group from 1997 and 1979. Their purpose was to discover long term and potential changes over time. It was found that teachers'

mental health has changed over time, relative to previous generations of teachers, but teachers' mental health was not found to be worse than that of their peers, only worse than previous cohorts of teachers. Worse mental health status was showing among younger teachers, at every stage of life cycle and career. Mental health should be highlighted as a concern considering these trends. Teachers' mental health is declining, yet teachers' mental health has not been established as a priority in the United States in efforts to improve education.

Since it has already been established that there is a history of concern for the mental health of teachers that began pre-pandemic and has been emphasized as a continued concern due to the increasing challenges presented due to COVID-19, this section will outline approaches to studying the mental health and the questions that remain about how to approach such a study. Mental health is often used as a measurement to assess the benefits of PTG. Yang et al. (2009) reports a relationship between quality of life and occupational stress among teachers. Teachers have been found to have higher prevalence of anxiety, hypertension, headaches, psychosomatic disorders, and cardiovascular diseases compared with other workers. A lower quality of life and a shorter life expectancy for teachers have also been reported, which has been attributed to their higher occupational stress. Borrelli et al. (2014) found working conditions influenced mental health in terms of anxiety and depression among teachers. 49% of teachers scored above the threshold for depression, 11% above the threshold for anxiety. Poor mental health is associated with high job demand and low social support, influence of working conditions on depression and anxiety was supported. Work stress is a risk factor for anxiety and depression.

Mental Health, COVID-19, and PTG

There are very few studies examining the negative psychological impact of COVID-19. Those studies that address mental health due to COVID-19 have been included in previous

sections of the literature review. Past similar outbreaks such as SARS, MERS, and Ebola outbreaks have demonstrated the ability to influence the cognitive and psychological well-being of individuals, with adverse impacts upon mental health (Shah et al., 2020). In the few studies that are available on COVID-19 and mental health, significant demands have been placed upon teachers leading to stress (Baker et al., 2020; Zhou & Yao, 2020), worse mental health (Baker et al., 2020; Ozamiz-Etxebarria et al., 2021), a decrease in quality of life (Lizana et al., 2021), and a reduced ability to teach (Baker et al., 2020).

There are extremely few studies that focus on the positive outcome of PTG as experienced due to COVID-10. Yan et al. (2021) investigated PTG among discharged COVID-10 patients using a cross-sectional design. PTG was positively correlated with PTSD and social support. Those with higher PTSD showed higher PTG, which is consistent with previous research. It was also found that discharged patients still experienced some anxiety and depression. Sun et al. (2021) also examined PTG but used a qualitative approach using in depth interviews to identify the changes that were present as a result of PTG. Patients were found to experience positive changes of PTG due to COVID-19. High school students have also been found to experience positive changes of PTG. Kristo (2021) delivered an online survey examining stress and PTG related growth to 500 high school students. Most students reported moderate to severe stress levels, but also reported experiencing changes that were evident of PTG. PTG levels linked to COVID-19 have been explored among patients and high school students, but it remains unknown whether PTG occurs in teachers because of the experience of COVID-19. At the time of this review, no literature was available linking teachers, PTG, and mental health.

In an article fittingly titled, “That Which Does Not Kill Us, Makes Us Stronger”: COVID-19 and Posttraumatic Growth,” Tamiolaki and Kalaitzaki (2020) discussed the negative potential impact that COVID-19 may have on mental health. They propose research to investigate the potential positive impact of COVID-19 through PTG experiences. Understanding whether COVID-19 may lead to positive outcomes is an approach that can benefit teachers and students. Hence, research in this study is warranted to investigate the potential negative and positive impacts of coping with COVID-19 on mental health and PTG.

Summary and Integration

This literature review has included studies on mental health symptoms and PTG occurring due to several different types of traumas: health crises, natural disasters, employment related trauma, child abuse, bereavement, and the COVID-19 pandemic. In summary, this review has identified three common themes revealed in the literature related to PTG and mental health. First, individual differences are present in the process of responding to trauma even though there have been consistencies in presentation. Second, there are both internal and external factors that influence response to trauma. Internal factors include personality (An et al., 2017; Mattson et al., 2018) and mental health (Parslow et al., 2006; Ristyedt & Trinkaus, 2009), while external factors include social support (Jia et al., 2017) and prior exposure (Suliman et al., 2009). Thirdly, there are multiple outcomes in response to trauma that include both negative and positive changes (Baker et al., 2008; Zieba et al., 2019). The present study applies these themes to explore teacher PTG and mental health in the context of COVID-19.

Studies presented in this literature review have identified commonalities among variables related to PTG while also drawing attention to differences in that are present in the process of response to trauma. Primarily, it has been clearly established that after experiencing a trauma,

growth and distress can coexist. They can also interact with one another in unexpected ways. For the current study, this leads to a further line of questions regarding what factors teachers contribute to changes to their own growth (PTG) or mental health. From an educational perspective, it is also pertinent to ask how those changes have impacted the ability to teach. Due to COVID-19 and its impact on every aspect of society, the times are ripe for studies in education that move beyond classroom strategies or curricular themes.

A full awareness of trauma and the positive and negative outcomes that are possible after the experience of trauma is a necessity for supporting teachers and students. According to Bonanno (2004), "Dysfunction cannot be fully understood without a deeper understanding of health" (p. 26). This aligns with the fundamental premise of PTG, which is the paradox that out of loss there is gain (Tedeschi & Calhoun, 2004). Such a premise is the basis for exploring both PTG and mental health among teachers in response to COVID-19. There is a window of opportunity to look inside the experience of teachers in response to this trauma, paving the way for future efforts in schools that grasp the full impact of COVID-19 and the ramifications for teachers' mental health. The intent of this study was to explain individual and situational factors affecting responses to trauma among teachers including PTG and mental health outcomes. Since the research on PTG is lacking a focus on teachers, this research study is in a position to contribute to the field of knowledge of the complex phenomenon of PTG.

Chapter 3: Methodology

Introduction

According to Lazarus (2000), "The prime objective of basic research is to understand life and the world in which it exists" (p. 667). The purpose of this mixed methods research study is to understand the experiences of teachers in response to the trauma of the COVID-19 pandemic. An exploration of teachers' mental health and posttraumatic growth (PTG) can develop an understanding of potential positive and negative responses to trauma, specifically those of teachers situated in the pandemic. This study seeks to understand the factors that teachers attribute to influencing their quality of mental health and PTG during the pandemic. The following chapter includes a description of the research questions explored, the research methodology used to suitably answer those questions, a description of the sample population that was the focus of this study, and the ethical considerations and limitations of the study.

Statement of the Problem

The importance of teachers' mental health as a critical focus of educational research and school improvement efforts has taken on additional urgency due to the long-term and sustained impact of the COVID-19 pandemic on schools and teachers. Teachers have struggled with circumstances that challenge their quality of mental health as they respond to those conditions. The current problem this study addresses is the status of teachers' mental health and growth experiences in response to the COVID-19 pandemic. This study is important to take steps to better understand the impact of COVID-19 on teachers and what is needed for them to function and grow in the face of such an unprecedented challenge.

Research Questions

COVID-19 has been a significantly stressful and traumatic event that has impacted the

mental health of many teachers. It has caused disruption to the personal lives of teachers and to the work of teachers. This research study assumes a sociological approach that regards mental health as a product of the social circumstances created by the COVID-19 pandemic. It also assumes the position that there are multiple outcomes in response to trauma, and that both growth and distress can occur and even coexist (Tedeschi et al., 2018). Guided by these fundamental premises, this study perceives teachers' mental health not just as an individual quality; it is an outcome that stems from the circumstances related to COVID-19, and those outcomes can be both positive and negative. The following research questions guides this mixed methods study: how do teachers in a Midwestern metropolitan area experience mental health and posttraumatic growth (PTG) in response to the COVID-19 pandemic?

1. How does the quality of mental health differ among groups of teachers based upon gender, years of teaching experience, and teaching level?
2. How do PTG outcomes differ among groups of teachers based upon gender, years of teaching experience, and teaching level?
3. To what degree is teachers' mental health related to PTG?
4. What factors do teachers attribute to influencing their quality of mental health and PTG in their response to COVID-19?

Research Methodology

Past studies on PTG have used quantitative, qualitative, and mixed methods to explore the phenomenon in a variety of contexts among a variety of sample populations. Each study has made unique contributions to the current understanding of the phenomenon of PTG and the variety of outcomes in response to trauma. This study makes use of a mixed methods research design, where quantitative and qualitative methods are combined to give a representation of the

full picture of potential trauma responses and outcomes among teachers. In this case, the quantitative strand of research establishes context for the study, providing a picture of the current status of self-reported mental health and PTG among teachers while the qualitative strand of research will further explored the PTG experiences of teachers in the context of the current pandemic. Both methods combine to give a broader picture of the positive growth experiences and negative mental health outcomes among teachers in response to COVID-19. Quantitative research serves to test the associations between mental health and PTG variables, while qualitative research adds to the depth of understanding of the paradoxical nature of the experience of growth and the factors associated with growth, including teachers' mental health.

Research Design

Sequential Explanatory Design

There are two stages of this mixed methods research study. Quantitative data were collected in the form of an online survey during the first stage, leading to the selection of interview participants for the qualitative second stage. The quantitative stage employed a survey containing questions on demographic information and included the Depression Anxiety Stress Scale (DASS) (Lovibond & Lovibond, 1996) and the Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996). Semi-structured interviews were conducted in the second qualitative stage with participants selected based upon the findings in the initial quantitative stage. While quantitative data were collected first to establish the context of the current state of teachers' mental health and PTG outcomes in response to the pandemic, the dominant status was placed on the qualitative methods conducted in the second phase of research (Johnson & Onwuegbuzie, 2004). The qualitative data were used to expand upon the quantitative data to explain the factors contributing to, and a more comprehensive and nuanced understanding of, the

relationship between mental health and PTG experiences in response to the trauma of COVID-19, including the factors teachers attributed to those experiences. The combination of methods is a methodological approach necessary to fully explore the research questions that were focus of this study. There was no single universal truth to be discovered when exploring the experiences of teachers in response to the COVID-19 pandemic. The pragmatic approach that is the basis of mixed methods research is an approach that seeks to consider multiple viewpoints, perspectives, and positions, providing breadth, depth, and corroboration (Johnson et al., 2007). Mixed methods position this study as a unique approach to furthering and deepening existing knowledge regarding teachers' mental health and PTG experiences.

Study Population and Sample Selection

To gain the most meaningful amount of information, this study made use of purposeful sampling to select participants who were able to provide a deeper understanding of the experiences of PTG during the pandemic (Merriam & Tisdell, 2016). For both phases of research, data were collected from elementary and high school teachers in a Midwestern metropolitan area using purposive sampling techniques. This location was selected due to the potential for providing rich data considering the degree of changes due to circumstances related to COVID-19 restrictions and mandates imposed upon schools in this area. Mandates in this city forced schools to fully close for a period during two different school years, while continuing to respond in a variety of ways in a third school year as mandates were relaxed or new restrictions were imposed. Those fluctuations challenged schools and teachers to respond with alternative learning experiences, including online or other solutions, to continue educating the students in this district. Neighbouring districts were not subject to the same mandates, allowing nearby schools to re-open with different restrictions. Prior to the commencement of research, school site

permissions from participating school's principals and full IRB approval were sought to ensure compliance with all human subject regulations and protection of all participants.

Teachers were recruited by email from private parochial schools that are associated with the same system of schools situated in the Midwestern metropolitan location. Participants in the first quantitative phase included approximately 59 elementary and high school teachers, providing a strong and reliable quantitative sample. Eligibility was determined by including current teachers within the following parameters: 1) teaching in the private parochial school system, 2) school location in the same Midwestern metropolitan location, and 3) elementary and high school teachers who taught during the COVID-19 pandemic. To secure participants, an invitational email (Appendix B) was sent to introduce teachers to the study's purpose and details of data collection, including a link to a Qualtrics survey questionnaire that included demographic information (Appendix C), the DASS (Appendix D), the PTGI (Appendix E), and the Informed Consent Letter (Appendix A). Informed consent was included at the beginning of this survey, requiring electronic agreement to continue and complete the survey, as well as indicate willingness to participate in the qualitative interview phase of research.

Based upon the findings and trends discovered in the quantitative phase, purposeful sampling was utilized in the second qualitative phase to select a small group of teachers among those previously surveyed to develop rich information related to the qualitative research questions. Sampling at this stage of research could be considered opportunistic, designed to take advantage of any findings that may or may not be unexpected (Creswell & Poth, 2018). Purposeful sampling for this stage of research included the selection of five participants from both elementary and high school levels with both low and high PTG scores and a variety of DASS scores to explore the factors that teachers attribute to their growth after the trauma of

COVID-19. Interview questions were used to identity the factors that teachers attributed to influencing their quality of mental health and PTG experiences in response to COVID-19.

Instrumentation

Quantitative Instruments

The quantitative stage of research used two previously validated instruments: the DASS (Lovibond & Lovibond, 1995) and the PTGI (Tedeschi & Calhoun, 1996). These instruments were utilized to measure both the positive and negative outcomes in response to trauma. The DASS was used to measure the mental health symptoms of teachers and the PTGI was used to measure growth outcomes. In addition, basic demographic information was collected.

Posttraumatic Growth Inventory

The PTGI is composed of twenty-one Likert-scale items to assess possible areas of growth and change. Five factors are assessed on the instrument: 1) Relating to Others; 2) New Possibilities; 3) Personal Strength; 4) Spiritual Change; and 5) Appreciation of Life. The range of scores include six levels of responses, rated from zero to five with zero meaning "I did not experience this change as a result of my crisis" and five meaning "I experienced this change to a very great degree as a result of my crisis." The PTGI is scored by adding all the responses for an overall score and by individual PTGI factors, adding the responses to items on each factor for scores on those individual factors.

The PTGI was created based upon interviews with individuals who had experienced a trauma, using exploratory factor analysis to establish the five factors that are assessed on the instrument, and is free for use and reproduction in research studies. Tedeschi and Calhoun (1996) reported strong internal consistency, $\alpha = .90$, which has been validated in several studies among diverse samples since (Tedeschi et al., 2018). In addition, Tedeschi and Calhoun (1996) found

normally distributed scores when testing among individuals experiencing a variety of different life challenges. Item responses are added to establish scores, but there are no established cut-off scores to determine growth. There are various ways of approaching the responses that have been utilized in research, but degrees of PTG can be estimated using the mean item scores for a comparison to the levels of growth indicated in the survey response from 0 (did not experience change) to 5 (experienced change to a very great degree). The individual five factor scores can be added together for an overall score, or the scores can be interpreted based upon each of the five individual factors, which is a useful way to consider the scores since changes can occur in only some of the individual factors and still be considered to be growth. Individuals do not necessarily experience growth in all five of the factors but may experience high growth in a limited number of those factors. Overall scores may not necessarily give the full picture of individual growth after a trauma if used as the only source of information and won't be reflective of trends that may occur in growth in teachers in response to the COVID-19 pandemic, therefore, both overall scores and individual five-factor scores were considered in this study.

Depression Anxiety Stress Scale

The DASS is a 42 item self-report instrument designed to measure negative states of depression, anxiety, and stress. There are three self-report scales that contain 14 Likert-scale items in each of the three scales. The range of scores include responses from zero to three with zero meaning "did not apply to me at all" and three meaning "applied to me very much, or most of the time." Participants are asked to indicate how much each statement applies to them over the past week. While the timeframe can be adjusted, to be strictly comparable to the DASS normative data and other published work, the suggested timeframe was utilized in this study (Lovibond & Lovibond, 1995). Scores are added up to indicate levels from "normal" to

"extremely severe" in the areas of stress, anxiety, and depression, with cutoff scores provided for each level. The DASS has been found to be useful in both research and clinical settings to assess the severity of the core symptoms of depression, anxiety, and stress. It can be administered and scored by non-psychologists, and is free to use as public domain, but it is recommended that decisions based upon scores should only be carried out by clinicians who have also conducted an appropriate examination (Lovibond & Lovibond, 1995).

Furthermore, the DASS is based upon dimensional rather than categorical conceptions of psychological disorders. Sociologists tend to view mental health dimensionally while the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) uses categorical criteria (Schnittker, 2017). According to the categorical approach, mental disorders are either present or absent, while dimensional measures focus on symptoms that are non-specific measures with differences in degree and are not diagnostic in a clinical sense (Schnittker, 2017). Since the nature of this research study is not focused on diagnosis or categorical measurements of mental illness, the DASS is a useful and highly appropriate tool to clarify the range and experiences of symptoms experienced by teachers in response to COVID-19.

Demographic Information

In addition to the DASS and the PTGI, basic demographic information was collected, including information regarding gender, years of teaching experience, and the current level of teaching including elementary or high school. The results of the demographic data were used to describe the sample population and explore any significant differences in the mental health symptoms and PTG levels between groups in the categories of gender, years of teaching experience, and elementary and high school levels of teaching. Demographic data were also used to inform the interview process conducted during the qualitative phase of research.

Qualitative Sources of Data

Qualitative research is ideal when a problem needs to be explored, when it is used to explore and identify variables that cannot be easily measured, and when a complex and detailed understanding of the issue is desired (Creswell & Poth, 2018). The key idea behind "qualitative research is to learn about the problem or issue from participants and engage in best practices to learn that information" (Creswell & Poth, 2018, p. 44). For this mixed-methods study, qualitative data were drawn from semi-structured interviews with a small and purposeful sample of teachers selected based upon responses to the quantitative survey. Five teachers were selected to explore potential themes or noteworthy findings from the survey results. Participants were selected based upon high and low levels of PTG and scores on the DASS to examine the factors that contributed to PTG experiences and included teachers from both elementary and high schools.

The interviews were semi-structured, using an interview guide (Appendix F) that allowed the teachers to describe their experiences with the challenges they faced in response to COVID-19 with responses to open-ended questions. An interview protocol is useful to maintain organization and keep a record of information (Creswell & Plano-Clark, 2018). Semi-structured interviews are commonly used in qualitative research to explore the experiences of individuals and have been utilized in PTG research to investigate experiences related to PTG (Mehrabi et al., 2015; Lyon et al., 2020). A semi-structured approach helped to create consistency between the interviews while also allowing for variations between each teacher's individual experience. Interview questions were used to identity the factors that teachers attributed to influencing their quality of mental health and PTG experiences in response to COVID-19.

The interview questions were designed considering a method of interviewing outlined by Bevan (2014), which suggests a way to apply a phenomenological structure to the interview

process using the following structure of interview questions: descriptive/narrative context questions, descriptive and structural questions that seek to apprehend the phenomenon, and imaginative variation that seeks to clarify the phenomenon (Bevan, 2014). This structure of interviewing was considered to build an Interview Guide (Appendix F) that seeks to understand the experiences of teachers in response to COVID-19. This method is appropriate since the goal of the qualitative stage of research was to explore the experiences of teachers related to the phenomenon of PTG.

While this is a basic qualitive study used to develop a deeper understanding of teacher PTG experiences related to COVID-19, there are theoretical underpinnings in this stage of research with roots in phenomenology. Phenomenological interview techniques were appropriate to incorporate in this study since the purpose was to understand the experiences of teachers related to PTG and COVID-19. Phenomenological research seeks to understand experiences related to specific phenomenon; in this case, PTG was the phenomenon to be explored. According to Padgett (2017), there are common approaches to phenomenology including hermeneutic, transcendental, and descriptive phenomenology. Such approaches seek to describe the lived experiences, common themes, or the essence of the experience.

Padgett stated that phenomenology explores "not only what participants experience but also the situations and conditions surrounding those experiences" (2017, p. 41). Additional questions were included to explore significant findings in the quantitative phase, specifically for deeper exploration into how the five factors of PTG relate to mental health levels based upon the quantitative findings. The interviews were audio-recorded and transcribed for analysis. Interview participants could review their responses for clarification or to add or expand upon their ideas through the process of member checking, using synthesized member checking (Birt et al., 2016).

Validity and Reliability

The goal of mixed methods research is to utilize the strengths of both the quantitative and qualitative approach by combining them and attempting to minimize the weaknesses of each approach. Since mixed methods research makes use of both quantitative and qualitative data, validity is an area of concern for researchers that applies to the study in all phases of research. Validity has been identified as a major issue in all types of research design (Creswell & Plano Clark, 2018). Onweugbuzie and Johnson (2006) viewed validity with no limitations to either quantitative or qualitative data, but apply validity to the "research study, its parts, the conclusions drawn, and the applications based on it" (p. 48).

According to Onweugbuzie and Johnson (2006), validity establishes whether the research is high or low quality, and whether it is defensible to research communities. They further highlighted three issues with validity that are a problem for mixed methods researchers: issues with representation, integration, and legitimation. *Representation* refers to the difficulties that researchers may have in representing the actual lived experiences of research participants using the numbers from quantitative data and the words from qualitative data. *Legitimation* refers to the difficulties that are inherent in making inferences that are trustworthy, dependable, and confirmable. *Integration* refers to the combination, or integration, of both quantitative and qualitative data and the extent to which the combination yields strong inferences. Every mixed methods researcher must deal with these three problems, and this section addresses how this mixed methods study approached them.

In this mixed methods study, validity was addressed with a focus on representation, legitimation, and integration as outlined by Onweugbuzie and Johnson (2006). Representation was addressed in the quantitative phase by using highly reliable and previously validated

instruments of the DASS and the PTGI. The use of such instruments ensures that the data collected is representative of the true experiences of teachers in response to COVID-19. Qualitative data were used to further explore the lived experiences of teachers by asking them to explain in their own words details about their experiences. Interview data were focused on collecting an accurate representation of teacher experiences to capture a full picture of their responses to COVID-19.

According to Onweugbuzie and Johnson (2006), legitimation should be viewed as a continuous process, not just an outcome or "fixed attribute" of a research study (p. 56). The ability to make a legitimate inference drawn from data is an iterative process, which is continually building, refining, and improving upon inferences or conclusions being drawn from an analysis of data. Thus, one should conclude that the researcher may not be able to make a definitive concluding statement (Onweugbuzie & Johnson, 2006). The use of high quality reliable and previously validated instruments provided a strong foundation for the opportunity to make legitimate inferences in this study. A reflexive and iterative process was utilized to examine the quantitative data to draw high-quality inferences that accurately capture the findings. In the qualitative phase of research, the use of purposeful sampling based upon those inferences served to build on those inferences and enhanced legitimation in this research study.

Validity was further enhanced using integration in the combination of methods. According to Onweugbuzie and Johnson (2006), the relationship between the quantitative and qualitative phase of research is crucial to the quality of inferences. In sequential explanatory design, the intent of integration is to connect the two phases of research so the follow-up qualitative phase will serve to provide an explanation of the results of the initial quantitative phase (Creswell & Plano Clark, 2018). A focus on sampling served to achieve this aim and

enhance the integration of data, therefore sampling procedures in this research study were used to select participants for the qualitative phase who were purposefully selected to help to provide the best explanations for the findings in the quantitative phase. Quantitative data analysis was conducted to identify unexpected findings to explore those findings in more depth in the qualitative data collection phase. This strong connection or integration of phases enhances the validity of this mixed methods study.

Creswell and Plano Clark (2018) stated that each type of mixed methods research design carries with it a threat to validity. Creswell and Plano Clark proposed that strategies to minimize those threats are unique to each design type. Sequential explanatory design includes a threat to validity in both quantitative and qualitative phases. Those threats include a failure to identify quantitative results that may be important, not connecting or explaining the quantitative results with qualitative data, or not connecting the quantitative results to the qualitative investigation (Creswell & Plano Clark, 2018). When the researcher is aware of these threats to validity, strategies that focus on minimizing those risks are useful in strengthening the validity of each phase of and the full mixed methods approach. Such validity threats remained at the forefront of efforts to ensure validity in this mixed methods study.

Quantitative results were deeply examined to consider all possible explanations of the results, interview questions were developed to further probe the findings from the quantitative data, and the qualitative sample was purposefully selected to focus on participants who could provide the best explanations and deeper sources of information (Creswell & Plano Clark, 2018). Efforts outlined in this section include suggestions by both Onwuegbuzie and Johnson (2006) and Creswell and Plano Clark that address and minimize threats to validity. These efforts lead to higher quality mixed methods research findings that are both valid and defensible.

Trustworthiness of the Study

While validity was previously discussed in relationship to all phases of research, qualitative understandings of validity more typically use the word *trustworthiness*. The data collected through qualitative interviews may contain sensitive information in relationship to the PTG or mental health experiences of teachers. Due to potential sensitive nature of this data, member checking was utilized to share the data with the research participants to ensure their voices were accurately heard and serves to enhance the trustworthiness of the study. Interview participants were provided with a copy of their transcripts and a preliminary summary of the data analysis and given the opportunity to check for accuracy and make additional comments, clarifications, or changes that they felt better reflected their experience. When the views of the participants are sought, the credibility of the findings are strengthened and the ability to draw inferences is enhanced (Creswell & Poth, 2018). This validation strategy asks participants to reflect upon the accuracy of the accounts depicted in the data collection, establishing trustworthiness. In addition to member checks, additional external checks will be performed to analyze the interpretations and inferences drawn during qualitative data collection and analysis. A peer review will examine the research process to provide the researcher with an opportunity for further questioning and validation (Creswell & Poth, 2018). Trustworthiness is established when researchers use procedures that help them to gain perspective and accountability in the data collection and analysis procedures.

Data Collection Procedures

As a sequential exploratory mixed methods study, data were collected at two separate times. Initial data collection began during the quantitative phase, leading to a second stage of data collection that occurred during the qualitative phase. Though there were two broad stages of

data collection, analyses of the survey data were conducted prior to the teacher interviews to develop preliminary understandings of the mental health and PTG experiences of teachers.

Quantitative Data Collection

Quantitative data were collected in the first phase using an electronic survey to collect demographic data along with previously validated instruments to provide measurements of mental health and PTG of teachers. PTG "theory also suggests that growth and distress can coexist and that they are probably best viewed as independent dimensions" (Tedeschi et al., 2018, p. 62). This study considered distress in terms of depression, anxiety, and stress, and growth in terms of PTG. Mental health outcomes of depression, anxiety, and stress were measured using the Depression Anxiety Stress Scales, also known as the DASS (Lovibond & Lovibond, 1995). PTG was measured using the Posttraumatic Growth Inventory, also known as the PTGI (Tedeschi & Calhoun, 1996) to explore the presence of the five dimensions of change that are outcomes of PTG. Quantitative analysis was conducted prior to the initiation of the qualitative stage of data collection.

Qualitative Data Collection

Qualitative data were collected in the second phase through semi-structured interviews conducted with participants selected from the initial quantitative survey using purposeful sampling to select five participants with criteria established based upon significant findings from the quantitative analysis. Interviews were held in person at the location and timing according to the preference of the interviewee. Remote interviews using Zoom were offered as an alternative option or depending upon necessity related to COVID-19. Interview questions from the Interview Guide (Appendix F) sought to identity the factors that teachers attributed to influencing their quality of mental health and PTG experiences in response to COVID-19.

Additional questions were included to explore any significant findings in the quantitative phase, specifically in terms of a deeper exploration into how the five factors of PTG relate to mental health levels. Interviews were audio recorded, transcribed, and shared with the participants utilizing a synthesized member checking approach (Birt et al., 2016) to verify that the data collected was accurate and no additional comments or changes should be made.

Data Analysis Procedures

In this mixed methods research study, data analysis occurred at two separate phases, and iteration was used as a reflexive process when making meaning of the quantitative and qualitative data. Data analysis can be considered a "hunt for concepts and themes that, when taken together, will provide the best explanation of "what's going on" in an inquiry" (Srivastava & Hopwood, 2009, p. 77). This hunt is especially rigorous when analyzing data in a mixed methods research study. Quantitative and qualitative researchers typically follow a specific set of steps for data analysis: preparing the data, exploring the data, analyzing the data, representing the analysis, interpreting the analysis, and validating the data and interpretation of the results (Creswell & Plano Clark, 2018). This process was used in this mixed methods research study, unfolding in both linear and iterative fashion. This section will describe data analysis procedures used in both the quantitative and qualitative stages, as well as a description of how the analysis combined both findings in a mixed methods analysis.

Quantitative Data Analysis

When statistical analysis is used in research, the distribution of the data must be considered when selecting the statistical test that carries the most power for answering the research question. Many statistical techniques assume that the distribution of scores is normal, represented by the greatest frequencies of scores in the middle of a bell-shaped curve, with lesser

frequencies at the ends of the curve. For data that follows the normal distribution, parametric statistic tests are the most powerful options for conducting analysis (Pallant, 2020). Multiple parameters exist to test for a normal distribution of data; yet, researchers have not offered a clear answer to the question of which is the ideal method for examining normality in data and selecting the appropriate technique when data is not normally distributed (Bishara & Hittner, 2015; Bono et al., 2017; Le Cessie et al., 2020; Lumley et al., 2002; Pek et al., 2018). Normality can be assessed by obtaining skewness and kurtosis values, examining the shape of distributions of data in histograms, probability plots, and boxplots, and by running statistical tests of normality (Pallant, 2020). When the assumption of normality is violated, alternatives to parametric tests should be selected. Available alternatives, including creating new categorical variables, trimming data, transforming variables, and selecting non-parametric techniques, should be considered based upon sample size, distribution, the importance of reducing error, and answering the research question (Bishara & Hittner, 2015; Lumley et al., 2002; Pattner, 2020; Pek et al., 2018).

Quantitative data analysis was conducted using four different statistical tools: descriptive statistics, *t*-tests for independent means, ANOVA, and Spearman's correlation coefficient. Descriptive statistics were used to organize and describe the characteristics of the data, and charts and tables were used to demonstrate these statistics (Salkind, 2017). Since the quantitative survey included the DASS and the PTGI, descriptive statistics were used to demonstrate the findings of each of these, including levels of symptoms of depression, anxiety, and stress, and both overall PTG score and individual scores of the five factors of PTGI, including 1) Relating to Others; 2) New Possibilities; 3) Personal Strength; 4) Spiritual Change; and 5) Appreciation of Life.

t-tests for independent means and ANOVA were used to determine if there was a

statistically significant difference between groups including gender, elementary and high school teachers, and years of teaching experience for depression, anxiety, and stress scales as measured by the DASS and if there was a statistically significant difference between overall PTG levels between these groups. A Spearman's correlation coefficient was used to test for an association between mental health and PTG. An association was tested between each mental health variable of depression, anxiety, and stress and overall PTG scores. Additional correlations were used to test for associations between each mental health variable and the separate five factor PTG scores. Data were analyzed using SPSS, and tables were used to present the findings.

Qualitative Data Analysis

Data analysis of qualitative interviews is a complex process, and data analysis methods will be recorded, systemized, and disclosed to ensure trustworthiness, credibility, dependability, and confirmability (Nowell et al., 2017). While phenomenological interview techniques previously described will be utilized to collect qualitative data to better understand the situation, contributing factors, and experiences of teachers, phenomenological data analysis was not strictly applied to interpret the data. Thematic analysis was utilized to identify, organize, analyze, and report the themes found within the interview transcript data (Nowell et al., 2017). The interview responses were audio recorded, transcribed, analyzed, and coded to identify themes, consider implications, and make connections to the quantitative results.

After a preliminary data analysis, member checking procedures was used to increase trustworthiness and validity. Member checking is a process that can be utilized to further explore the viewpoints of participants and is often conducted in qualitative research using a variety of procedures (Birt et al., 2016; Carlson, 2010). This research study made use of the member checking process implementing a synthesized member checking approach (Birt et al., 2016). By

conducting a member check of synthesized analyzed data, participants were provided the opportunity to review the synthesized data and explore whether the viewpoints of others resonate with them, or if there was more data to add when provided the opportunity for further reflection. To protect the participants while still offering them the opportunity for validation and correction, interview transcripts were provided, along with a brief preliminary synthesized summary of findings and a description of emerging themes.

The transcripts and summary were emailed to the participants, along with further questions, and participants were given the opportunity to provide further feedback in the form of written responses. Additional responses were incorporated into the data and matched with the existing codes, using an iterative process to refine the synthesized data into a final interpretation. Synthesized member checking (Birt et al., 2016; Harvey, 2015) is a way to engage the interviewees in participatory research that better captures their experiences and interpretations. Qualitative data gave voice to the teachers who have experienced the trauma of teaching through COVID-19, leading to a deeper and more nuanced understanding of the factors teachers attributed to influencing their quality of mental health and PTG in their response to COVID-19.

Ethical Considerations

Participation in this research study was strictly voluntary; participants had the right to withdraw from this study at any time. If participants withdrew consent after research had been initiated, all data provided by that participant was to be no longer used in the research study. Every effort was made to ensure that individuals were well-informed regarding the research study. Participants were allowed sufficient time and given sufficient information prior to making a decision on participation without coercion. Information about the study was shared by way of a Consent Letter (Appendix A) at the beginning of the Qualtrics survey, with full consent being

obtained prior to the start of research. Since this is a mixed methods study, consent was obtained prior to the quantitative phase, and participants will indicate their consent to participate in the qualitative phase. In addition to initial informed consent, additional verbal consent was requested prior to the recording of interviews. Efforts were made to treat those who participated in interviews fairly and without bias.

The purpose of the interview was to facilitate the expression of the views of the participants. Care and sensitivity were required when questioning the individuals due to the difficult or distressing nature of the potential experiences of the participants. To exercise such care, similar primary questions (Appendix F) were used as the basis for the interview, with opportunity for the participants to answer expanded lines of questioning on a case-by-case basis in order to capture the experience of the participants. The privacy of participants was of primary importance and confidentiality was used in all data collection procedures to ensure the identity of the participants and their responses remained secure. Participants had the right to see their own personal information held on file including data from questionnaires and interview transcripts. Quantitative data in the form of a survey questionnaire were collected and organized within secure electronic files. Audio recordings and interview transcripts are the property of the researcher and retained no longer than five years in a secure electronic file. The primary duty of the researcher is to obtain scientifically valid results while protecting the integrity of the research. To minimize potential conflict of interest, eliminate bias, and to protect the primary duty of the researcher, full disclosure of research methods and procedures occurred, and a close review process was utilized for full transparency (Romain, 2015).

Limitations

Sequential exploratory mixed methods are highly suitable to explore the phenomenon of

PTG and teachers' mental health. The combination of both quantitative and qualitative methods will provide a broader and more complete picture of the impact of COVID-19 and the responses of teachers; however, this type of methodology is not without limitations. Mixed methods may be able to provide a broader and more complete picture, but not without the significant expense of additional time to explore the phenomenon using both methods. Purposive sampling methods utilized in the quantitative phase were designed to focus on a group of participants with similar experiences with COVID-19.

While the intention of sampling methods was to limit variability, this leads to an inability to generalize the research findings to other populations. Such a limitation is unavoidable to select a sample that meets the criteria for a primary data source that achieves the objective of studying a group of participants who have experienced similar environmental factors related to the trauma of COVID-19. It also achieves the aim of the research objective to understand the experiences of teachers in specific. Furthermore, it is also an unavoidable circumstance that this study does not account for the differences in experiences of trauma related to COVID-19: for some teachers, illness, the death of a loved one, unemployment, or other family circumstances may lead to a variation in how the trauma was experienced. Such a variance is part of the nature in trauma, and little can be done to account for such variances. Past research explores a variety of traumas, often incorporating them into one sample population. The response to trauma is expressed in multiple ways and is a complex phenomenon (Shakespeare-Finch et al., 2013, p. 587). Understanding the nature of trauma highlights the variances as an unavoidable set of circumstances when researching outcomes in response to trauma. Since this is an issue with the quantitative data, the qualitative data served to identify the circumstances related to the variances.

Since the focus of the study was to explore the positive and negative potential outcomes

in response to COVID-19, the use of instrumentation was highly considered. The Depression Anxiety Stress Scale (DASS) is an instrument that is highly reliable and suitable to assess symptoms of mental health problems and has been validated in several research studies (Lovibond & Lovibond, 1995). While it is suitable for this purpose, it is limited to the assessment of symptoms, and does not serve as a diagnostic tool for mental health conditions. It should not be used for a formal diagnosis of conditions related to depression, anxiety, and stress. Furthermore, it is unable to account for the honesty of participants, since it is designed as a self-report instrument. These limitations are acknowledged, and the purpose of this study was only to better understand the symptoms that teachers may suffer as an outcome in response to COVID-19. It was not designed to quantify amounts of mental health conditions among said teachers, and it relies on the assumption that teachers accurately reported their symptoms as experienced.

Summary

The goal of this chapter was to outline the research methods used to answer the research questions related to a study on teachers' mental health and PTG in response to the COVID-19 pandemic. A discussion of the research questions, procedures, study participants, and data collection outlined the specific details of how the study will be conducted and who will participate in this study. A sequential mixed methods study explored the status of teachers' mental health and PTG in response to the pandemic. This research design is well-grounded in theory, epistemology, previous research, and existing knowledge of PTG as demonstrated in Chapter 2. The information revealed in the quantitative stage of research, using a survey including the DASS and PTGI, was used to select participants for a deeper exploration of the context of the teachers' mental health and growth outcomes using interviews. This study sought to establish what factors teachers contributed to changes to their own growth (PTG) or mental

health, and how those changes have impacted the ability to teach. It investigated the individual and situational factors affecting responses to trauma among teachers including PTG and mental health outcomes. Since the research on PTG currently lacks a focus on teachers, this research study may contribute to the field of knowledge of the complex phenomenon of PTG and teacher experiences. Chapter IV will present the findings from this research study and an analysis of data, with Chapter V providing a synthesis and discussion of the findings, the implications, and conclusions of the research study.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this study was to explore the experiences of teachers in response to the trauma of the COVID-19 pandemic. This study sought to understand the factors that teachers attributed to influencing their quality of mental health and posttraumatic growth (PTG) in response to the pandemic to develop a better understanding of the varying responses to trauma, specifically those of teachers situated in the world of the pandemic. This mixed methods study combined quantitative and qualitative methods to give a representation of a picture of potential trauma responses and outcomes among teachers. The quantitative strand of research first established context for the study by measuring the status of self-reported mental health outcomes of depression, anxiety, and stress, and PTG outcomes among teachers in an online survey. In the second qualitative phase of the research, interviews were conducted with a subset of participants to further explore the mental health and posttraumatic growth experiences of the teachers, including the factors that the teachers associated with both mental health and growth outcomes.

The data analysis for this study consisted of the following steps in the quantitative phase: 1) measuring mental health and growth outcomes using the Depression Anxiety Stress Scales and the Posttraumatic Growth Inventory, 2) generating descriptive statistics for the group sample, 3) analyzing the differences between groups of teachers in negative emotional states measured by the DASS and levels of PTG using *t*-tests and ANOVA, and 4) analyzing the associations between mental health variables and PTG using Spearman's correlation. After conducting the analysis of quantitative data, interview participants were selected from the participants who volunteered to be interviewed. Attempts to select participants based upon the

quantitative analysis were restricted by the pool of participants willing to be interviewed. Participants were selected who demonstrated higher growth scores on the PTG, or who reported notable scores on the DASS. After conducting in-person interviews, the recordings were transcribed using a template with a numbering line system, then transferred to an Excel spreadsheet. An initial coding was completed with a preliminary list of themes. A summary of this preliminary analysis and a copy of the transcription was shared with each interviewee, who was asked to reflect upon the information, make any desired comments or additions, and answer a follow up question related to the summary. Member checking data were compared with the initial coded data for revisions, and a final analysis was conducted to merge the quantitative data findings with the interview data. This chapter explains the data analysis procedures in detail used to answer the research questions and presents the results of this study.

Results

The survey was sent to potential participants through school emails that were collected from school directories and websites after contacting principals for site permission. The invitation to participate in the research study was sent to 145 different teachers from six different site schools that included a link to the Qualtrics survey. The survey consisted of three demographic questions, followed by two sections consisting of 42 questions from the DASS and 21 questions from the PTGI. The survey was open from January 26, 2022, through February 10, 2022. The survey did not allow unanswered questions for completion and there were participants who did not complete both sections of the survey. Of the 66 total responses initiated, there were 55 fully completed responses to the DASS and PTGI questions, with an additional 4 partially completed responses to the DASS only. It was determined that those responses would be included in the data, since all questions in that section were completed, offering valuable

information for consideration. On the survey, participants were asked if they were willing to be interviewed, and 17 participants consented to participate in the interview. In April of 2022, 11 participants were contacted, and five consented to be interviewed. The interviews were conducted over a month-long period from May 3, 2022, to May 31, 2022, and were held in person at the most convenient location for the teacher.

Participants

The participant demographics are represented in Table 3. Respondents consisted of 52.5% male and 47.5% female teachers, with 47.5% elementary teachers and 52.5% high school teachers. Approximately 49% of the respondents are considered mid-career teachers, with 20% early career teachers and 31% late career teachers based upon years of teaching experience.

Table 3

Participants' Demographics

	n	%
Gender		
Male	31	52.5
Female	28	47.5
Teaching Level		
Elementary	28	47.5
High School	31	52.5
Years Experience		
Up to 9 years	12	20.3
10-14 years	15	25.4
15-19 years	14	23.7
20 or more years	18	30.5

Assessments and Reliability

The Cronbach's α coefficient is used to measure the reliability of scales used to calculate the scores. In this study, Cronbach's α was calculated for both instruments and subscales demonstrate excellent internal consistency, indicating that the scores are reliable. The Depression Anxiety Stress Scale (DASS) was used to measure the negative mental health symptoms of

depression, anxiety, and stress (Lovibond & Lovibond, 1995). Cronbach's α for this study was calculated for the DASS, containing 42 items (α = .97), with the depression subscale of 14 items (α = .95), the anxiety subscale of 14 items (α = .85), and the stress subscale of 14 items (α = .94).

The Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996) was used in part two of the survey to measure the positive growth outcomes that can occur in response to the experience of trauma. Cronbach's Alpha was calculated for the PTGI, containing 21 items (α = .94). Table 4 shows Cronbach's *α* for both surveys and the scores for assessing mental health and posttraumatic growth outcomes. The highest score possible on the DASS total is 126, and 42 for each of the sub scores of depression, anxiety, and stress. The highest possible score for the total PTGI is 105. The Five Factor scores each have a different total high score: Factor I (35), Factor II (25), Factor III(20), Factor IV (10), and Factor V (15).

Table 4

Survey Scores and Cronbach's α

	n	Range	Min.	Max.	Mean	Std. Dev.	α
DASS Total	59	74	0	74	21.56	18.84	.97
Depression	59	29	0	29	6.78	7.30	.95
Anxiety	59	21	0	21	4.31	4.89	.85
Stress	59	27	0	27	10.47	7.77	.94
PTGI Total	55	70	1	71	31.29	18.81	.94
Factor I: Relating to Others	55	25	0	25	9.76	6.72	.87
Factor II: New Possibilities	55	18	0	18	6.09	4.51	.75
Factor III: Personal Strength	55	15	0	15	5.95	4.42	.84
Factor IV: Spiritual Growth	55	10	0	10	4.07	2.90	.86
Factor V: Appreciation of Life	55	13	0	13	5.42	3.41	.78

Score Interpretations

DASS

Lovibond and Lovibond (1995) stated that scores on the DASS scales can be interpreted relative to the means and standard deviations for normative population sample used for the creation of the instrument, which consisted of 1044 males and 1870 females with an age range of

17-79. Criteria from the normative sample was used to establish a continuum of severity labels of normal, mild, moderate, severe, and extremely severe. The severity labels are used to describe the range of scores in the population, is dimensional rather than categorical, and has no implication for clinical diagnosis (Lovibond & Lovibond, 1996). To be strictly comparable to the established DASS normative data, participants were asked to consider the presence of symptoms according to the time period of the two weeks prior to filling out the survey. Sub scores were calculated for depression, anxiety, and stress for each participant and assigned to the severity of symptom levels as shown in Table 5. Most respondents scored within the normal range for depression, anxiety, and stress: 20-27% of participants reported at least mild symptoms of negative emotional states of depression, anxiety, and stress. Participants reported greater amounts of mild to moderate stress and depression, followed by anxiety: 10% reported severe and extremely severe levels of depression, while nearly 9% reported extreme levels of stress, followed by 7% reporting severe and extremely levels of anxiety.

Table 5

Depression, Anxiety, and Stress by Severity Labels

	Frequency (n = 59)	*%*
Depression		
Normal	44	74.6
Mild	6	10.2
Moderate	3	5.1
Severe	5	8.5
Extremely Severe	1	1.7
Anxiety		
Normal	47	79.7
Mild	4	6.8
Moderate	4	6.8
Severe	3	5.1
Extremely Severe	1	1.7

Stress		
Normal	43	72.9
Mild	7	11.9
Moderate	4	6.8
Severe	5	8.5
Extremely Severe	0	0

PTGI

The PTGI (Tedeschi & Calhoun, 1996) does not indicate scores by symptom level or ranges. It consists of a 21-item scale built on a five-factor model of growth. The scores indicate the level of post-traumatic growth. It considers overall growth with a total score but categorizes the scores according to the five factors to evaluate which areas of growth show the most or least change. It is useful in measuring positive outcomes after a stressful experience. A six-point scale is used to score the PTGI, with 0 indicating no change experienced, 1 indicating a very small degree of change, 2 a small degree of change, 3 a moderate degree of change, 4 a great degree of change, and 5 a very great degree of change. Table 6 shows the mean score when converting the total scores to the six-point scale. The mean score for the total PTGI reflects very small to small amounts of growth. Factor IV: Spiritual Change, has the highest mean score, followed by Factor V: Appreciation for Life. Participants reported the least amount of growth in Factor II: New Possibilities. Since the PTGI uses a six-point scale and adds totals to determine growth levels,

these numbers should be interpreted with caution since average scores do not reflect the true nature of the growth calculated.

Table 6

PTGI Scores Converted to Growth Ranges

	n	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
PTGI Total	55	.05	3.38	1.49	.90
Factor I: Relating to Others	55	.00	3.57	1.39	.96
Factor II: New Possibilities	55	.00	3.60	1.22	.90
Factor III: Personal Strength	55	.00	3.75	1.49	1.10
Factor IV: Spiritual Change	55	.00	5.00	2.04	1.45
Factor V: Appreciation of Life	55	.00	4.33	1.81	1.14
Valid N (listwise)	55				

Analysis of Quantitative Research

Three statistical tests, an independent samples *t*-test, ANOVA, and Spearman's correlation coefficient, were conducted to answer the quantitative research questions.

Statistical Tests and Assumptions

In educational and psychological research, non-normal data is common, with skewness and kurtosis deviating from the normal distribution (Bono et al., 2017). Commonly used variables in psychological and social research frequently present with skewed distributions (Bono et al., 2017). Depression rating scales rarely show a normal distribution within a general population and are often skewed right (Tomitaka, 2020). In the U.S., psychological distress, including symptoms of anxiety and depression, is stable with a non-normal distribution showing an exponential pattern over a decade from 1997-2017 (Tomitaka et al., 2019). The data from this study aligns with previous non-normal patterns of distribution within the DASS. Data from the DASS related sub scores demonstrated a positive skew on histograms and Shapiro Wilk Test of Normality demonstrating significance for depression ($p = <.001$), anxiety ($p = <.001$), stress ($p =$

<.001), and the DASS Total (p = <.001). Table 7 indicates the PTGI demonstrated normality of data on a histogram and a Shapiro-Wilk Test of Normality (p = .094).

Table 7

Tests of Normality

	Kolmogorov-Smirnov[a]			*Shapiro-Wilk*		
	Statistic	*df*	*Sig.*	*Statistic*	*df*	*Sig.*
Depression	.207	59	<.001	.830	59	<.001
Anxiety	.220	59	<.001	.814	59	<.001
Stress	.135	59	.010	.916	59	<.001
DASS Total	.156	59	.001	.873	59	<.001
PTGI Total	.091	55	.200*	.964	55	.094

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Homogeneity of Variance

Parametric tests assume that variability of the scores obtained from the sample population is similar. Levene's Test for Equality of Variance (Table 8) show non-significant results for the PTGI, the DASS Total, anxiety, and stress, meaning that the distribution of scores have equal variances. Significant results are shown for depression (p = .032), meaning that equal variances are not assumed. Analysis of variance is robust to violations of this assumption when sizes of groups are reasonably similar (Pallant, 2020), which applies to this sample. The alternative t value was utilized for depression since equal variances are not assumed for this subscore.

Table 8

Tests of Homogeneity of Variances

		Levene Statistic	*df1*	*df2*	*Sig.*
PTGI Total	Based on Mean	.593	3	51	.623
DASS Total	Based on Mean	1.973	3	55	.129
Depression Score	Based on Mean	3.141	3	55	.032
Anxiety Score	Based on Mean	1.993	3	55	.126
Stress Score	Based on Mean	1.213	3	55	.314

t-test for Independent Means

A *t*-test for independent means is used to determine if there is a significant difference between two groups in the mean scores of one or more variables (Salkind, 2017). The considerations to examine the differences are dependent upon the assumption that the groups are not related in any way and that each participant was tested only once. Having satisfied these assumptions, a t-test for independent means was used to explore the presence of any differences in DASS and PTGI scores between groups based upon gender and teaching level.

One-Way Analysis of Variance

A one-way analysis of variance (ANOVA) is used to determine whether there are significant differences in the mean scores between groups. While a t-test for independent means is used for two different groups, an analysis of variance can be used to test for differences between more than two groups. ANOVA analysis involves an independent variable, or factor, with multiple levels, and a continuous variable as a dependent variable. The variance between groups is divided by the variance within groups to calculate an *F* ratio. A large *F* ratio indicates that the variability between the groups is larger than the variability within each group. A significant *F* ratio indicates that the null hypothesis should be rejected and that the means of the groups are different. In such cases, post-hoc tests should be conducted to determine which groups differ to minimize Type 1 errors from occurring (Pallant, 2020). The one-way analysis of variance is robust to violations of normality (Mertler & Vannatta, 2017) and is therefore an appropriate test when considering the non-normality of the DASS data. A one-way between groups analysis of variance (ANOVA) was used to explore the effect of years of teaching experience upon the total DASS and mental health sub scores of depression, anxiety, and stress, and the PTGI.

Research Question 1

How does the quality of mental health differ among groups of teachers based upon gender, teaching level, and years of teaching experience? Research Question 1 attempted to determine if there was a statistically significant difference in the mental health symptoms of participant by gender, teaching level, and years of teaching experience.

Analysis By Gender

An independent samples *t*-test was performed to compare overall DASS scores for males and females. Female participants (M = 28.61, SD = 19.13) reported significantly higher overall DASS scores than male participants (M = 15.19, SD = 16.40); $t(57) = -2.90$, $p = .005$; $d = .76$. A similar pattern was observed when females and males were compared on the separate subscales of depression, anxiety, and stress. Female participants (M = 9.11, SD =7.22) reported significantly higher overall depression scores than male participants (M = 4.68, SD = 6.81); $t(57) = -2.42$, $p = .019$; $d = .63$. Female participants (M = 5.61, SD = 5.17) reported higher overall anxiety scores than male participants at a level approaching significance (M = 3.13, SD = 4.38); $t(57) = -1.99$, $p = .051$; $d = .52$. Female participants (M= 13.89, SD = 7.86) reported significantly higher overall stress scores than male participants (M = 7.39, SD = 6.34); $t(57) = -3.51$, $p < .001$; $d = .92$. The magnitude of difference in the means was quite large when considering the effect sizes for the DASS ($d = .76$), depression ($d = .63$), anxiety ($d = .52$), and stress ($d = .92$) exceeded Cohen's (1988) convention for a moderate ($d = .50$) to large effect ($d = .80$). These results indicate that females experienced significantly greater levels of depression, anxiety, and stress than did males, as shown in Table 9.

Table 9

DASS: Mean Differences in Gender

	Male M	Female M	*t*	*d*	*p*
DASS Total	15.19	28.61	-2.90	.76	.005
Depression	4.68	9.11	-2.42	.63	.019
Anxiety	3.13	5.61	-1.99	.52	.051
Stress	7.39	13.89	-3.51	.92	<.001

Analysis By Teaching Level

An independent samples *t*-test was performed to compare overall DASS scores for elementary and high school teachers. There was no significant difference reported in DASS total scores for elementary and high school teachers [t(57) = 1.34, p= .185, d = .35]. Likewise, elementary and high school teachers did not differ in their reports on the separate subscale scores of depression [t(57) = .898, p = .366, d = .23], anxiety, [t(57) = .929, p = .357, d = .24] and stress [t(57) = 1.84, p = .071, d = .48]. There was no significant difference in all scores between elementary and high school teachers, although the magnitude of difference in scores reported were modest, as shown in Table 10.

Table 10

DASS: Mean Differences in Teaching Level

	Elementary M	High School M	t	*d*	*p*
DASS Total	25.00	18.45	1.34	.35	.185
Depression	7.68	5.97	.90	.23	.366
Anxiety	4.93	3.74	.93	.24	.357
Stress	12.39	8.74	1.84	.48	.071

Analysis By Years of Teaching Experience

A one-way between groups analysis of variance (ANOVA) was used to explore the effect of years of teaching experience upon the total DASS and mental health sub scores of depression, anxiety, and stress. Participants were divided into four groups according to their years of teaching experience (Group 1: up to 9 years; Group 2: 10 to 14 years; Group 3: 15 to 19 years; Group 4: 20 or more years). There was no statistically significant difference in mean overall DASS scores between groups ($F(3, 55) = 1.85$, $p = .148$, $\eta^2 = .09$). Likewise, there were no statistically significant differences for depression ($F(3, 55) = 2.07$, $p = .115$, $\eta^2 = .10$), anxiety, ($F(3, 55) = 1.60$, $p = .201$, $\eta^2 = .08$) and stress ($F(3,55) = 1.35$, $p = .268$, $\eta^2 = .08$) scores between groups. Although not statistically significant, the magnitude of difference was moderate when considering the effect sizes for the DASS ($\eta^2 = .09$), depression ($\eta^2 = .10$), anxiety ($\eta^2 = .08$), and stress ($\eta^2 = .08$) exceeded Cohen's (1988) convention for moderate effect ($\eta^2 = .06$). Table 11 depicts the means, standard deviations, and ANOVA results.

Table 11

Means, Standard Deviations, and One-Way Analyses of Variance in Mental Health

	Up to 9 Yrs		10-14 Yrs		15-19 Yrs		20 or More				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F(3,55)*	η^2	*p*
DASS Total	16.33	18.65	26.00	21.34	28.57	22.01	15.89	11.39	1.85	.09	.148
Depression	5.08	6.27	8.27	7.25	9.86	9.52	4.28	5.03	2.07	.10	.115
Anxiety	2.83	5.34	5.47	6.06	5.93	5.00	3.06	2.71	1.60	.08	.201
Stress	8.42	7.34	12.27	9.04	12.79	8.56	8.56	5.79	1.35	.07	.268

Research Question 2

How do PTG outcomes differ among groups of teachers based upon gender, teaching level, and years of teaching experience? Research Question 2 attempted to determine if there was a statistically significant difference in PTGI scores of participants by gender, teaching level, and years of teaching experience.

Analysis By Gender

An independent samples t-test was performed to compare total PTGI scores for males and females. There was no significant difference in total PTGI scores between male and female ($t(53) = -1.46$, $p = .151$, $d = .393$). Furthermore, males and females did not differ in their reports on Factor I: Relating to Others ($t(53) = -1.30$, $p = .199$, $d = .351$) Factor II: New Possibilities ($t(53) = -.87$, $p = .386$, $d = .236$), Factor III: Personal Strength [$t(53) = -1.38$, $p = .173$, $d = .373$], Factor IV: Spiritual Change ($t(53) = -1.23$, $p = .225$, $d = .331$), and Factor V: Appreciation of Life ($t(53) = -1.45$, $p = .153$, $d = .391$). Although females reported higher scores on all factors of the PTGI at an insignificant level, the magnitude of the differences was modest considering Cohen's (1988) convention for small ($d = .20$) to moderate effects ($d = .5$). No significant differences in scores were reported between male and female, as shown in Table 12.

Table 12

PTGI: Mean Differences in Gender

	Male M	Female M	*t*	*d*	*p*
PTGI Total	27.83	35.15	-1.46	.393	.151
Factor I: Relating to Others	8.66	11.00	-1.30	.351	.199
Factor II: New Possibilities	5.59	6.65	-.87	.236	.386
Factor III: Personal Strength	5.17	6.81	-1.38	.373	.173
Factor IV: Spiritual Change	3.62	4.58	-1.23	.331	.225
Factor V: Appreciation of Life	4.79	6.12	-1.45	.391	.153

Analysis By Teaching Level

An independent samples *t*-test was performed to compare total PTGI scores for elementary and high school teachers. No significant difference was identified in total PTGI scores between elementary and high school teachers ($t(53) = -.81$, $p = .422$, $d = .219$). Likewise, elementary and high school teachers did not differ in their reports on Factor I: Relating to Others ($t(53) = -.92$, $p = .363$, $d = .248$), Factor II: New Possibilities ($t(53) = -.14$, $p = .889$, $d = .038$), Factor III: Personal Strength ($t(53) = -.16$, $p = .876$, $d = .042$), Factor IV: Spiritual Change ($t(53) = -1.60$, $p = .116$, $d = .431$) and Factor V: Appreciation of Life ($t(53) = -.94$, $p = .352$, $d = .250$). Although high school teachers reported higher scores on all factors of the PTGI, the magnitude of differences was small considering Cohen's (1988) convention for small ($d = .2$) to moderate ($d = .5$) effects. No significant differences between elementary and high school teachers were identified, as shown in Table 13.

Table 13

PTGI: Mean Differences by Teaching Level

	Elementary M	High School M	*t*	*d*	*p*
PTGI Total	29.12	33.24	-.81	.219	.422
Factor I: Relating to Others	8.88	10.55	-.92	.248	.363
Factor II: New Possibilities	6.00	6.17	-.14	.038	.889
Factor III: Personal Strength	5.85	6.03	-.16	.042	.876
Factor IV: Spiritual Change	3.42	4.66	-1.60	.431	.116
Factor V: Appreciation of Life	4.96	5.83	-.94	.250	.352

Analysis By Years of Teaching Experience

A one-way between-groups analysis of variance was used to explore the effect of years of teaching experience on the total PTGI score and separate Five Factor Scores.

No statistically significant differences were identified in mean PTGI scores between groups ($F(3,51) = .90$, $p = .450$, $\eta^2 = .05$). Furthermore, there were no significant differences in scores reported for Factor I: Relating to Others ($F(3, 51) = .50$, $p = .682$, $\eta^2 = .03$), Factor II: New Possibilities ($F(3, 51) = 1.35$, $p = .268$, $\eta^2 = .07$), Factor III: Personal Strength ($F(3, 51)= .59$, $p = .626$, $\eta^2 = .03$), Factor IV: Spiritual Change ($F(3, 51) = .93$, $p = .433$, $\eta^2 = .05$), and Factor V: Appreciation of Life ($F(3, 51)= .96$, $p = .419$, $\eta^2 = .05$). Although not statistically significant, the magnitude of difference was small to moderate when considering the effect sizes for the PTGI ($\eta^2 = .05$), Factor I ($\eta^2 = .03$), Factor II ($\eta^2 = .07$), Factor III ($\eta^2 = .03$), Factor IV ($\eta^2= .05$), and Factor V ($\eta^2= .05$) exceeded Cohen's (1988) convention for small ($\eta^2= .01$) to moderate effect ($\eta^2= .06$). Table 14 depicts the means, standard deviations, and ANOVA results.

Table 14

Means, Standard Deviations, and One-Way Analysis of Variance in Posttraumatic Growth

	Up to 9 Yrs		10-14 Yrs		15-19 Yrs		20 or More				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F(3,51)*	η^2	*p*
PTGI	35.27	20.48	36.00	16.35	29.38	18.17	26.29	20.20	.90	.05	.450
Factor I: Relating to Others	11.18	7.82	10.29	7.82	10.08	7.54	8.18	6.65	.50	.03	.682
Factor II: New Possibilities	6.82	4.36	7.71	4.46	5.62	4.21	4.65	4.73	1.35	.07	.268
Factor III: Personal Strength	6.36	4.46	7.07	4.03	5.54	4.65	5.06	4.68	.59	.03	.626
Factor IV: Spiritual Change	5.18	3.09	4.36	2.53	3.62	2.82	3.47	3.13	.93	.05	.433
Factor V: Appreciation of Life	5.73	3.20	6.57	3.46	4.54	2.82	4.94	3.98	.96	.05	.419

Research Question 3

To what degree is teachers' mental health related to PTG? Research Question 3 attempted to determine if mental health was related to posttraumatic growth.

Spearman's Correlations

With nonnormal data, traditional parametric correlation techniques such as Pearson product moment correlation may distort the relationships within the data, leading to Type I and Type II error (Bishara & Hittner, 2015). Nonnormality within educational and psychological data were examined by Bishara and Hittner (2015) to explore alternatives to the typical parametric Pearson correlation, including data transformation, bootstrap estimates, bias adjustments, and Spearman rank order correlation. Spearman's statistic is an effective solution for examining correlations within non-normal data (Bishara & Hittner, 2015). Spearman's correlation does not examine a linear relationship, but instead tests for the presence of a monotonic relationship between two variables. Spearman's correlation can identify both the direction and the strength of the relationship and is useful when the data does not meet the assumption for normality that is required by Pearson's *r* correlation (Pallant, 2020). Spearman's correlation has been used to examine relationships involving variables on the DASS (Ali et al., 2021; Chang et al., 2021; Ratanasiripong et al., 2022) and the PTGI (Cui et al., 2021; Nishi et al., 2016; Thege et al., 2014). Therefore, Spearman's correlation has been selected as the appropriate test for the sample of this research study due to the non-normal distribution of the DASS.

DASS and PTG

A Spearman's rank correlation was computed to assess the relationship between the total scores on the DASS and the PTGI. There was a significant and moderate positive monotonic correlation between the two variables $r = .34$, $n = 55$, $p = .011$. The strength of this association

suggests a medium correlation (Cohen, 1988), indicating that as levels of negative emotional states increase, PTG levels also increase to a moderate degree. Negative emotional states measured by the DASS help to explain nearly 12% of the variance in scores on the PTGI.

Depression and PTG

A Spearman's rank correlation was computed to assess the relationship between Depression and PTG. There was a significant and weak positive monotonic correlation between the two variables $r = .28$, $n = 55$, $p = .035$. The strength of this association suggests a small positive correlation (Cohen, 1988), indicating that as depression levels increase, PTG levels also increase to a small degree. Depression explains nearly 8% of the variance in scores on the PTGI.

Depression and PTG Five Factor Variables. A Spearman's rank correlation was computed to assess the relationship between Depression and each variable of Factor I: Relating to Others, Factor II: New Possibilities, Factor III: Personal Strength, Factor IV: Spiritual Change, and Factor V: Appreciation of Life. There was a significant and weak positive monotonic correlation between Depression and Factor I: Relating to Others, $r = .27$, $n = 55$, $p = .045$. The strength of this association suggests a small correlation (Cohen, 1988), indicating that as levels of depression increase, growth in the area of Factor I: Relating to Others increases to a small degree. Depression helps to explain nearly 7% of the variance in scores in Factor I.

Likewise, there was also a significant and weak positive monotonic correlation between Depression and Factor V: Appreciation of Life, $r = .28$, $n = 55$, $p = .040$. The strength of this association suggests a small correlation (Cohen, 1988), indicating that as levels of depression increase, growth in the area of Factor V: Appreciation of Life also increases to a small degree. Depression helps to explain nearly 8% of the variance in scores in Factor V. Factors II, III, and IV were examined and the findings were non-significant.

Anxiety and PTG

A Spearman's rank correlation was computed to assess the relationship between Anxiety and PTG. There was no significant relationship between the two, $r = .25$, $n = 55$, $p = .066$. The strength of this association suggests a small correlation (Cohen, 1988), but not at a significant level. Anxiety helps to explain only 6% of the variance in scores on the PTGI.

Anxiety and PTG Five Factor Variables. A Spearman's rank correlation was computed to assess the relationship between Anxiety and each of variable of Factor I: Relating to Others, Factor II: New Possibilities, Factor III: Personal Strength, Factor IV: Spiritual Change, and Factor V: Appreciation of Life. There was a significant and moderately positive monotonic correlation between Anxiety and Factor V: Appreciation of Life, $r = .30$, $n = 55$, $p = .026$. The strength of this association suggests a medium correlation (Cohen, 1988), indicating that as levels of anxiety increase, growth in Factor V: Appreciation of Life increases to a moderate degree. Anxiety explains 9% of the variance in scores in Factor V.

Stress and PTGI

A Spearman's rank correlation was computed to assess the relationship between Stress and PTG. There was a significant and moderate positive relationship between the two variables, $r = .34$, $n = 55$, $p = .010$. The strength of this association suggests a medium correlation (Cohen, 1988), indicating that as levels of stress increase, PTG levels also increase to a moderate degree. Stress helps to explain nearly 12% of the variance in scores on the PTGI.

Stress and PTG Five Factor Variables. A Spearman's rank correlation was computed to assess the relationship between Stress and each variable of Factor I: Relating to Others, Factor II: New Possibilities, Factor III: Personal Strength, Factor IV: Spiritual Change, and Factor V: Appreciation of Life. There was a significant and moderate positive monotonic correlation

between Stress and Factor I: Relating to Others, $r = .35$, $n = 55$, $p = .008$, and a significant and moderate positive monotonic correlation between Stress and Factor III: Personal Strength, $r = .32$, $n = 55$, $p = .017$. The strength of this association suggests a medium correlation (Cohen, 1988), indicating that as levels of stress increase, growth in the areas of Factor I and Factor V increases to a moderate degree. Stress helps to explain approximately 12% and 10% of the variance in these factors, respectively.

In addition, there was a significant and weak positive monotonic correlation between Stress and Factor V: Appreciation of Life, $r = .29$, $n = 55$, $p = .030$. The strength of this association suggests a small correlation (Cohen, 1988), indicating that as levels of stress increase, growth in the area of Factor V increases to a small degree. Stress helps to explain approximately 8% of the variance in scores in Factor V. Table 15 demonstrates the results of the correlations used to answer Research Question 3 discussed in the previous sections.

Table 15

Correlations for DASS and PTGI Variables

Variable	DASS Total	Depression	Anxiety	Stress
PTGI Total	.34*	.28*	.25	.34**
Factor I: Relating to Others	.33*	.27*	.20	.35**
Factor II: New Possibilities	.16	.11	.13	.18
Factor III: Personal Strength	.32*	.25	.24	.32*
Factor IV: Spiritual Change	.16	.18	.07	.18
Factor V: Appreciation of Life	.32*	.28*	.30*	.29*

Note. * < .05, ** < .01

Analysis of the Qualitative Research

Research Question 4 asked: *What factors do teachers attribute to influencing their quality of mental health and PTG in their response to COVID-19?* This research question was used to interview five participants with semi-structured interview questions pertaining to mental health and growth experiences. Characteristics of the participants are depicted in Table 16.

Table 16

Characteristics of Interview Participants

	n
Gender	
Male	1
Female	4
Teaching Level	
Elementary	2
High School	3
Years of Teaching Experience	
Up to 9 years	
10-14 years	2
15-19 years	1
20 or more years	1

The purpose of the qualitative phase of the research study was to explore the factors that teachers attribute to influencing their quality of mental health and posttraumatic growth in response to the COVID-19 pandemic while seeking to better understand the responses of teachers to their experiences teaching during the pandemic of COVID-19, specifically in terms of growth and mental health. According to Creswell and Poth (2018), "Data analysis is not off-the shelf; rather, it is custom-built, revised, and 'choreographed'" (p. 185). Preparing for qualitative data analysis does not always mean that the researcher is able to follow distinct steps in the process of analysis. Analysis procedures used in this study attempted to move from a detailed explanation to broader units used to "generate themes from the analysis of significant statements" (Creswell & Poth, 2018, p. 79). Audio recorded interviews were transcribed, transferred to an Excel document for an organized coding process to sort and structure the unstructured data in the transcripts (Ose, 2016). An initial analysis of the structured transcription was conducted to highlight significant quotes, as depicted in Table 17, that provided an understanding of the experiences of the teachers, a process known as horizontalization (Creswell & Poth, 2018).

Table 17

Example of Significant Quotes by Participants

1	"Because it was an opportunity that like everyone was having to reinvent what they're doing." 45 "Just a lot of isolation." 155 "I feel like it was really, it was draining, but I'd say overall as a teacher, like I feel proud that we were able to keep teaching kids." 23 "I think teachers are people that can be supportive and can hopefully model healthy things for them." 103
2	"I think it stretched me beyond what I thought I would be able to accomplish..." 16 "So I feel like I really expanded my toolbox of resources where had COVID not happened, I'm not sure I would have even went down those technology avenues" 16 "I would feel like what I said didn't matter as much because I wasn't as smart as them or not as qualified." 31
3	"And they're left with a very unsettled feeling, but you know what we are, we are too, we're left with some of that unsettling. And like, I don't think that we're gonna really process all this trauma in all its various aspects for a while." 154 "It was really, really hard for me when we were quarantined. I'm a hugely social person." 20 "you are strong enough to endure all of these unknown things and come out the other side and still be able to connect with your family, your students, your faith, your everything else, your friends. That was for me, super empowering..." 74
4	"When you're in teaching and you don't have that one-on-one interaction, you lose the joy." 37 "Yeah. I mean, they're, nobody was happy. They're comfortably numb." 149 "I think when you go through a hardship, you're kind of all in together." 165
5	"And when you become an island and you're isolated, then when things are hard, you know, you weather the storm alone, whereas maybe you used to collaborate, or you used to talk to people." 20 "We're more than just teachers for them." 49 "Seems to me is that you realize what matters more. Just, you get to spend all this time with your family and, you have all this busyness that you, that you're what to have, but honestly, I enjoyed...I actually enjoyed some of the less chaotic things about school." 75

Key phrases were identified from the transcripts in the first stage of analysis, commonalities were identified in a second stage to determine emerging themes, and the researcher attempted to identify unique essential themes from each interview (Appendix G).

Essential themes from the interview were identified and compared, and the findings were analyzed across all the interviews, compared for textual evidence that indicates the presence of shared essential themes (Appendix H). Data analysis of the interviews revealed six essential themes: *loss and gain*, *personality*, *conflicted concern*, *relationships*, *self-efficacy*, and *role and purpose*. Together they give a picture of the participants' mental health and growth experiences in response to the COVID-19 pandemic.

Mental Health

Teachers during this time experienced many changes that were forced upon them and continually required them to adapt to the shifting sands of new and changing circumstances. These changes led them to examine how they felt about what they lost and what they gained, to evaluate their own personality through comparison to others and consideration of their own abilities and experiences, and to question the future and with both conflicting optimism and concern.

Loss and Gain

Teachers experienced both loss and gain. Loss of control, loss of routine and normalcy, loss of in-person connections, loss of loved ones, and loss of the joy in teaching. Loss of control, routine, and normalcy was described as requiring "pivoting," forcing teachers to "reinvent" what they are doing and having "shifted" to make changes to adapt (P1. 27, 45). Another teacher reported that it "stretched," "forced," and "expanded" them as they lost their normalcy in teaching (P2.16). Another teacher recognized the loss of normalcy required the school to starch from scratch in order to respond from the pandemic, and that they "kind of started from ground zero" (P5. 16). This loss of control and normalcy caused teachers to struggle with stress and anxiety due to the changes experienced within their jobs and personal lives, referring to the stress

as “draining” (P1.23), “awful” (P2.83), leading one participant to “feel like a failure” (P3.73) and another to say, “you just got used to being, feeling like crap” (P4.151). The experience of the unknown due to the changes led to anxiety:

> I think my anxiety led to my stress of not being enough for people. And then that stressed me out...so I think the anxiety was the catalyst for a lot of the other things that kind of fell from, that as well. Because again, for me, a trigger of anxiety is the unknown. (P3.92)

One participant described the feeling as “uncomfortably numb” (P4.149) because, “Everybody was high anxiety going through what was going on...everybody was kind of stressed out...It was just chaos. I don't know if any place was truly great.” (P4.151). Another participant also expressed the stress involved in trying to deal with their own stress while understanding the more serious losses experienced by others:

> And so, there's just been so much that, you know, everyone's good intentions to try to be there and support each other, but there was enough life going on that...in October I lost my two remaining grandparents within about two weeks of each other. And so, my parents have been, you know, right around the time I was learning I was gonna be covering for a teacher and teaching for her. I couldn't tell my parents cuz they had, you know, a funeral to plan and things. And so, it's just been much, you know, a lot of the support that I usually would talk through things or lean on or, or things like that was also overwhelmed and, and wanted to be there for them with very little to give them and you know, tried with what little I had to, to give. (P5.45)

This participant acknowledged that a loss or adversity experienced by others resulted in a loss for themselves in a different way; they lost the support of others that they needed, which in turn led

them to have little to give to others for support. Not only did this impact them personally as they struggled, but also professionally. One participant even expressed how the losses experienced due to the forced changes required by the pandemic impacted their perspective on teaching, “When you're in teaching and you don't have that one-on-one interaction, you lose the joy” (P4.37).

In contrast to the description of the losses the teachers experienced, it seemed that out of the loss experienced there was also gain. Teachers gained pride in weathering all the new demands placed upon them, resulting in a new confidence, saying, “I have much more confidence in my ability” (P3.83) and having “more to bring to the table than I have thought” (P2.31). One teacher even noted the experience as “a wake-up call” (P5.76). This perspective included a sense of gratefulness and appreciation of the support of friends and co-workers, as well as joy in the little things: “it just made me very grateful for like all the love and companionship I do have” (P1.61).

In addition to the personal and professional gains reported, participants noted an increase in opportunities for a spiritual focus as they struggled. Participants seemed to view increased spiritual opportunities not only as a gain in spite of the losses experienced, but also as something that they could rely upon to help them cope and find comfort in the struggles:

> A passage that I would always think about is like God's mercies are new every morning. And that would just be very true. I think like, you know, today was not such a good day. Didn't feel so great, but you know, his mercies are new every morning. (P1.57)

One participant related newfound strength to an increased opportunity for spiritual focus and time for personal devotion:

> I knew I couldn't have personal strength and or growth without being rooted in my faith

> and really, you know, digging into, whether it was a Bible study or personal devotion thing. Cause I knew I wasn't getting stronger because of who I was or anything that I was really like amazing at. I was getting stronger feeling stronger because I was trusting more. (P3.78)

Another participant noted the opportunity for spiritual development by having the time for personal and family Bible study. It also made them feel better because of the "opportunity for focus on God, and this is reliance on everything's gonna be okay" (P4.90). While participants noted an increased opportunity for the development of personal or individual spiritual growth, there was also a sense of loss noted due to the inability to connect with others in person for group worship. It was noted that the loss of opportunities for group worship led to an increase in appreciation for those opportunities as they once again resumed:

> We couldn't corporally worship anymore, and we couldn't do a lot of things that we were used to doing. I grew to appreciate having those opportunities so now that we are able to go back to normal so to speak...I appreciate it more and find benefit in those things more. (P2.24)

In their description of experiences as they responded to COVID-19, teachers focused both on the losses that they and others experienced, and what they had gained from living through or observing those experiences in others.

Personality and Experiences

Teachers recognized that there were a variety of experiences among them as to the extent of impact they felt on their mental health. When considering how they were able to manage stress and changes to the workload, teachers often attributed the ability to a personality difference. One participant described the ability to cope:

> I think I just personality-wise, I don't mind just jumping into something as much, I think for some people that are even more type A, that that's really hard for them...I think I just, my personality could weather that a little bit more than some other personalities. (P1.15)

Another participant attributed the capacity to handle the increased struggle and stress to a personality tendency, “So it was super crazy stressful, and I'm also a catastrophizer” (P3.22), stating that the stress was compounded because of their personality tendency to consider the worst in a situation. A different participant described the result of combining personality with increased efforts to do their best as depleting:

> Too many things mixed with my personality of not being able to put things, and wanting to do the best I can all the time. You know, I always, we did a Bible class and Paul says to run the race, like you have nothing left and, and I humbly try to do that and, and I don't have anything left. (P5.43)

Despite the hardships described, participants tended to minimize their experiences by comparing them to the experiences of others; they knew they struggled, but reminded themselves that others had worse experiences, “I still had like a wonderful warm apartment and lots of loved ones around me and everyone I know was thankfully very healthy throughout the whole thing” (P1.86). This was echoed by another participant as applied to teaching: “I'm good at what I do. I can't imagine what other people are...and that's what I kept on asking myself, “if I'm struggling this much, and I know this stuff, I can't imagine what other people are doing” (P4.137). When comparing themself to those more experienced, another teacher reported, “I would feel like what I said didn’t matter as much because I wasn’t as smart as them or not as qualified” (P2. 31). Another participant described the sense of appreciation that resulted from the comparison of experiences to others who had experienced different types of trauma:

> I've known four people in the last four months that have had miscarriages...But I have two healthy kids, you know? And, and so I think I can see those things. I don't love that it takes such an extreme example for me to sometimes find appreciation in things, but I, I can see those things. (P5.78)

By questioning themselves and their capacity to manage the stress that resulted from their teaching experiences through comparisons, teachers recognized differences in personality and experiences, often leading to an increased appreciation of their own circumstances.

Conflicted Concern

Teachers experienced conflicted concern for the future, questioning whether they, and others, were ready to move forward. Some expressed relief at the pause in busyness of life, "so I think I had so much stress from just the school, the school year, that in some ways COVID almost felt like a little bit of a relief" (P1.15), as well as concern over how teachers will manage getting back to normal, "And now that we're able to do all of these things again, it's like yay all these things are back, but also, yay, who gets to do all of these things?" (P2.76). Lament was expressed based upon concern for a loss of a new sense of appreciation in life that may have resulted from COVID-19 as transitions were made to more normal school years, "we fill ourself with the busyness, and I think a lot more people have more time to really focus on really what matters" (P4.81). Teachers did not want to lose the focus on "what matters" that they experienced in the pandemic, and reported enjoying this focus:

> Seems to me is that you realize what matters more. Just, you get to spend all this time with your family and, you have all this busyness that you, that you're what to have, but honestly, I enjoyed...I actually enjoyed some of the less chaotic things about school. (P5.75)

This concern for the future as teachers and schools moved forward from the pandemic also extended into the more pressing concern for students that they had. Teachers voiced questions on how the students were impacted and what they will need in the future: “The needs of our students are going to continue to change- physically, emotionally, mentally- in all of those different areas” (P2.108). Another questioned how the impact of increased screen time on students was going to impact them in the future: “I think that we more and more and more are gonna see the effects of screen time on kids...like that's hurting your brain...I think that’s hurting the way they relate to each other” (P1.103). Another teacher echoed this opinion, “I don't love the social toll that it took on kids” (P5.49), while another stated, “I think COVID has changed a lot of students...mentality of what it means to be in a classroom” (P2.35).

These observations were unsettling, and participants were concerned how those student changes would impact their ability to teach and respond to those changing needs of students, with one participant stating that the changing in teaching has “muddied the waters” (P4.122) about what COVID-19 means for education moving forward, including the role of teachers and “why are they here?” (P4. 122). One teacher noted they had “upped” their teaching for the students because of the impact the quarantine had had on the students for nearly two years (P3.51), while another teacher wondered about the toll the pandemic would have on young children expressing the belief that, “we'll probably be dealing with the effects of what hope was expressed that schools and teachers might change in the future as a result of the pandemic, “I think we are rethinking of how can we better utilize our time, you know, for both students and teachers and how can we create a system to better support that” (P4.163), yet acknowledged a fear that efforts were not going to lead to fruition,

> I like to think that people are gonna start reprioritizing their lives and start figuring things out. Unfortunately, I also believe that we're dumb... we have very short memories...I would like to say that people would try to focus on more of what is important, but I don't know if they'll ever get there. I don't think it ever will. (P4. 163)

While teachers expressed a readiness to move beyond the initial chaos that COVID-19 inflicted upon schools, they were also conflicted and questioned whether teachers and schools were ready to do so, whether they learned anything from the experience, and whether they were equipped to meet the needs of students in the future.

Growth

While each teacher was situated in the same metropolitan district, many different experiences were reported among the participants. Teachers reported prior stress and frustration in their jobs before the start of the pandemic, previous struggles with mental health symptoms, job changes and transitions into new positions just prior to the start of COVID-19, a cancer diagnosis of a friend, and a suicide and funerals of loved ones. Participants questioned their capacity for growth considering who they are as a teacher and as an individual through dialogue on relationships, self-efficacy, and their role and purpose as teachers.

Relationships

Teachers revealed that relationships were a contributing factor in how they experienced COVID-19. First, a lack of relationships or personal contact with others was reported as “just a lot of isolation” (P1.55), which led to a negative experience. One teacher explained the isolation experienced from a lack of connections worsened the perspectives on problems experienced and the difficulties teachers faced:

> And when you become an island and you're isolated, then when things are hard, you know, you weather the storm alone, whereas maybe you used to collaborate, or you used to talk to people. I think that that just heightened, it gave people blinders to kind of their own problems. And I think that there that made it harder for some. (P5.20)

Another participant explained,

> I think that's how I grow the best is through dialogue and through conversations and questions and that kind of was, it was hurt a little bit during this experience... it was more difficult to have those conversations and... I wish I had the opportunity to do more, that I used to be able to do in the past that I was not able to do. (P4.118)

Not only did participants express the idea that isolation impacted their own personal experience, it was also noted that isolation impacted their ability to reach out to others who may have needed support. One participant described the frustration that isolation did not allow them to be there to support others who were suffering:

> I feed off people and I like to be there for people and I just didn't have bandwidth for people. And...wanting to be there for people...and help them carry them, their load...with very little to give them and you know, tried with what little I had to, to give. (P5.45)

Despite the negative impact of isolations, participants reported silver linings that resulted. Another participant noted a more inward focus, describing how they learned to rely on themselves more, “I guess I grew more independent I think where I relied could rely on myself to do more things on my own and not needing to rely on other people to make sure I got there” (P2.20). The isolation experienced also led to surprising benefits in connecting with others: one participant discussed how they learned how to connect with others in new ways,

> Because there's so many different ways that you can have a relationship with people. You can have it because you see them in the hallways and you know, you talk because you have the same off hour, but it's another thing to like show up when things are hard and things are tough. And then I can say to you, man, I'm really struggling today. Can you just send me stupid memes... and then to have the people actually show up and send you the stupid memes or whatever the case may be. In fact, one of my closest friend group really came out of all of this because we were texting. (P3.81)

This sentiment was echoed by another participant who discussed opportunities such as a "schedule of Zoom nights" (P1.61) to get together with people when they couldn't be together face to face. Relationships with coworkers, friends, and family were positive influences on participants' experiences. Connecting with others was a relief from the isolation experienced, but it was also a tool for growth and support. The isolation experienced during COVID-19 and the inability to connect in person with those people had a varied impact on teachers, but relationships with others were a source of comfort, support, and growth. Growth in togetherness seemed to result from the hardship, as expressed by a participant: "I think when you go through a hardship, you're kind of all in together" (P4.165). Another participant noted the gift of time resulting from the changes due to COVID-19 and how it impacted their ability to connect with others, "I have the time to have these conversations and to build each other up" (P3.72).

Self-Efficacy

While there were many differences in how teachers experienced teaching over the past three years, the personal capacity for doing what was required, and the capacity for growth from those experiences was questioned. Teachers reported this process led to a realization of capabilities that were beyond what they expected, influencing their self-efficacy, or beliefs in

their abilities to manage the challenges of teaching, noting that even in the midst of their struggles, personal growth occurred:

> So I'm stronger because of it. And so, when I'm sitting here crying for no apparent reason, because I'm just stressed out and feeling like a failure, even though I'm not because there isn't, there was no way to fail....you are strong enough to endure all of these unknown things and come out the other side and still be able to connect with your family, your students, your faith, your everything else, your friends. That was for me, super empowering to see you got through that hard thing that you didn't know anything about, and you survived and you thrived. (P3.74)

This individual not only noted the personal strength that resulted, but seemed to situate this growth in the ability to have strong relationships with others. Another participant stated that COVID brought "order to chaos," which "made it feel more orderly and more manageable, and more like "ok, I can do this"" (P1.125) when working through the initial changes brought about by the pandemic. Another participant felt like COVID-19 gave an opportunity for growth because the time allowed them to do things that they were not able to do before, leaving them to feel more accomplished:

> It was nice to just be able to grow in these many different areas that I always wanted to, and I just felt like I never would able, had time, or was going to be able to do it. And COVID, I guess was kind of a blessing to just say, yeah, I was able to do that. (P4.100)

For that participant, growth involved the ability to do new things. Another participant stated growth involved learning new things, even though they were forced to learn them, "I really expanded my toolbox of resources where had COVID not happened...I don't know if I would have even gone down that road if I wouldn't of had to" (P2. 16).

Self-efficacy was viewed not only as an outcome of growth experienced, but also as a work in progress, or a process that leads to new confidence. Another participant described the work being done to move towards growth as a process of reframing, demonstrating confidence in the ability to change:

> Well right now growth means the ability to reframe, that's what my therapist and I are doing. Is the ability to see a situation differently, doesn't necessarily have to be good, but just different because then, you know, when you can see a situation, at least from two points of view, then there's a chance that you can make it out of it or learn from it. So at least right now, growth is reframing. (P5.70)

Regardless of the individual experience of growth, participants seemed to agree that growth involved a focus on the future, or applying learning to the next opportunity, "I would say that growth to me means that you're learning from past mistakes and or experiences to improve, your next decision or to improve your next lesson or your next, you know, whatever" (P3. 40). Each participant examined their growth experiences by questioning their capacity for growth, realizing that in some way, they felt more capable or experienced moving forward from the COVID-19 pandemic.

Role and Purpose

Teaching through COVID-19 led teachers to a more nuanced understanding or elaboration of their role and purpose as teachers. Teachers questioned their role and purpose, and shared the difficulties related to the demands and responsibilities of being a teacher, including how the boundaries between personal and professional lives are unclear. This was reported as a challenge because, "you are expected to wear a whole lot of hats and that gets really heavy to keep wearing all of the hats. If you never get a chance to take them all off" (P3.146).

Teachers reported experiencing demands on them and questioned how they would fulfill those demands. The demanding role and responsibilities of the teachers interviewed led to the realization of how “we're more than just teachers for them. We're consistent adults, we're schedule setters. We are stability that they don't have other places” (P5.49). The experiences of teachers emphasized the purpose of a teachers as an irreplaceable calling as “a person that's growing people. You're not just the person in charge of this column of test scores” (P5.96). According to one participant, the role of teaching extends beyond academics and classroom learning: “I think teachers are people that can be supportive and can hopefully model healthy things for them” (P1.103). This work was reported as challenging: “That’s been hard to, like trying to not only teach them... but also teach them what it is to be a respectable young adult” (P2.35).

Due to the increasing demands related to the role and purpose of teachers, participants often expressed a prioritization of the needs of students above their own and those of their own families, including being accessible to students: “I can't ever close my computer because what if they need me” (P3.90), leading to, “And so I became totally a hundred percent obsessed with my computer. Like I felt guilty if I had it closed because what if my students emailed me and I wasn't there for them to reach out to, or if they had a question or if I didn't explain it right” (P.3.22). Even when it had negative consequences for them, participants still felt a need to prioritize what the students needed.

Teachers referred to the boundaries of personal and professional life being crossed, whether teachers were single or married with children. A single teacher stated, “I feel like single teachers can have a lot thrown at them. Like, “Oh you don’t have anybody to take care of when you go home, you can coach all these things and do all these things outside of school” (P2.76).

Another married teacher stated, “My professional and my personal life bleeds so heavily into one another and I am terrible at setting any kind of boundaries for any of those things” (P3.32) while also referring to the difficulties experienced related to the boundaries of personal and professional while teaching during COVID: “So then I'm trying to teach and then [names] are at home trying too. And I'm like... you have to get your homework done, and so then trying to balance all of them. That was, that was stressful” (P3.36).

More negative impacts were reported on the personal life of the participants. As an example of boundaries having an unhealthy impact on the lives of teachers, one participant disclosed the ability to make it through the school day required so much that there was little to give at home:

> But I think it was more inability to let go when I went home. Honestly, I would have enough adrenaline here to get me through the day and then coming down at night, it would just, the adrenaline would go away and the stress would come and sure, the anxiety with COVID was awful. (P5.37)

Another participant reported that what was best for the students was not always best for their own children:

> All right. Well, I just gave this [test], and it's a beautiful Sunday afternoon. I'm like, well, I'll be just in here for 12 hours grading, you know, just 24 tests because that's, I have to do it, and it has to be relatively done and you wanna do what best for your kids. And it's best, but I guess it's for your students and not necessarily always your kids. (P4.67)

Through a description of their experiences, participants questioned the extent of their role and purpose as teachers and examined the demands and responsibilities of being a teacher, including how the boundaries between personal and professional lives are not clear.

Integration of Qualitative and Quantitative Data

Mixed methods research is used in this study to gain a more complete understanding of growth and mental health of teachers, ensuring the voices of teachers are heard. Data integration is the intentional process where the researcher brings together the quantitative and the qualitative approaches to data analysis. Integration "allows researchers to realize the true benefits of mixed methods" and produce a picture of the results that is more representative of the answer to the research question than quantitative or qualitative alone would indicate (Guetterman et al., 2015). The overarching research question of this study asked: How do teachers in a Midwestern metropolitan area experience mental health and posttraumatic growth (PTG) in response to the COVID-19 pandemic*?* Integration of the quantitative and the qualitative data considers this research question on the basis of the four research questions explored during the quantitative and qualitative phases of research in this study. Integration in this study depicts the experience of teachers in response to COVID-19 as a *lived paradox*. Integration in this study uses a visual display of the insights gained from both results, shown in Table 18. The following section expands upon the integration of quantitative and qualitative data to present the experience of teachers in response to the COVID-19 pandemic.

Table 18

Integration of Quantitative Results and Qualitative Findings

Experience: Paradox of Trauma	Explanation	Qualitative Interview	Quantitative Data
Loss and Gain	Quantitative and qualitative findings give a picture of the relationship between distress and growth and the experience of loss and gain	*Loss:* "When you're in teaching and you don't have that one-on-one interaction, you lose the joy" (P4.37). *Gain:* "I grew to appreciate having	Spearman's Correlations demonstrate significant positive relationships between depression and growth (r = .28, p = .035), and stress

		those opportunities so now that we are able to go back to normal so to speak...I appreciate it more and find benefit in those things more" (P2.24)	and growth (r = .34, p = .010)
Personality and Experiences	Qualitative findings revealed the variations in mental health scores attributed to gender as identified in the quantitative phase were also attributed to the differences in personality, roles, and experiences that may be associated with gender	*Personality:* "I think I just, my personality could weather that a little bit more than some other personalities" (P1.15) *Experiences:* "The factors of my situation, I don't know if those are normal, but I think it's...more normal for me in stress level than somebody else" (P4.61)	T-tests revealed females scored significantly higher than males on the DASS (p = .005) and subscales of depression (p = .019), anxiety (p = .051), and stress (p < .001)
Relationships and Isolation	Quantitative findings identified relationships between depression and Factor I: Relating to Others and also stress and Factor I, expanding in the qualitative phase to reveal a growth in togetherness as part of a group	*Relationships:* "I think when you go through a hardship, you're kind of all in together" (P4.165) *Isolation:* "When you become an island and you're isolated, then when things are hard, you know, you weather the storm alone, whereas maybe you used to collaborate, or you used to talk to people" (P5.20)	Spearman's Correlations demonstrate significant positive relationships between depression and Factor I: Relating to Others (r = .27, p = .045) and stress and Factor I (r = .35, p = .008)
Relief and Concern	Quantitative results revealed very small levels of growth in New Possibilities, which the qualitative findings expanded upon to expose a conflicting sense of relief alongside a questioning concern for the possibilities in the future	*Relief:* "So I think I had so much stress from just the school, the school year, that in some ways COVID almost felt like a little bit of a relief" (P1.15) *Concern:* "I like to think that people are gonna start reprioritizing their lives and start figuring things out. Unfortunately, I also believe that we're dumb... we have very short memories...I would like to say that people would try to focus on more of what is important, but I don't know if they'll ever get there. I don't	PTGI scores reveal very small levels of growth in Factor II: New Possibilities (M = 1.22)

		think it ever will" (P5. 163).	
Strength and Weakness	Quantitative findings revealed a relationship between stress experienced and growth in the area of Personal Strength, validated by qualitative participant descriptions of the experience of weakness resulting in growth in strength	*Strength:* "That was for me, super empowering to see you got through that hard thing that you didn't know anything about and you survived and you thrived" (P3.74). *Weakness:* "I was very stressed about, am I doing this right? Because there wasn't a right way of teaching during quarantine. And that was very hard for me to not know if I was doing it right or not" (P3.20)	Spearman's Correlations demonstrate significant positive relationships between stress and Factor III: Personal Strength (r = .35, p = .017)
Role and Purpose	Gender differences in depression, anxiety, and stress identified in the quantitative results were expanded upon in the qualitative phase with participants evaluating differences in their role and purpose as teachers, as well as the unclear boundaries between personal and professional lives	*Role and Purpose:* "We're more than just teachers for them" (P5.49) *Boundaries:* "But I think it was more inability to let go when I went home. Honestly, I would have enough adrenaline here to get me through the day and then coming down at night, it would just, the adrenaline would go away and the stress would come" (P5.37)	T-tests revealed females scored significantly higher than males on the DASS (p = .005) and subscales of depression (p = .019), anxiety (p = .051), and stress (p < .001)

Mental Health

The quantitative findings in this study demonstrated mild to extremely severe symptoms of depression, anxiety, and stress among teachers despite a large percentage of normal scores. Normal scores among teachers reveal the experience of the pandemic has not had serious repercussions for the mental health of teachers for the majority of the population in this study. When interviewing participants, it was revealed that some felt their scores would have been

much different had they complete the survey in the beginning of the pandemic (P3, P4, P5), or were even experiencing symptoms of burnout prior to the pandemic (P1).

The quantitative findings also identified significant differences in scores between female and male, with females scoring significantly higher on the DASS ($p = .005$), depression ($p = .019$), anxiety ($p = .051$), and stress ($p < .001$). Statistically significant differences were not observed when analyzing scores by teaching level and years of experience, although there were small to moderate magnitudes in differences that suggest a larger sample size may provide significant findings. When further investigating these findings in the qualitative phase, the lack of male participants did not allow for a full exploration of the factors that may contribute to the difference; however, participants demonstrated a variety of experiences among them and recognized personality differences that influenced the extent of the impact on how they felt about their mental health and ability to manage. Female and male participants both reported a lack of boundaries between personal and professional lives that challenged them. Interview participants reported concerns on the varying roles that they had professionally as teachers and personally as individuals, spouses, and parents. The results of this study indicate that variations in mental health scores were not only attributed to gender as identified in the quantitative phase, but were also attributed to the differences in personality, roles, and experiences of teachers that may also be related to gender as revealed in the qualitative phase.

PTG

The quantitative findings in this study reveal somewhat small degree of changes reflective of posttraumatic growth among the teachers in this study (M = 1.49). In addition, quantitative findings revealed no statistically significant differences on PTG scores, as well as the Five Factors, when analyzing scores by gender, teaching level, and years of experience;

however, moderate magnitudes in differences (d= .393) were observed between male and female for PTGI scores. Furthermore, females scored higher on the total PTGI and all Five Factors assessed, suggesting a larger sample size may reveal significant findings. Considering the lack of significant findings, the interviews focused on revealing the factors that teachers contributed to their growth or lack of growth experienced during the pandemic. In order to understand the growth experiences of teachers in response to the pandemic, interview participants who reported higher growth scores were among those selected for the qualitative phase. Participants reflected upon the losses that were revealed as silver linings, or things they gained, which included time, opportunities for spiritual focus, and a sense of relief from the usual stress associated with teaching. Isolation was identified as a negative experience, but the importance of relationships was recognized as both something the fostered growth and was an outcome of growth. Relationships were identified as valuable for support in getting through the adversity that was a part of the pandemic but strengthened relationships or new relationships were also the result of the struggle. A feeling of weakness or loss of control that resulted from the forced changes also led to a newfound sense of strength or self-efficacy. Those experiencing growth as part of their response to COVID-19 reported experiencing pairs of opposites: loss and gain, isolation and relationships, relief and concern, and weakness and strength.

The Relationship Between Mental Health and Growth

Quantitative analysis revealed significant relationships between mental health and overall growth, as well as relationships between mental health and different areas of growth within the Five Factors. Spearman's correlations revealed significant positive relationships between depression and growth, anxiety and growth, and stress and growth. Correlations were found specifically with Factor I: Relating to Others, Factor III: Personal Strength, and Factor V:

Appreciation of Life. No relationships were identified for Factor II: New Possibilities and Factor IV: Spiritual Change. These findings indicate that negative symptoms of depression, anxiety, and mental health can be associated with positive outcomes of growth. In particular, depression and stress were revealed to have the strongest associations with growth.

The qualitative findings corroborated the quantitative findings in the themes revealed in the interviews. Relationships, a sense of strength, and gratitude and appreciation for things gained were themes reflective of the factors specifically associated with depression, anxiety, and stress (Factor I: Relating to Others; Factor III: Personal Strength; Factor V: Appreciation of Life). All interview participants described the stress that was increased during COVID-19, and notably, those participants with low mental health symptoms measured by the DASS who disclosed previous struggles with depression, anxiety, and stress were among those with the highest growth scores (P3, P4). One participant who reported severe to extremely severe levels of depression, anxiety, and stress also reported a moderate degree of growth in the area of Factor V: Appreciation of Life (P5). Moderate degree of growth reported by this participant was higher than the average for this population sample. The relationships between mental health and growth revealed in this study further support the dual nature of PTG as something that is experienced as a *lived paradox*.

Summary of Integration of Quantitative and Qualitative Data

An integration of the quantitative and qualitative data provides a picture of the experiences of teachers in response to COVID-19 that considers both their mental health and growth. Participants in the study describe an experience reflective of the definition of posttraumatic growth by Tedeschi and Calhoun (1996) that the very nature of trauma can be viewed as a paradox. Growth's dual nature is evident in both the quantitative and qualitative

findings as an experience of contradictions. There are conflicting experiences that participants have lived through that together combine to give a rich picture of the nature of teaching through COVID-19.

Chapter 5: Discussion and Conclusions

Introduction

This chapter summarizes the key findings of this study regarding teachers' mental health and PTG experiences in response to COVID-19, its implications for PTG, and places them in the context of existing literature. Recommendations will be offered and described, as well as suggestions for future research.

The purpose of this mixed methods research study was to explore the positive and negative outcomes teachers experienced in response to the COVID-19 pandemic, including the levels of mental health symptoms, as well as factors teachers attribute to influencing their quality of mental health and PTG in response to the pandemic. A quantitative survey was used to provide a picture of the status of self-reported mental health symptoms and PTG outcomes, while qualitative interviews were used to further explore the mental health and PTG experiences of teachers in response to the pandemic. Mixed methods were used to develop a more comprehensive and nuanced understanding of the relationship between mental health and PTG in response to the trauma of COVID-19 that neither quantitative nor qualitative could capture on their own. Participants included elementary and high school teachers from private parochial schools located in a Midwestern metropolitan area.

The following research questions were used to guide this study: How do teachers in a Midwestern metropolitan area experience mental health and posttraumatic growth (PTG) in response to the COVID-19 pandemic?

1. How does the quality of mental health differ among groups of teachers based upon gender, years of teaching experience, and teaching level?
2. How do PTG outcomes differ among groups of teachers based upon gender, years of

teaching experience, and teaching level?

3. To what degree is teachers' mental health related to PTG?
4. What factors do teachers attribute to influencing their quality of mental health and PTG in their response to COVID-19?

Discussion and Interpretation

The findings showed the mental health and PTG experiences of teachers in response to COVID-19 are reflective of the nature of trauma as a conflicting experience of both positive and negative outcomes. Teachers experienced growth as a dual nature phenomenon, and one that was influenced by mental health in both positive and negative ways. The findings revealed mental health symptoms at less severe levels than those in studies measured at the beginning of the pandemic. Significant differences were identified between participants, with females reporting significantly higher levels of depression, anxiety, and stress. Small levels of changes reflective of PTG were reported among the participants, and no significant differences between groups were identified based upon gender, teaching level, and years of teaching experience. Significant positive correlations were discovered between mental health and PTG.

Mental Health

Levels of Mental Health Symptoms

Previous studies have demonstrated concerning findings regarding teacher distress and mental health before and after the pandemic. Research has already established that the work of teaching has the potential to negatively impact the quality of mental health among teachers (Bauer et al., 2007; Borelli et al., 2014; Braeunig et al., 2018; Ferguson et al., 2012; Kuwato & Hirano, 2020). High levels of job stressors adversely affect the mental health of teachers (Schonfeld et al., 2017). COVID-19 has changed the work of teachers, requiring flexibility,

additional time, personal resources, and new mindsets to face the challenges. Research Question 1 sought to understand how the pandemic has impacted the quality of mental health among teachers, and whether there were differences among teachers by gender, teaching level, or years of teaching experience. The Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995) was used to explore this question, and analysis of the data led to the following notable findings.

In this study, 26% of participants reported negative mental health symptoms for depression, including 10% reporting severe or extremely severe symptoms. For anxiety, 20% reported negative mental health symptoms, including 7% reporting severe or extremely severe symptoms. For stress, 34% reported negative mental health symptoms, including 9% reporting severe symptoms. These results are lower than a study of Spanish teachers at the beginning of the COVID-19 pandemic in 2020 that examined levels of mental health. Extebarria et al. (2021) found 32% of teachers reported symptoms of depression, including 8% reporting severe or extremely severe symptoms; 50% reported symptoms of anxiety, including 16% reporting severe or extremely severe symptoms; 51% reported symptoms of stress, including 19% reporting severe and extremely severe symptoms. This difference should be interpreted with caution, since the sample size of the present research study is much smaller than that of Extebarria et al. In addition, the timing of the studies may contribute to the differences, since Extebarria et al. measured the quality of mental health early in the pandemic in 2020.

Similarly, a study on Polish teachers measured the mental health symptoms of teachers during two stages of research, one in September and October of 2020, and the other during December to February of 2021 (Jakubowski & Sitko-Bominik, 2021). During the first stage of research, 13% scored severe to extremely severe in depression (of 44% with at least mild symptoms); 19.3% scored severe to extremely severe in anxiety (of 47% with at least mild

symptoms); 17% scored severe to extremely severe in stress (of 46% with at least mild symptoms). During the second stage of research the symptoms increased: 23% severe to extremely severe depression (out of 55% with at least mild symptoms); 26% severe to extremely severe anxiety (out of 51% with at least mild symptoms); and 23% severe to extremely severe stress (out of 46% with at least mild symptoms). Jakuboswki and Sitko-Bominik measured symptoms for the first stage having participants reflect back to the beginning of the pandemic in 2020, and the participants measuring their current mental health in the second phase, which was the end of 2020 and January-February of 2021. Extebarria et al. (2020) measured symptoms in September of 2020. In the current study, participants were asked to consider their mental health during the two weeks prior to the survey, which was administered in the beginning of 2022.

All studies mentioned utilized the DASS or a translated version of the DASS-21, the short version of the DASS. Comparison of scores reporting mental health symptoms should be considered with caution as the studies discussed were assessing mental health symptoms at different times in the pandemic. It is possible that the scores reported by participants in this study are less severe due to the impact of timing, being further removed from the beginning of the pandemic. This notion is supported by participants who expressed in the interview phase a belief that scores were lower due to timing, and if they had been assessed early in the pandemic, their scores would have been higher (P3, P4, P5). It is possible that symptoms levels have decreased as teachers adapted to the initial stress and forced changes of the pandemic. Questions on the DASS asked the participants to consider symptoms as they were experienced during the previous two weeks as opposed to reflectively considering symptoms as they were experienced during the initial stage of the pandemic. This decision was made to be able to use the established DASS normative data for comparison, but is also a possible limitation of the study. The results of this

study are reflective of the depression, anxiety, and stress symptoms as they were experienced at a specific time of the school year and well into the experience of the pandemic.

There is a dearth of literature available on studies related to the mental health of teachers in the U.S. that makes use of the DASS or any other measures. Baker et al. (2021) explored mental health among teachers in New Orleans, Louisiana during April and May of 2020, exploring stress and a self-rated single-item indicator of overall mental health. The teachers reported their overall mental health between "fair" and "good," although they also reported a considerable amount of stress, and that those stressors made it harder to cope and harder to teach. Since little research is available on the mental health of teachers in this country both before and after the pandemic, the findings of this study make a valuable contribution to the literature as a study focused on the depression, anxiety, and stress levels of teachers in the United States.

Differences in Mental Health Symptoms

Research Question 1 examined the differences in mental health by gender, teaching level, and years of teaching experience. Significant differences in DASS scores were identified between male and female for all areas of mental health including depression (p = .019), anxiety (p =.051), and stress (p = .001). There were no significant differences between elementary and high school teachers for depression (p =.373), anxiety (p =.357), and stress (p =.071). There were no significant differences between groups based upon years of teaching experience for depression (p =.115), anxiety (p =.201), and stress (p =.268).

Research has offered corroborating findings on gender differences in mental health symptoms. Opanković et al. (2021) found that females exhibited significantly higher levels of depression (p =.029), anxiety (p =.028), and stress (p =.017) during the beginning of the pandemic in Serbia when assessed using the DASS-21 in April and May of 2020. Other studies

have also demonstrated significant gender differences for mental health in the beginning of the pandemic in a variety of populations across the world (del Río-Casanova et al., 2021; Mazza et al., 2020; Wang et al., 2020). Fenollar-Cortés et al. (2021) found females had significantly higher scores in depression and stress at the beginning of the forced confinements, but those differences disappeared as female scores improved when measured again at the end of confinement.

Male and females have also been shown to differ in their reactions to depression, anxiety, and stress. In a study specifically focused on public and private school teachers in Pakistan, Husain et al. (2016) found a difference between male and female teachers when exploring the effects of depression, anxiety, and stress on job strain and teacher turnover. Considering the concern that job strain could lead to mental disorders such as depression, anxiety, and stress, and job dissatisfaction that could lead teachers to transfer positions or to quit teaching entirely, their study focused on the mediating role of depression, anxiety, and stress, or how those factors influenced teachers professionally. The DASS (Lovibond & Lovibond, 1995) was used to measure these symptoms, and the researchers found that job strain influenced turnover intentions among teachers, finding job strain accompanied by depression, anxiety, or stress puts more effects on teachers to consider changing jobs. Male teachers demonstrated higher turnover intentions than female teachers. In addition, job strain had more of an effect on stress in female teachers, while depression and anxiety had more effect on male teachers.

The fact that research has demonstrated differences not only in the levels of negative mental health symptoms between male and female teachers, but also that there are differences in how those levels impact teachers in both private and public school settings underscores the importance of the findings of the present research study. In the present study, there were significant differences between depression, anxiety, and stress scores by gender, with females

experiencing greater levels of negative symptoms; however, the factors contributing to these differences were not identified, in part due to the extreme circumstances created by the pandemic which impacted all teachers in various ways, but also due to the insufficient number of male participants who had agreed to be interviewed. While specific factors that explained the gender differences were not specifically voiced, all interview participants described both personal and professional factors that compounded the challenges faced as part of their experiences.

Common professional factors named by participants included technology and teaching demands, increased workload, lack of time, lack of interactions with colleagues, and lack of teacher voice. Other researchers have cited additional other factors involved in the gender differences, including that of roles involving families, household tasks, or caregiving that makes them more vulnerable to additional stress. Still others have suggested that the differences may be due to increased exposure to past trauma, as women are more likely to suffer traumatic events in their lifetimes (Liu et al., 2020). Indeed, the female interview participants did discuss the role of previous stressful events in their lives including job transitions with relocation (participant 2), previous intense job strain with burnout (participants 1 and 5), previous mental health struggles (participants 3 and 5), loss of loved ones due to death and suicide (participant 3), and exposure to the trauma of others (participants 3 and 5). While the male participant did discuss previous experiences with mental health, he also identified the relief of having a situation involving additional family support at home during the early stages of the pandemic.

While it was unclear as to the specific factors that are responsible for the differences in mental health symptoms reported by participants, men and women experience trauma differently, and the symptoms that result are experienced differently. The results of this study indicate that variations in mental health scores were not only attributed to gender as identified in the

quantitative phase, but were also attributed to the differences in personality, roles, and experiences of teachers that may also be related to gender. There are likely a variety of compounding factors that contribute to the nature of the experience of the trauma and the outcome that results. Nevertheless, these findings indicate that interventions must be considered with a gender-specific perspective.

The present research study found no differences in mental health symptoms of teachers by teaching level or years of teaching experienced. Mullholland et al. (2013) found variations among high school teachers in how they experience stress and job strain, although their overall scores were not concerning for well-being, in addition to Ratanasiripong et al. (2020), who identified differences in anxiety among varying grade levels. While this study identified no significant differences by teaching levels or years of teaching experiencing, it is worth noting that small to moderate effect sizes revealed may suggest potentially significant differences in a larger population sample. It is important to understand and address the mental health symptoms experienced by all teachers, and since variations in experiences and impact do exist, further understanding of those variations are needed to support teachers.

Posttraumatic Growth

Levels of PTG

Research Question 2 examined the posttraumatic growth (PTG) outcomes of teachers using the Posttraumatic Growth Inventory, or the PTGI (Tedeschi & Calhoun, 1996). The PTGI explores the presences of five different growth dimensions that are considered outcomes of PTG. Previous research studies (Husson et al., 2017) have designated total levels above 60 out of the total 105 as showing high growth levels. In comparison to previous studies involving the trauma of COVID-19 as well as serious illness and injury, the present study shows lower levels of

growth (M = 31.29) among all participants. However, the total mean scores for male (M = 27.83) and female (M = 35.15) are higher than those found among both male (M = 22.23) and female (M = 23.91) survivors of Hurricane Sandy (Schneider et al., 2019) when assessed one to four years after the hurricane. These studies demonstrate the variations in the experience of PTG, and research has not yet fully answered the question of the type of trauma and the timing after the trauma that demonstrates the most growth.

While a total growth score is useful, it is beneficial to examine the individual Five Factor scores in order to see the ways in which individuals have grown in response to a particular type of trauma. Table 19 depicts the mean scores for the participants, including overall scores and the scores converted to the mean for the six-point scale.

Table 19

Mean PTGI Scores

	Mean Six-Point Scale	*Mean Overall*
PTGI Total	1.49	31.29
Factor I: Relating to Others	1.39	9.76
Factor II: New Possibilities	1.22	6.09
Factor III: Personal Strength	1.49	5.95
Factor IV: Spiritual Change	2.04	4.07
Factor V: Appreciation of Life	1.81	5.42
Valid N	55	55

Reporting of PTGI scores varies by study and includes either the mean six-point scale total or the mean total score. Since the six-point scale is discussed in this study, the mean scores should be interpreted with caution since average scores do not reflect the true nature and dimensions of growth calculated, merely a range. The participants reported mean scores in the range of 1-2, which is in the very small to small degree of change. The highest scores reported were in the 3-5 range, reflecting moderate to very great degree of change experienced. While

some participants reported great degrees of changes reflective of PTG, the overall means reflect modest growth.

Participants in this study did not necessarily report high degrees of change that translated to high growth scores. Participants reported the greatest amount of growth in the areas of Spiritual Change, Appreciation of Life, and Personal Strength. In comparison to the population used by Tedeschi and Calhoun (1996) to develop the PTGI, scores for this study were lower. Tedeschi and Calhoun reported mean scores of 67.77 (male) and 75.18 (female), in comparison to the scores of 27.83 (male) and 35.15 (female) for this research study. The scores reported in this sample population are lower than those reported in Tedeschi and Calhoun's study, yet comparable to other studies where participants had experienced various types of trauma. Jensen et al. (2011) found mean six-point scores of cancers survivors five years after diagnosis, indicating very small to small degree of PTG (M = 2.0). In a study of cancer care radiation workers, Kapur et al. (2022) measured PTG at two points in time, once in May of 2020 and the second 15 months later. Mean scores reflected small amounts of growth both times (M = 2.3, M = 2.2). Scores among frontline nurses in the beginning of COVID-19 (Cui et al., 2021) showed moderate amounts of PTG (M = 3.38). The intensity of the situation in the beginning of the pandemic resulted in higher growth as the nurses learned to deal with the pandemic while caring for patients. There is no evidence that growth takes time to emerge. Scores among cancer survivors five years later were among the lowest scores (Jansen et al., 2011).

As a cross-sectional study, this study revealed that two years after the start of the pandemic, the mean growth scores of the participants were reported as small degree of changes experienced, although there were participants who reported moderate to very great growth scores. Rather than comparing scores to other populations, it is perhaps more beneficial to further

examine the variables related to growth, including the growth experienced in the five factors, relationships between the variables examined, and the factors that teachers with higher growth scores attribute to their growth experiences.

Differences in PTG

Research Question 2 examined the differences in PTG by gender, teaching level, and years of teaching experience. There was no significant difference in total PTGI scores between male and female for overall scores or among the five factor sub scores. Gender differences on PTG scores have been documented in other populations and more research is needed to further explore the differences and inconsistencies found (Tedeschi & Calhoun, 2018). Regarding gender, the findings of this research study indicate that among teachers who experienced PTG in response to COVID-19, there were no significant differences in scores between gender.

Since differences in experiences have been documented to result in differences in growth outcomes (Tedeschi & Calhoun, 2018), it was hypothesized that elementary and high school teachers would report different levels of PTG. Despite the commonalities involved in the job of teaching, the jobs of elementary teachers and high school teachers involve different constructs at varying degrees due to the different age levels of students and the different type of daily schedule and types of extra-curricular activities. No significant differences were identified between teaching levels, which may not be that surprising when framed in the context of the process of posttraumatic growth. The model of posttraumatic growth outlined by Tedeschi et al. (2018) frames the traumatic event as one that causes emotional distress because of the significant challenge to the core beliefs of an individual. COVID-19 caused damage and disorganization (or "chaos" as described by Participant 1) to the system of education and the role each teacher was to play in that system. Each teacher was forced to "rebuild this system" out of the disrupted

environment (Tedeschi et al., 2018, p. 47). Since chaos applied to every teacher, and the structure of education as previously known and understood was dismantled regardless of teaching level, each teacher experienced a challenge to their core beliefs and way of life indiscriminately. The process of growth may still be occurring as teachers are returning to a new normal, faced with the aftermath of what COVID-19 initially did to schools, and now working to address the lasting impact upon schools and children.

In this study the difference between growth levels for teachers based upon their levels of experience was also tested. It could be assumed that more experienced teachers might be better able to cope with the stress having experienced more changes in education over time, or that less experienced teachers may be more flexible and adept at the use of technology or new methods. Previous research has identified significant differences in teacher burnout, finding feelings of burnout to increase for teachers of more than 10 years of experience (Mousavy et al., 2012). Other studies have identified minor differences in teaching quality based upon years of teaching experience (Graham et al., 2020), as well as increases in student achievement because of experience and advanced degrees (Obonyo et al., 2018). Despite previous evidence, in this study no significant difference was found in growth among teachers based upon years of teaching experience. This lack of significant difference suggests that the challenges to core beliefs and the accompanying disruption impact the experience of all teachers.

Relationship Between Mental Health and PTG

Research Question 3 examined the relationship between mental health and PTG. This question attempted to explore the mechanisms of growth, or the contributing factors to growth. Tedeschi et al. (2018) proposed that trauma may lead to different types of growth, as measured by the Five Factors of Relating to Others, New Possibilities, Personal Strength, Spiritual Growth,

and Appreciation for Life. The present study identified significant and positive correlations between mental health and growth on DASS and PTGI scores (r = .34, n = 55, p = .011). While there is a lack of linear relationship, there is a monotonic relationship, indicating that as the scores of the DASS increased, so did the scores of the PTGI. Since the overall DASS total does not clearly delineate which type of symptoms are experienced, correlations between depression, anxiety, and stress, and the five factor variables were explored to provide clarification.

Depression, Anxiety, and Stress

Significant correlations were identified between depression and PTG (r = .28, n = 55, p = .035), and stress and PTG (r = .34, n = 55, p = .010). The strength of the correlation for depression was weak, while the strength of the correlation for stress was moderate. This indicates that depression and stress were associated with PTG outcomes, with stress to a greater degree. Bianchi (2017) previously found that moderate depression could promote growth, while Lepma et al. (2018) found stressful life events to be associated with higher levels of PTG. Other studies reveal that too much stress or depression can be detrimental for growth (Abós et al., 2019; Bianchini et al., 2017; Schneider et al., 2019; Taku at al., 2015). Different types of stressors and participants have been examined in numerous studies, also exploring modifying factors to examine what can facilitate PTG (Kadri et al., 2022; Kim & Bae, 2019; Sörenson et al., 2021). As opposed to studying potential modifying factors for PTG, this study approached COVID-19 with the potential to lead to growth and examined how COVID-19 impacted teachers' mental health and growth. PTG is a multidimensional construct including a constructive and positive side as well as a negative side. Negative symptoms of mental health were factors found to reflect the negative side to growth, which were also correlated to different types of growth.

Five Factors

Tedeschi et al. (2018) stated that the PTGI subscales are useful to determine patterns of PTG in respondents, allowing for various approaches to interpretation depending upon the purpose of research and how detailed of an analysis is required. Further examination into the negative symptoms of mental health revealed specific areas of growth that had a greater association with those negative symptoms. Overall mental health symptoms on the DASS were associated with Factor I (Relating to Others), Factor III (Personal Strength), and Factor V (Appreciation of Life). When identifying separate mental health symptoms of depression, anxiety, and stress, there were more specific correlations found.

Relating to Others. Depression and stress were found to be correlated with Factor I: Relating to Others. There was a stronger association between stress and Factor I than for depression. Relationships can be viewed as both an outcome and a pathway to growth. Depression and stress were correlated with the growth outcome of Relating to Others, yet interview participants also revealed relationships as an important part of the pathway to growth, serving to support them in their struggles with depression, anxiety, or stress. The social support participants received from others was named as a factor contributing to growth experiences, even naming coworkers as the "main driving point [of growth]" (P2.22) and also stating, "how I grow the best is through dialogue and through conversations and questions" (P4.118). In this study, relationships were both an outcome and a pathway to growth; relationships were not only an outcome of growth, but they were also identified as a mechanism for growth.

Personal Strength. Stress was found to be correlated with Factor III, personal strength. It has been well documented that personal and character strength has resulted from the stressful experience of trauma (Tedeschi et al., 2018; Peterson et al., 2008). Other studies have found that increasing numbers of stressors leads to increasing levels of PTG (Hall et al., 2010), while

posttraumatic stress has also been found to coexist in children and adolescents studied after COVID-19 (Bhushan et al., 2022). Taku et al. (2015) stress responses to vary in impact across the PTG domains of growth. While some domains demonstrated a curvilinear relationship where too much stress can prohibit growth, the domain of Personal Strength was found to have a linear relationship with stress. The findings of this study confirm the findings of other studies related to personal strength, and were also present in the interview conversations, and participants confirmed, “I’m stronger because of it” (P3.74) and “it stretched me beyond what I thought I would be able to accomplish” (P2.16).

Appreciation of Life. Depression, anxiety, and stress were found to be correlated with Factor V: Appreciation of Life. These findings seem to be contradictory in nature, specifically for depression. The experience of depressive symptoms would include negative reactions, yet it seems counterintuitive to assume that those suffering negative mental health symptoms would find a greater appreciation of life. Bianchini (2017) found moderate depression to promote PTG in survivors of an earthquake. Steger and Kashdan (2009) offered the explanation that those with depressive symptoms would react more strongly not only to negative experiences, but also to positive experiences, specifically regarding social interactions and sense of belonging. Those with depression may in fact be sensitized to experiences, leading those with depression to find greater appreciation of life. COVID-19 introduced negative experiences, having the potential to lead to negative mental health symptoms, but there were also silver linings identified in this experience. Depressive symptoms could therefore lead to the sensitivity of those silver linings in such a way that would lead to a greater appreciation in life, especially when encountering growth mechanisms such as relationships. With this viewpoint, it is possible that depression, and possibly stress and anxiety, serves as a primer for strong reactions to social interactions. The

correlation found between depression and Factor I: Relating to Others also supports this notion. In essence, a sense of belongingness that is experienced through relationships fosters "more intense positive life evaluations and more positive affect balance" among those with greater depressive symptoms (Steger & Kashdan, 2009).

Utilization of the DASS and the PTGI to assess COVID-19 experiences permits a clear view of ongoing challenges that are faced by those who also report changing in positive ways (Tedeschi et al., 2018). Teachers in this study reported both modest mental health symptoms and modest PTG. While growth was reported, it was not at extreme levels, yet there were still associations identified between mental health symptoms and three of the five growth domains.

Influences and Mechanisms

This research study revealed the constructs of both influences and mechanisms involved in growth experiences. An influence is that which was revealed to impact growth or mental health and could be positive or negative. A mechanism is something that was more of a channel for growth. The correlations identified between depression and stress and the PTG factors revealed that mental health can influence growth in a positive direction. Interview participants revealed that the loss of control that resulted from forced change influenced them in a negative way, while also stating that they viewed personality to be helpful in navigating the change (influences). They also revealed that in-person connections and social support that they both received and participated in positively impacted their growth and mental health (mechanism).

Understanding this distinction, previous research has explored personality traits as factors that influence the development of PTG (Shakespeare-Finch et al., 2005; Zhou et al., 2017). Personality traits have been associated with more positive perceptions of trauma (Tedeschi & Calhoun 1996); yet, it is also acknowledged that there is more at work than personality or other

factors that influence PTG. There are mechanisms that need to be better understood as the process of PTG occurs. The use of coping skills has been commonly explored in research as a mechanism through which growth may occur (Prati & Peitrantoni, 2009; Rajandram et al., 2009). The difference between influence and mechanisms does not appear to be consistently and clearly delineated within the body of research related to the factors involved in PTG. While it is acknowledged that coping refers to actual efforts involved in facing the demands of a trauma, and that there are both healthy and problematic forms of coping (Rajandram et al., 2009), research often explores influences and mechanisms. Personality, coping, social support, gratitude, satisfaction with life, rumination, and psychological interventions have been explored and combined to better understand the process (An et al. 2017; Cui et al., 2020; Leppma et al., 2018). They have been referred to as influencing factors without consideration for the difference between an influence and a mechanism. This research study was designed to explore the factors that teachers attributed to influence their growth; yet, the results identified an important distinction that these factors should be considered as an influence or a mechanism, and that some are internal and some are external. Influences and mechanisms were present in the six themes revealed in the qualitative portion of the study.

Loss and Gain Through Forced Change

A key part of PTG is the introduction of a trauma that is significant enough to disrupt a person's life circumstances to the point that person's understanding of the world is challenge while they struggle to deal with the new reality in the aftermath of the trauma (Tedeschi & Calhoun, 2004). Qualitative findings in this study help better understand participants experiences. Participants overwhelmingly felt the impact of COVID-19 as something that disrupted their lives with a number of changes forced upon them. A challenge to core assumptive

beliefs occurred, and the process of PTG is stimulated when those assumptions and beliefs are challenged. Some of these changes were related to the logistical nature of teaching that were beyond their control, a loss of the familiar structures and routines of school.

Core beliefs about how to teach were impacted as teachers needed to adjust their methods of delivery and assessments. Assumptions and beliefs about what was important in teaching were challenged. Other changes involved an impact to personal, spiritual, and family structures. Teachers felt the impact of these forced changes as a loss: they lost the ability to connect with students and others; they lost the ability to meet for worship with others; they lost the ability to use the typical tools that were available to them for instruction; they lost control over decision-making in the classrooms; and one participant even stated they lost the joy in teaching. Most of the losses they experienced were beyond their control and led to greater emotional distress. One participant stated how it was "really, really hard for me...I'm a hugely social person" (P3.20), while others referred to the circumstances as "draining" (P1.25) and being "overwhelmed" (P5.45), while another spoke about the stress and how it "hits you harder" (P2. 50) in an unexpected way when attempting to return to a more normal school year. A similar loss of control has been previously connected to trauma outcomes, with internal locus of control, or the belief that a person can influence outcomes and have control over what happens to them, being connected to the presence of PTG (Zeligman et al., 2019). While locus of control was not measured in this study, Zeligman et al. (2019) support the understanding that this may be an important variable revealed by the experiences of participants to consider when evaluating PTG.

Despite the losses experienced by the participants, appreciation was expressed for the benefits that resulted, or and acknowledgement of what they had gained. Teachers noted the benefit of increased opportunities for a spiritual focus, as well as gratefulness for connections

and relationships with others and the support of others, evident in a participant's statement: "It just made me very grateful for all the love and companionship I do have" (P1.61). Appreciation of life was the second highest growth factor reported by participants in this study. Appreciation of life involves a greater appreciation for things in life, whether it be small things or things that should be cherished (Tedeschi et al., 2018). PTGI scores and interviews with participants reflected growth in appreciation for life, specifically by recognizing what they had gained. In this study, appreciation was an outcome of experiencing trauma, but other researchers have identified gratitude as a mechanism that facilitates PTG.

Kim and Bae (2019) identified gratitude as a mechanism that can enhance the effect of deliberate rumination on PTG. Rumination plays a key role in the process of PTG and occurs in positive and negative forms (Tedeschi et al., 2018). Intrusive rumination is the automatic and intrusive thoughts related to an event that recycles emotions and thoughts, while deliberate rumination is the purposeful thought process used to help better understand the event. Deliberate rumination has been found to help individuals better understand their traumatic experience and promote PTG. When occurring with gratitude, deliberate rumination has been found to have an even greater effect on PTG (Kim & Bae, 2019). The current study did not evaluate or measure intrusive or deliberate rumination, but there was evidence of the occurrence of ruminations in participant descriptions. One participant described the repeated thoughts and worry that kept returning, asking the question "am I doing this right?" This participant described the stress that accompanied this question, seemingly indicative of intrusive rumination; yet, also seemed to engage in deliberate rumination, describing the reflection that was engaged in when intentionally coping with the stress, as well as with the support of a therapist. This same participant reported the highest growth score among participants interviewed. A second participant also disclosed the

use of a therapist to seek support, working on "reframing" as a part of growth. When struggling with the forced changes, and responding to the loss and gain experienced, rumination was used to alleviate psychological distress.

Personality and Experiences

As participants reflected on their experiences, personality was identified as an influencing factor that contributed to their ability to respond. Participants acknowledged that personality factors allowed them to weather the changes more easily than others or led them to have an increased struggle. This appears to be representative of the concept of resilience that has been linked to PTG. Tedeschi et al. (2018) identified resilience as a personality attribute, or the ability to bounce back from challenges without the prolonged struggle that seems to be a part of PTG. Even though participants did not specifically refer to resilience in their interviews, this concept was evident in their descriptions as they described how they responded. Participant 1 stated, "Personality-wise, I don't mind just jumping into something as much," while Participant 4 explained, "I think it has to be more of a personality, sure, of how you deal with change and how your skills coming in adapt to technology and learning new things." On the contrary, Participant 3 attributed personality as influencing the response to stress, referring to being "a catastrophizer." Resilience seemed to be acknowledged as a factor for successfully facing the challenges experienced during COVID-19.

It is possible that the severity of experiences leads to growth in different areas. Gökalp et al. (2022) found personal differences in participants' growth outcomes depending upon the severity of the COVID-19 symptoms experienced. Severe symptoms led to themes of existential (spiritual) growth and new opportunities, while those with more moderate symptoms stressed social Growth. Despite these differences in growth areas, there were no significant differences

observed in the total PTG levels. In this study, three out of five interview participants reported Spiritual Growth as the highest growth factor, and a fourth participant reported Spiritual Growth as the second highest factor. There were few commonalities beyond that of Spiritual Growth in terms of shared amounts of growth among the factors. Severity of symptoms led to existential (spiritual) growth among the participants in the study of Gökalp et al. Likewise, in this study all five participants interviewed reported additional circumstances experienced that compounded the stress, including job transition, relocation, death of a loved one, previous mental health struggles, and also significant trauma experienced by students, colleagues, or friends, including cancer diagnosis, suicide, miscarriages, and death of a parent. While participants did not experience severity of illness, they faced more severe experiences beyond the typical challenges presented by COVID-19.

Beyond the severity of experiences, it is also possible that Spiritual Growth may have been more of a focus due to their experiences as parochial school teachers, where faith and religion would be prioritized. Banziger (2008) found that individuals with a religious or spiritual orientation dealt with stressful events in life with prayer as a means of coping. In a study on Italian teachers, Chirico (2017) found religion to play a protective role against job strain and burnout among Catholic school teachers, also showing those teachers to have better levels of psychological well-being than lay teachers. Participants may have concealed the true psychological status because of the reputation of the school due to the self-reported variables measured, which is a valid concern that also applies to this study, as one participant expressed a previous reluctance to seek local mental health support due to the nature of the profession and reputation within the community.

Relationships and Isolation

The results of this study support social processes as a key part of PTG. Interview participants reported an initial loss of relationships and support due the isolation that resulted from COVID-19, but also a gain in social support from relationships. One participant described how they "feed off people" (P5.45) but had little to give others due to the impact of isolation, while another noted the ways in which the pandemic forced them to reach out to others, "there's so many different ways that you can have a relationship with people" (P3.81). These results are consistent with findings that indicate social growth as part of PTG responses, specifically in response to COVID-19 (Gökalp et al., 2022). In addition to changes in relating to others as an outcome of PTG (Tedeschi et al., 2018), relationships with others and the support received from those relationships have been identified as important for teachers coping with COVID-19 (Kim & Asbury, 2020). Social support has also been associated with increased PTG (Leppma et al., 2018; Prati & Pietrantoni, 2009; Zhou et al., 2017). The present study supports the notion of social support from relationships not only as a growth outcome, but also as a factor that can contribute to increasing growth, identifying it as a growth mechanism.

Conflicted Concern

This study identified a theme of conflicted concern among interview participants. Previous research has documented that teachers' response to COVID-19 included both uncertainty and a focus on finding a way forward into the future (Kim & Asbury, 2020). During the initial lockdown, teacher understanding of the work of teaching was questioned, and new work environments were rebuilt. Teachers had to adjust their thinking and behaviour to adapt to online learning or other mandates. Participants in this study noted a period of relief from the usual stress of teaching and additional roles and extracurricular duties.

When school returned to a greater sense of normalcy, teachers expressed concern for the

future: concern over student needs (P1, P2, P3, P4, P5), and well as concern over the return to the demands of teaching and the extra responsibilities outside the classroom (P2, P3, P4). One even expressed doubt that people would reprioritize and learn from COVID-19 (P4). This future-focused concern was unable to be identified within existing literature on PTG, other than within the identification of research related to the coexistence of PTG and posttraumatic depreciation, which is a negative change in the aftermath of trauma. Positive changes have been identified as outcomes, but research has also supported the concept of depreciation, or negative effects within the same growth domains identified as part of PTG. Zieba et al. (2019) found that negative changes in growth domains can and do occur. Baker et al. (2008) identified this construct as PTD, or posttraumatic depreciation. Individuals can and do report PTG and PTD at the same time in different domains as well as in the same domains (Zieba et al. (2019). Considering this viewpoint, participants in this study may have been demonstrating PTD in the area of Factor II, New Possibilities. Rather than expressing hope and an identification of new possibilities in education and teaching representative of PTG, participants expressed a more cautious and questioning concern for what they were to encounter in the future, more representative of PTD. Furthermore, participants reported the lowest mean growth score for Factor II: New Possibilities (M = 1.22).

Self-Efficacy

Self-efficacy is the belief in one's own strength or resources to endure or meet demands, and the association between self-efficacy and PTG has been previously documented in research. Self-efficacy has been found to be a mechanism that predicts PTG (Lotfi-Kashani et al., 2014). It has also been found to be correlated with PTG among adolescents experiencing confinement due to COVID-19 (Jian et al. 2022). This study did not examine self-efficacy or the relationship with

PTG, but participants did express feelings of self-efficacy when reflecting on how they handled the changes. Participants reported self-efficacy more as an outcome of their experience as opposed to something that helped them grow through the experience. Self-efficacy is related to Factor III: Personal Strength. Self-efficacy could be considered a feeling of personal strength that results from having experienced the trauma. This study identified a positive correlation between stress and personal strength, yet information identified among the interview participants did not reflect this finding. Participant 5 reported severe levels of stress but reported changes in the domain of Personal Strength to a very small degree. Participants 1-4 reported normal levels of stress, but greater degrees of changes in Personal Strength, from small to moderate degrees. A possible explanation is that stress experienced by Participant 5 was too severe to experience growth in this domain. Other studies have documented similar patterns with moderate mental health symptoms impacting PTG (Bianchini et al., 2017).

Role and Purpose

Trauma has the capacity to restructure a person's self-concept (Muldoon et al., 2019). In the case of COVID-19, the transformative changes involved moved beyond the individual, extending into the lives of all teachers. COVID-19 appears to have led to the restructuring of the participants' self-concept as teachers. All interview participants discussed the new ways in which they were forced to teach, but also that those new ways led to questions about which ways are the right way, the most effective way, the most efficient and productive way, and the way that will meet the needs of students. The teachers in this research study discussed the role and purpose of the teacher and elaborated upon the increasing demands of teaching that meant the boundaries between personal and professional lives were not clear.

Participants were proud of the work they had done and continue to do as teachers, but

also questioned if they had the capacity to do the work of teaching in ways that was being required of them not only during the pandemic but also moving into the future. Teachers not only experienced COVID-19 as individuals, but also as members of a group. Participant 5 associated with teachers as a group when expressing "We're more than just teachers for them" (P5.49). Social identity as members of a group provides an additional framework for interpreting the experiences of trauma (Muldoon et al., 2019). Identification as part of a group, and the sense that the group had the ability to overcome trauma is known as collective efficacy and has been found to increase PTG (Muldoon et al., 2017). While social identity theory is beyond the scope of this research study, it is worth noting that this research study brings to light the collective identity of teachers as they experienced the pandemic. Teachers explored their sense of self as teachers and their values as teachers as they considered their role and purpose in teaching. This group identity can and should have a role in the process of responding to trauma. Research into the function of social identities when responding to trauma is emerging, and this study provides further knowledge that this is a valid pathway for research.

Limitations

Limitations to this study are related to characteristics of the sample, the measures used, the timing, and the methodology. The sample population was focused on a group of teachers from a private parochial school system. Fozia (2012) reported that public school teachers reported more stress than private school teachers, indicating that public and private school teachers may differ in their responses to COVID-19 and the disruptions inflicted upon schools and the profession. The findings therefore may not be generalizable to all teachers, especially those in public schools or outside the district location. In addition, the population size was small, and a larger sample size could have increased the pool of teachers to interview. The sample size

may also have had effect on findings when examining differences between groups. Although not statistically significant, the magnitude of differences identified was small to moderate when considering the effect sizes for the PTGI and all Five Factors for years of teaching experience, as well as for gender. The moderate effect sizes may indicate potential for further consideration with a larger sample population. Furthermore, given that the mental health symptoms and growth scores were more moderate in levels, and that factors of resilience have been found to be involved in PTG, it may be that this group of teachers are more resilient than other populations, thereby not experiencing the extent of transformative changes involved in PTG. Further studies measuring resilience characteristics would complement and extend the findings of the current research study.

The DASS and PTGI are both validated instruments that have been used regularly in previous research on both mental health symptoms and posttraumatic growth. They have been used for a variety of populations worldwide. Nonetheless, the DASS and the PTGI are both measures of self-perceived factors. The DASS may not accurately reflect the presence of mental health symptoms, as respondents are self-reporting. It is a measurement tool used to identify the presence of negative mental health symptoms and is not intended for the purpose of a clinical diagnosis. In addition, the timing of the completion of the DASS asked teachers to consider their symptoms as they had occurred in the past two weeks. This was purposefully intended in order to be able to refer to the DASS normative data for valid identification of symptom levels among teachers, but it did not assess symptoms that teachers may have experienced during the height of the pandemic. Furthermore, differences in symptoms may have been captured had the instrument been delivered at other times of the school year, as opposed to after a mid-year break.

The PTGI was also a self-reported instrument, and as such may reflect self-perceived or

illusory growth (Boals & Schuler, 2018) as opposed to true growth. Furthermore, the timing of the completion of the PTGI required the teachers to retrospectively answer. While this is common in research on PTGI, the timing of the administration of the instrument may have been so far removed from the heightened intensity of the changes brought about by COVID-19 that scores would not be reflective of the true amount of growth that had occurred, as there was no initial measurement at the start of the pandemic. This is a challenge commonly faced when conducting cross-sectional research studies on PTG (Tedeschi et al., 2018). Since this study was not a longitudinal study, growth over time was unable to be explored to examine if the timing after the initial stress of the forced changes due to COVID-19 would have resulted in lower or higher growth. It would have been beneficial to be able to examine the growth scores at the end of the school year of 2020 and again later to evaluate the growth of teachers and compare for significant changes.

Furthermore, the nature of PTG reveals that both growth and depreciation can co-occur; where there are positive changes in one category of growth there can be negative changes experienced in another. The PTGI does not measure loss of growth or negative impact. There could there have been a loss of growth represented because of the pandemic that the PTGI could not accurately capture. It is also possible that some did not view the experience as severe enough to qualify as a trauma. The use of qualitative interviews to examine the experiences of teachers limited the exploration to a restricted sample population. There were participants who reported greater growth scores who would have been able to offer further perspectives on growth but did not consent to be interviewed. The selection of participants was restricted to those who willingly consented, not necessarily those who could offer a greater depth of understanding.

Implications for Practice

It is noteworthy that most of the research available on mental health and PTG among teachers is drawn from global settings. The body of research on mental health and teachers in the United States is extremely limited, and non-existent for some constructs related to PTG. This global priority on research related to the well-being of teachers should motivate researchers in the United States to shift priorities from a focus on the academic and curricular efforts of schools to the numerous ways to support the psychological and psychosocial needs of teachers, on the premise that the most beneficial way to help and support students may be to support those who are tasked with teaching those students. We can learn from the PTG framework how to provide a process for addressing trauma, and even daily stressors and challenges, for a greater likelihood of producing positive outcomes. It is recommended that schools and administrators consider how to more deliberately incorporate the constructs of growth, especially PTG, into a framework for supporting teachers. This framework should specifically consider how to mitigate the negative influences on growth, while exploiting the mechanisms of growth, following the path that leads to more growth. For example, enduring stress needs to be addressed in teachers. Helping teachers manage stress, distress, and rumination is necessary. Meaningful social support is a means to accomplish this. Social support influences growth, and when combined with an increase in self-efficacy, 20.7% of changes in PTG is due to self-efficacy and support (Lofti-Kashani et al., 2014). Teachers can be best supported by interventions designed to promote self-efficacy while also strengthening relationships and social support.

Incorporating opportunities for purposeful, deliberate, and intentional rumination will also serve to move teachers out of the more harmful intrusive rumination and into the practice of deliberate rumination that is associated with increased levels of PTG. Schools should provide support structures for teachers intentionally designed to make therapy resources readily available

and easily accessible, where they are able to intentionally focus on efforts to cope with psychological distress associated with trauma or day to day stressors involved in teaching. Furthermore, leaders would do well to prioritize teacher voice in school decision-making. In doing so, teachers will be able to develop the sense of control found to be linked to self-efficacy and the presence of PTG. The loss of control teachers experienced during the pandemic should be responded to with careful thought for the benefits of promoting internal locus of control. Teacher voices should be heard moving forward from the pandemic to respond to the changing future needs of students. Complementary to a focus on teacher voice and locus of control, a greater attention to the personal strengths and how they can be used on an individual basis would also promote growth, ensuring teachers feel like their strengths are being used, leading to a greater sense of personal strength.

Additionally, there are more comprehensive long-term implications for consideration. The pandemic of COVID-19 highlights the fact that education is ever-changing, and teachers should be prepared and supported in facing the changes. Effective teaching calls for an understanding of the nature of trauma of students and self, and preparation for teaching necessitates an understanding about the required care of self and others. Preservice teaching preparation should move in the direction of including a focus on trauma understanding as a professional expectation, and a framework for meeting the needs of both teachers and students.

Recommendations for Future Research

The origins of trauma and the resulting outcomes of the experience of trauma must be considered and addressed to improve the experiences of teachers. It is also worth noting that the available research on mental health in response to the pandemic is increasing in amount as time advances, and the availability of global research continues to expand. By contrast, the

availability of research documenting cases specific to the U.S. is much more limited. This was the case prior to the pandemic and continues as schools move forward from the pandemic. Considering the psychological and cultural differences in individuals across the globe, it is imperative that research in the U.S. is on par with global research, emphasizing the importance of understanding mental health in an age of pandemics, global connections, and societal structures focused on competition and productivity (Stromquist and Monkman, 2014). The globalization of the world, and its impact on education, requires that we understand the world, including similarities and differences in education.

More robust research in this nation is a necessity moving forward to support teachers and respond to changing needs in education. The results of this study form a springboard for future research to address aspects of teachers' mental health and growth within a larger and more diverse sample. Studies on PTG and teachers' mental health should be conducted within a variety of school environments, including public schools. Differences may be found with a different and larger sample size. It would also be important to understand the positive psychological factors, or mechanisms that promote PTG, as well as how to promote those factors in the lives of teachers. Mental health history and trauma experience can't be modified, but research needs to instead target factors that can be modified.

There is a great need for future studies of psychological health variables in schools specifically in the U.S. Researchers should explore the cultural differences in the U.S. regarding individualism and whether or how those cultural differences influence the work of teaching. Based upon the findings of this study, it is entirely possible that individualism is contrary to the nature of PTG, and this concept is worth exploring to ensure that research and improvement efforts in response to trauma are not compounding the plight of teachers.

While this study has explored PTG among teachers, further studies exploring common factors among teachers as a group would serve to build on these findings. Previous research has studied common PTG factors associated with groups such as college students or older adults (Kadri et al., 2022; Tedeschi & Calhoun, 1996). PTG has been traditionally viewed as an individual construct, yet social processes have already been identified as a key part of PTG. Community identity and collective efficacy has been found to influence PTG in non-Western contexts (Muldoon et al., 2017). Research that explores the construct of PTG as a group process involving social identity among teachers would develop a better understanding of the process to structure efforts for fostering interventions suitable for the dynamics of a group.

When applying a trauma-based approach to research in schools, vicarious trauma is identifiable as an entirely new area needed for research. Participants in the present study noted the difficulties they experienced during COVID-19 involved dealing with the trauma of others, and also their students. When teachers prioritize the needs of students above their own, as expressed by the participants, vicarious trauma, or secondary trauma, becomes a concern (Brunzell et al., 2021). Teachers are forced to carry the weight of what the students are experiencing in addition to their own personal burdens, resulting in an impact to psychological health. Understanding the nature of vicarious trauma among teachers will open the door to greater possibilities for school and personal interventions. Research in this area will also serve to address the burdensome lack of boundaries described by the teachers in this study.

There is a facet of the PTG framework that would benefit from clarification and further development: while PTG is captured through five factors of growth in which individuals report positive change, it could be stated that the ultimate hope is that those changes would lead to something more than that of growth, possibly greater life satisfaction. Therefore, growth is not

the ultimate outcome, but the process that leads to something further, perhaps a more satisfying outcome of life satisfaction. Research could focus on the connection of Tedeschi and Calhoun's Five Factors (1996) to life satisfaction to find which, if any, of the Five Factor predicts higher life satisfaction.

Conclusion

Despite the limitations, this study is a meaningful step toward understanding how COVID-19 has impacted the experiences and work of teachers. Limited knowledge exists about trauma, PTG, and the work of teaching. Interventions and support to promote the growth of teachers must be targeted using a framework that understands the mechanisms of growth. It is time to acknowledge that the work of teachers is changing, and the new demands faced by teachers require more emphasis and understanding of the psychological component involved in a field that is entirely dependent upon human relationships and interactions.

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Appendix A

Consent Letter

Dear Teacher,

You are invited to participate in a study conducted by Kirsten Kasten, a doctoral student in Educational Leadership at Concordia University Chicago.

The goal of this study is to explore the positive and negative outcomes related to teacher experiences in response to COVID-19. Knowledge gained from this exploration will contribute to our understanding of the factors that contribute to the development of growth among teachers after challenging experiences or adversity. Teachers who participate in the study may benefit from better understanding how COVID-19 has impacted both mental health and growth outcomes in response to the pandemic. Results of this work will serve to equip schools and administrators with the ability to tailor responses and interventions based upon the current needs of teachers by better understanding the factors that teachers contribute to their own growth and mental health outcomes.

This study will take place over the course of several weeks and will occur in two stages. The initial stage of research will include all participants, who will be asked to complete an online survey questionnaire. The participation of most individuals will conclude after the completion of the questionnaire. After the completion of the survey, 8-10 follow-up participants will be selected based upon the results of the survey for a 45-60 minute audio recorded interview, scheduled at your convenience.

No reasonably foreseeable risks are associated with participation in this study. Your participation is completely voluntary, and you maintain the right to stop participation in the study at any time. No consequences of any kind will follow from the refusal to participate. Audio-recordings and transcripts will be the property of the researcher and will be kept by the researcher for up to five years in a digitally secured location to be used strictly for future research. Your information will remain confidential at all times; only pseudonyms will be used when reporting the results.

The study has been approved by the Institutional Review Board at Concordia University Chicago. If you have additional questions or concerns you can contact the researcher: Kirsten Kasten, telephone (414) 208-3265, email: kirsten.kasten@gmail.com.

Furthermore, should you have any questions or concerns about your rights as a research participant you can contact Dr. Amanda Maddocks, Chair of the Concordia University Chicago Institutional Review Board by phone at (708) 209-3159 or by email at irb@cuchicago.edu.

I agree to participate in the study, and I have read and received a copy of this consent

_____(signature).

I give permission to audio-record the interview _____ (signature).

_____ (name printed) _____ (date).

Appendix B

Initial Email

Dear Teacher,

You are invited to participate in a research study conducted by Kirsten Kasten, a doctoral student in Educational Leadership at Concordia University Chicago. The goal of this study is to explore the positive and negative outcomes related to teacher experiences in response to COVID-19. Knowledge gained from this exploration will contribute to our understanding of the factors that contribute to the development of growth among teachers after challenging experiences or adversity.

If you agree to be in this study, you will be asked to:

- Complete a brief demographic questionnaire that includes three questions that will take approximately 1 minute to complete.
- Complete a survey that includes 63 questions that will take approximately 15-20 minutes to complete. Questions included are from the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995) and the Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996).

Sample questions include:

1. I changed my priorities about what is important in life.
2. I have a better understanding of spiritual matters.
3. I have a greater sense of closeness with others.
4. I am more likely to try to change things which need changing.
5. I found myself getting upset by quite trivial things.
6. I found it difficult to relax.
7. I found it difficult to work up the initiative to do things.

- If you are willing, you may be asked to participate in a follow-up interview to detail more about your experiences during the COVID-19 pandemic. The interview will be audio-recorded and will take approximately 45-60 minutes of your time, scheduled at your convenience.

Participation is completely voluntary, and you may withdraw from the study at any time. The study is completely anonymous, and all identifying information will be kept confidential. The participation of most individuals will conclude after the completion of the questionnaire. After the completion of the survey, 8-10 willing follow-up participants will be selected based upon the results of the survey for a 45-60-minute audio recorded interview, scheduled at your convenience. You are able to indicate your willingness to participate in the interview by including your contact information at the conclusion of the survey.

If you would like to participate in the study please read the Informed Consent letter contained in the survey link at the end of this email. You may begin the survey after indicating your consent. Thank you for your time and participation.

Sincerely,

Kirsten Kasten, MA Ed., Doctoral Candidate, Concordia University-Chicago

SURVEY LINK

Appendix C

Demographic Information

Gender:

- Male
- Female

Current Level of Teaching:

- Elementary (K-8)
- High School

Years of Teaching Experience

- 1-5
- 6-10
- 11-15
- 16-20
- 20+

Appendix D

DASS

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

Rating Scale	**0**	**1**	**2**	**3**
I found myself getting upset by quite trivial things				
I was aware of dryness of my mouth				
I couldn't seem to experience any positive feeling at all				
I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)				
I just couldn't seem to get going				
I tended to over-react to situations				
I had a feeling of shakiness (eg, legs going to give way)				
I found it difficult to relax				
I found myself in situations that made me so anxious I was most relieved when they ended				
I felt that I had nothing to look forward to				
I found myself getting upset rather easily				
I felt that I was using a lot of nervous energy				
I felt sad and depressed				
I found myself getting impatient when I was delayed in any way (eg, elevators, traffic lights, being kept waiting)				
I had a feeling of faintness				
I felt that I had lost interest in just about everything				
I felt I wasn't worth much as a person				
I felt that I was rather touchy				
I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion				
I felt scared without any good reason				
I felt that life wasn't worthwhile				
I found it hard to wind down				
I had difficulty in swallowing				
I couldn't seem to get any enjoyment out of the things I did				
I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)				

I felt down-hearted and blue				
I found that I was very irritable				
I felt I was close to panic				
I found it hard to calm down after something upset me				
I feared that I would be "thrown" by some trivial but unfamiliar task				
I was unable to become enthusiastic about anything				
I found it difficult to tolerate interruptions to what I was doing				
I was in a state of nervous tension				
I felt I was pretty worthless				
I was intolerant of anything that kept me from getting on with what I was doing				
I felt terrified				
I could see nothing in the future to be hopeful about				
I felt that life was meaningless				
I found myself getting agitated				
I was worried about situations in which I might panic and make a fool of myself				
I experienced trembling (eg, in the hands)				
I found it difficult to work up the initiative to do things				

Appendix E

Post Traumatic Growth Inventory

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster, using the following scale.

0 = I did not experience this change as a result of my crisis.
1 = I experienced this change to a very small degree as a result of my crisis.
2 = I experienced this change to a small degree as a result of my crisis.
3 = I experienced this change to a moderate degree as a result of my crisis.
4 = I experienced this change to a great degree as a result of my crisis.
5 = I experienced this change to a very great degree as a

Possible Areas of Growth and Change	**0**	**1**	**2**	**3**	**4**	**5**
1. I changed my priorities about what is important in life.						
2. I have a greater appreciation for the value of my own life.						
3. I have developed new interests.						
4. I have a greater feeling of self-reliance.						
5. I have a better understanding of spiritual matters.						
6. I more clearly see that I can count on people in times of trouble.						
7. I established a new path for my life.						
8. I have a greater sense of closeness with others.						
9. I am more willing to express my emotions.						
10. I know better that I can handle difficulties.						
11. I am able to do better things with my life.						
12. I am better able to accept the way things work out.						
13. I can better appreciate each day.						
14. New opportunities are available which wouldn't have been otherwise.						
15. I have more compassion for others.						
16. I put more effort into my relationships.						
17. I am more likely to try to change things which need changing.						
18. I have a stronger religious faith.						
19. I discovered that I'm stronger than I thought I was.						
20. I learned a great deal about how wonderful people are.						
21. I better accept needing others.						

Post Traumatic Growth Inventory Scoring

The Post Traumatic Growth Inventory (PTGI) is scored by adding all the responses. Individual factors are scored by adding responses to items on each factor. Factors are indicated by the Roman numerals after each item below. Items to which factors belong are not listed on the form administered to clients.

Factor I: Relating to Others
Factor II: New Possibilities
Factor III: Personal Strength
Factor IV: Spiritual Change
Factor V: Appreciation for Life

PTGI Factors

1. I changed my priorities about what is important in life. (V)
2. I have a greater appreciation for the value of my own life. (V)
3. I developed new interests. (II)
4. I have a greater feeling of self-reliance. (Ill)
5. I have a better understanding of spiritual matters. (IV)
6. I more clearly see that I can count on people in times of trouble. (I)
7. I established a new path for my life. (II)
8. I have a greater sense of closeness with others. (I)
9. I am more willing to express my emotions. (I)
10. I know better that I can handle difficulties. (III)
11. I am able to do better things with my life. (II)
12. I am better able to accept the way things work out. (Ill)
13. I can better appreciate each day. (V)
14. New opportunities are available which wouldn't have been otherwise. (II)
15. I have more compassion for others. (I)
16. I put more effort into my relationships. (I)
17. I am more likely to try to change things which need changing. (II)
18. I have a stronger religious faith. (N)
19. I discovered that I'm stronger than I thought I was. (III)
20. I learned a great deal about how wonderful people are. (I)
21. I better accept needing others. (I)

Appendix F

Interview Guide

1. Share with me your professional background. What brought you to your current position?
2. How has growth been a part of your experience with COVID-19?

   Sub Question: What has helped or contributed to the development of (growth indicated in the words of the participant)?
3. How did you feel about your experiences teaching during COVID-19?
4. How have the experiences you had as a teacher during COVID-19 influenced or not influenced your teaching?
5. How has your perception of yourself as a teacher shifted or changed?
6. What do you feel brought about this shift or change?
7. On the PTGI, you indicated that you had grown in regard to (name which of the five factors). Could you tell me more about that?
8. What factors would you contribute to your growth or lack of growth teaching during COVID-19?
9. What factors would you contribute to your mental health status while teaching during COVID-19?
10. What suggestions would you have to create the conditions to support teachers in experiencing transformative growth?

Appendix G

Development of Emerging Themes, Unique Themes, and Shared Themes

Emerging Themes
• Resilient from a variety of experiences • Stressed before pandemic • Pandemic provided relief from stress • Forced change • Personality differences • Learning new things • Coworker support • Stress is draining • Pride • Concern for future needs in education • Continually adapting • Communication • Focus on logistics of teaching • Clarity • Prioritizing and efficiency • Questioning • Identity • Spiritual opportunities • Relationships with students • Isolation • Relationships with others • Comparison to others- not as bad • Finding joy in little things • Gratefulness • Teachers need time • Teachers need support, encouragement, and appreciation • Differences in settings • Transformation of education • Respecting others/empathy • Concern for impact on students • More than just a teachers • Self-efficacy • Demands on teachers • Boundaries between personal and professional • Beyond capacity • Growing human beings vs. teaching academic skills • Intentional growth vs. resulting growth • Growth capacity • Order from chaos

- Additional trauma stories
- Teacher voice Matters
- Am I a good teacher?
- Conflicted: moving forward or not?
- Conflicted: are we ready to return to normal?
- Prioritizing student needs above self
- Feeling like a failure
- Growth is learning
- Loss of control
- A wing and a prayer
- Nobody sees us
- Difference in opinions
- Realization

Unique Individual Themes

Participant 1:
A variety of experiences prior to COVID resulted in personal growth. It was very stressful prior to the pandemic, so the pandemic relieved some of the stress because slowing down was needed. Personality helped to weather the changes brought about by the pandemic, leading to growth by learning about new things, including practical concerns related to teaching such as technology. Coworkers were a source of support though continual shifting involved in responding to the pandemic. New ways of connecting with others was a source of support and joy. The little things brought joy and a sense of appreciation. Teachers need time and encouragement moving forward since education has been transformed and teaching involves more than just being in a classroom with children during the day.

Participant 2:
The experience of making a job change during the pandemic led to increased stress to navigate a new school setting and new ways of teaching that were required, and led to questions and examination of whether teaching was enjoyable in this new location. Teaching in new ways stretched and expanded abilities and led to professional growth. Isolation forced independence which led to growth. Isolation also took away spiritual growth opportunities, and now that they have been resumed a new appreciation and benefit has been recognized. Now more capable in voicing opinions instead of feeling like others know more. Concern for students was identified as some students have difficulty functioning in the classroom now, leading to an analysis of what type of teacher is needed. Lack of connections with faculty were a missing piece that can now be included moving forwarded. Concern for moving forward was expressed since so many teachers are overworked; teachers need more support to address student needs. Questions whether education will ever be the same again.

Participant 3:
Stress was a significant challenge due to the isolation experienced. Stress led to questions about the quality of teaching and if it was being done the right way. Stress led to a feeling of failure, not being enough for others, and the need to be accessible to students at all times through the computer. Boundaries were difficult to set. Personality let to challenges in responding to the pandemic due to previous struggles with mental health and anxiety. Growth

means learning from the past with a focus on the future to improve. Learned new ways to relate to one another due to isolation, both with students and with friends. Adapted teaching to student needs when returning to the classroom. Personal and professional roles were demanding and it was a struggle to balance them both. Spiritual strength and personal faith increased due to reliance on God. Empowering to see how survival and thriving resulted. Moments of intense struggle were interrupted by support from significant people in life including spouse, friends, and students. More confidence in abilities resulted. A friend was diagnosed with cancer and dies and an uncle committed suicide, leading to many ups and downs and struggles. Internal conversations and reminders to calm self were needed. Growth capacity was questioned, but a sense of accomplishment resulted from the struggle. Teachers need the opportunity voice concerns and be heard to move forward.
Participant 4: Changes in position were made prior to the pandemic, so stress was considered to be more manageable. Realization of what matters most resulted due to less busyness when cancellations of extracurriculars occurred. New changes and requirements for online learning was very time consuming and stressful. Considered self to be more capable than others in terms of technology understandings, so tried to support others. Communication became difficult and loss of one to one interactions with others led to loss of joy. Lack of time to implement changes was led to increase in stress for all. Questioned intention to remain in teaching if online learning had remained permanent. Recognized the blessing of a unique family situation that had additional support at home to survive balancing personal and professional. Very frustrated with forced changes when they conflicted with personal beliefs on what was best for students or best practices. Anger resulted from be forced to do things that didn't make sense. Questioned whether anything was learned from the pandemic now that normalcy has resumed and the schedules have become full again. Increased time from the pandemic led to personal growth and the benefit of doing things there was no time for previously. Relationships with students were challenged, and there was a realization of the importance of the connections with students. The purpose of a teacher was questioned. Time is needed for teachers to support them in better dealing with depression, anxiety, and stress. Conversation about students is needed, but conversation about the teachers needs to occur to address burn out.
Participant 5: Professional changes occurred prior to the pandemic and during the pandemic. Additional responsibilities in teaching and administration were stressful with many demands. Division was encountered in attempting to determine the best course of action on how to carry out education. Political, cultural divide was present and caused stress. All teachers were stressed out and were willing to collaborate and help one another, but time made it difficult. Forced changes required new learning in things where no previous experience was held. Relationships with others were strained when recognizing differences in opinions. Isolation blinded people to their own problems. More people are struggling with mental health than let on. Inability to compartmentalize led to position changes for the future since boundaries between personal and professional are difficult to maintain. School required so much that ability to be present at home was a struggle. Since others were struggling, those who would typically be relied upon for support were also overwhelmed and unavailable. The loss of a student's family member

required being there for students as more than just teachers. While intentional communication was forced, the social toll on children is a concern. Looking forward to new teaching role, having learned the importance of mental health and relationships in the classroom, and will incorporate non-academic skills into the classroom in the future. Teaching is more than just academics; it is the business of people. Learning from situations leads to growth, and sometimes others are needed to help learn. Recognition of the struggles others faced led to a new appreciation. Teachers need to be recognized as having important roles in education; they need to be appreciated and supported, especially in allowing them to establish boundaries.

Shared Essential Themes	
Questioning	Identity
Loss and Gain	Forced Change Isolation Joy Spiritual Opportunities Painful Experiences: Self and Others Order from chaos
Personality	Differences in Personality and Experiences Comparison to Others
Conflicted Concern	Ready for the Future Have We Learned Anything? Student Needs
Relationships	Communication Isolation
Self-Efficacy	Pride and Empowerment Prior Experiences of Stress/Resilience Questioning of Capacity
Role and Purpose	Transformation of Education Personal and Professional Boundaries Prioritization of Student Needs Above Own

Appendix H

Shared Essential Themes with Textual Evidence

Loss and Gain Through Forced Change	Participant 1: • I think that that kind, that kind of pivoting is really, it wears on you, eventually...27 • I'd I think I maybe just realized it in more, more clear terms. Because it was an opportunity that like everyone was having to reinvent what they're doing. 45 • It just made me very grateful for like all the love and companionship I do have.61 • A passage that I would always think about is like God's mercies are new every morning. And that would just be very true. I think like, you know, today was not such a good day. Didn't feel so great, but you know, his mercies are new every morning. 57 Participant 2: • I think it stretched me beyond what I thought I would be able to accomplish in only having been teaching for three years and that really full load teaching.16 • So I feel like I really expanded my toolbox of resources where had COVID not happened, I'm not sure I would have even went down those technology avenues or finding alternate assessments or things that, again I don't know if I would have even gone down that road if I wouldn't of had to. 16 • We couldn't corporally worship anymore, and we couldn't do a lot of things that we were used to doing. I grew to appreciate having those opportunities so now that we are able to go back to normal so to speak...I appreciate it more and find benefit in those things more. 24 Participant 3: • I think my anxiety led to my stress of not being enough for people. And then that stressed me out...so I think the anxiety was the catalyst for a lot of the other things that kind of fell from, that as well. Because again, for me, a trigger of anxiety is the unknown. 92 • I knew I couldn't have personal strength and or growth without being rooted in my faith and really, you know, digging into, whether it was a Bible study or personal devotion thing. Cause I knew I wasn't getting stronger because of who I was or anything that I was really like amazing at. I was getting stronger feeling stronger because I was trusting more. 78 Participant 4: • Yeah. I mean, they're, nobody was happy. They're comfortably numb. 149 • Everybody was high anxiety going through what was going on...everybody was kind of stressed out...It was just chaos. I don't know if any place was truly great. And then, and basically you went through it, and you just got used to being, feeling like crap. 15

	• When you're in teaching and you don't have that one-on-one interaction, you lose the joy. 37 Participant 5: • Kind of started from ground zero, thinking about how to do that. 16 • And so, there's just been so much that, you know, everyone's good intentions to try to be there and support each other, but there was enough life going on that...in October I lost my two remaining grandparents within about two weeks of each other. And so, my parents have been, you know, right around the time I was learning I was gonna be covering for a teacher and teaching for her. I couldn't tell my parents cuz they had, you know, a funeral to plan and things. And so, it's just been much, you know, a lot of the support that I usually would talk through things or lean on or, or things like that was also overwhelmed and, and wanted to be there for them with very little to give them and you know, tried with what little I had to, to give. 45
Personality and Experiences	Participant 1: • I think I just personality-wise, I don't mind just jumping into something as much, I think for some people that are even more type A, that that's really hard for them...I think I just, my personality could weather that a little bit more than some other personalities. 15 • What I was doing before the pandemic hit was so, so stressful and so much work. And so overwhelming. I just felt like I was drowning all the time. 15 • I still had like a wonderful warm apartment and lots of loved ones around me and everyone I know was thankfully very healthy throughout the whole thing. 86 Participant 2: • Just the stress of not only transitioning to a new school and a new setting, but also having to navigate on top of it being new in general, now there's this block of now having to change completely the way I thought I would be coming in to teach. 12 • I would feel like what I said didn't matter as much because I wasn't as smart as them or not as qualified. 31 Participant 3: • It was really, really hard for me when we were quarantined. I'm a hugely social person. 20 • So it was super crazy stressful, and I'm also a catastrophizer. 22 • I think that they were more stressed, but knew how to handle it better. 100 • And so while some of my colleagues that had more experience had more, more knowledge to draw from, they didn't always know how to then take that knowledge and make it online accessible or make it, so that the technology like they may have had the worksheet for it. 102 Participant 4:

	• I guess that that's me personally, I'm a figure-outer, I'm a creative person that likes to always try to find the best way to get the best result, you know, and I'm willing to try things. That didn't work. Okay. Throw it away and do something else. And sometimes I felt pigeonholed and that's where the stress came in. 129 • I'm good at what I do. I can't imagine what other people are...and that's what I kept on asking myself, "if I'm struggling this much, and I know this stuff, I can't imagine what other people are doing. 137 • I think it has to be more of a personality, sure. Of how you deal with change and how your skills coming in, adapt to the technology and learning new things. 149 Participant 5: • Too many things mixed with my personality of not being able to put things, and wanting to do the best I can all the time. You know, I always, we did a Bible class and Paul says to run the race, like you have nothing left and, and I humbly try to do that and, and I don't have anything left. 43 • I've known four people in the last four months that have had miscarriages...But I have two healthy kids, you know? And, and so I think I can see those things. I don't love that it takes such an extreme example for me to sometimes find appreciation in things, but I, I can see those things. 78
Conflicted Concern	Participant 1: • So I think I had so much stress from just the school, the school year, that in some ways COVID almost felt like a little bit of a relief. 15 • I think that we more and more and more are gonna see the effects of screen time on kids...like that's hurting your brain...I think that's hurting the way they relate to each other. 103 Participant 2: • I think COVID has changed a lot of students...mentality of what it means to be in a classroom. 35 • And now that we're able to do all of these things again, it's like yay all these things are back, but also, yay, who gets to do all of these things? 76 • The needs of our students are going to continue to change- physically, emotionally, mentally- in all of those different areas. 108 Participant 3: • And talking with other people took a lot more energy, and as a person who just loves talking to people, I didn't always understand, just how much energy and effort it took for them. Cuz to me, I'm like, you just come up here and you just talk like it's, I talked to them for a living. So, seeing how much people, how, how different students struggled in various ways with that really made me step back and say, okay, how can I scaffold this for them a little bit more so that it doesn't become this huge, scary thing where you are doing all of this. 48 • And they're left with a very unsettled feeling, but you know what we are, we are too, we're left with some of that unsettling. And like, I don't think that

	we're gonna really process all this trauma yeah. In all its various aspects for a while. 154 Participant 4: • We fill ourself with the busyness, and I think a lot more people have more time to really focus on really what matters. 81 • I think we are rethinking of how can we better utilize our time, you know, for both students and teachers and how can we create a system to better support that. 163 • I like to think that people are gonna start reprioritizing their lives and start figuring things out. Unfortunately, I also believe that we're dumb... we have very short memories...I would like to say that people would try to focus on more of what is important, but I don't know if they'll ever get there. I don't think it ever will. 163 Participant 5: • I don't love the social toll that it took on kids. 49 • Seems to me is that you realize what matters more. Just, you get to spend all this time with your family and, you have all this busyness that you, that you're what to have, but honestly, I enjoyed...I actually enjoyed some of the less chaotic things about school. 75
Relationships	Participant 1: • But I think I just benefited from some of my coworkers who were really good at that and are very curious. 21 • I had a great, you know, schedule of my Zoom nights of like who I'm hanging out, hanging out with like that night. So that was fun. 55 • Just a lot of isolation. 155 Participant 2: • I guess I grew more independent I think where I relied could rely on myself to do more things on my own and not needing to rely on other people to make sure I got there. 20 • Definitely other coworkers in my department that were willing to answer questions that I not COVID related, just being new here that I wasn't aware of how something worked. I would say coworkers were the main driving point [of growth]. 22 Participant 3: • I have the time to have these conversations and to build each other up. 72 • Because there's so many different ways that you can have a relationship with people. You can have it because you see them in the hallways and you know, you talk because you have the same off hour, but it's another thing to like show up when things are hard and things are tough. And then I can say to you, man, I'm really struggling today. Can you just send me stupid memes... and then to have the people actually show up and send you the stupid memes or whatever

	the case may be. In fact, one of my closest friend group really came out of all of this because we were texting. 81 Participant 4: • I think that's how I grow the best is through dialogue and through conversations and questions and that kind of was, it was hurt a little bit during this experience... it was more difficult to have those conversations and... I wish I had the opportunity to do more, that I used to be able to do in the past that I was not able to do. 118 • I think when you go through a hardship, you're kind of all in together. 165 Participant 5: • And when you become an island and you're isolated, then when things are hard, you know, you weather the storm alone, whereas maybe you used to collaborate, or you used to talk to people. I think that that just heightened, it gave people blinders to kind of their own problems. And I think that there that made it harder for some. 20 • I feed off people and I like to be there for people and I just didn't have bandwidth for people. And...wanting to be there for people...and help them carry them, their load...with very little to give them and you know, tried with what little I had to, to give. 45
Self-Efficacy	Participant 1: • I feel like it was really, it was draining, but I'd say overall as a teacher, like I feel proud that we were able to keep teaching kids. 23 • ...brought some order to chaos. Which you might think is completely opposite, and in some ways it kind of is, but I think for me, it made it feel more orderly and more manageable, and more like "ok, I can do this." 125 Participant 2: • I think it stretched me beyond what I thought I would be able to accomplish in only having been teaching for three years and that really full load teaching. 16 • I really expanded my toolbox of resources where had COVID not happened...I don't know if I would have even gone down that road if I wouldn't of had to. 16 Participant 3: • I would say that growth to me means that you're learning from past mistakes and or experiences to improve, your next decision or to improve your next lesson or your next, you know, whatever. 40 • So I'm stronger because of it. And so, when I'm sitting here crying for no apparent reason, because I'm just stressed out and feeling like a failure, even though I'm not because there isn't, there was no way to fail....you are strong enough to endure all of these unknown things and come out the other side and still be able to connect with your family, your students, your faith, your everything else, your friends. That was for me, super empowering to see you

	got through that hard thing that you didn't know anything about, and you survived and you thrived. 74 Participant 4: • And knowing that we did it and we're able to accomplish a goal of, you know, doing that. Also just having the [sport] season and just getting the [sport] season done, I guess, personally just, an accomplishment of just keeping the team together and making it through, you know, so that was, that was, that was good, you know? 98 • It was nice to just be able to grow in these many different areas that I always wanted to, and I just felt like I never would able, had time, or was going to be able to do it. And COVID, I guess was kind of a blessing to just say, yeah, I was able to do that. 100 Participant 5: • First of all, I'm gonna be way more efficient. Like holy cow, I can work so much faster than I've ever worked, which is good. 53 • Well, right now growth means the ability to reframe, that's what my therapist and I are doing. Is the ability to see a situation differently, doesn't necessarily have to be good, but just different because then, you know, when you can see a situation, at least from two points of view, then there's a chance that you can make it out of it or learn from it. So at least right now, growth is reframing. 70
Role and Purpose	Participant 1: • I think teachers are people that can be supportive and can hopefully model healthy things for them. 103 Participant 2: • That's been hard to, like trying to not only teach them... but also teach them what it is to be a respectable young adult. 35 • I feel like single teachers can have a lot thrown at them. Like, "Oh you don't have anybody to take care of when you go home, you can coach all these things and do all these things outside of school. 76 Participant 3: • And so I became totally a hundred percent obsessed with my computer. Like I felt guilty if I had it closed because what if my students emailed me and I wasn't there for them to reach out to, or if they had a question or if I didn't explain it right. 22 • My professional and my personal life bleeds so heavily into one another and I am terrible at setting any kind of boundaries for any of those thing. 32

	• So then I'm trying to teach and then [names] are at home trying too. And I'm like... you have to get your homework done, and so then trying to balance all of them. That was, that was stressful. 36 • I can't ever close my computer because what if they need me. 90 • I mean, I really like, cause we care and we're getting, you know, more help for our kiddos, but I just wonder how many teachers are burying it or don't know where to go. 140 • You are expected to wear a whole lot of hats and that gets really heavy to keep wearing all of the hats. If you never get a chance to take them all off. 146 Participant 4: • All right. Well, I just gave this [test], and it's a beautiful Sunday afternoon. I'm like, well, I'll be just in here for 12 hours grading, you know, just 24 tests because that's, I have to do it, and it has to be relatively done and you wanna do what best for your kids. And it's best, but I guess it's for your students and not necessarily always your kids. 67 • And I don't, I think some people have seen that, that, well, that's all a teacher is. Um, and I think it's kind of muddied the water of maybe, maybe it's gonna start the conversation. I don't think the conversation's been totally answered yet, because with the online learning, I know online schools have increased in number. There's more people going that route, but also I think a lot of people have realized that there's something about this interaction between people that is good, you know, and having you upfront, but still it's. Is it just for us to be there? 123 Participant 5: • But I think it was more inability to let go when I went home. Honestly, I would have enough adrenaline here to get me through the day and then coming down at night, it would just, the adrenaline would go away and the stress would come and sure, the anxiety with COVID was awful. 37 • We're more than just teachers for them. We're consistent adults, we're schedule setters. We are stability that they don't have other places. 49 • I said this to somebody the other day, like we're in the business of people. 56 • A person that's growing people. You're not just the person in charge of this column of test scores. 96 • Yes. Inability to create and maintain boundaries for sure. 132