

**BUILDING TEACHER RESILIENCE: RELATIONS OF SELF-COMPASSION AMONG
TEACHER EFFICACY AND BURNOUT**

by

Julie Ann Sauve

M.A.T., Westminster College, 2008

B.A., The University of Northern Colorado, 2005

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES
(Human Development, Learning, and Culture)

THE UNIVERSITY OF BRITISH COLUMBIA
(Vancouver)

October 2017

© Julie Ann Sauve, 2017

Abstract

Teacher burnout is a phenomenon that has received a considerable amount of research. There is good reason for this, given that growing rates of teacher burnout are associated with many negative consequences including a reduction in teacher quality and increased costs due to high teacher turnover rates. Emerging research indicates that strengthening teachers' social and emotional competencies (SEC) may lower burnout while promoting feelings of well-being and resilience. The aim of this study was to add to the body of current research focused on investigating teacher SEC and burnout by examining self-compassion, a promising, yet currently under researched SEC, in relation to other teacher characteristics known to be associated with burnout. Specifically, the present study assessed relations among self-compassion, teacher efficacy, and years of teaching experience to burnout by analyzing the self-reported responses of 52 elementary and secondary teachers to a teacher health and well-being questionnaire. Along with the use of correlational analysis, three multiple regression models were used to examine relations among self-compassion, teacher efficacy, and years of teaching experience to each of the three dimensions of burnout: emotional exhaustion, depersonalization, and personal accomplishment. Additionally, the hierarchy of importance of each variable to each dimension of burnout was measured using the Pratt-index. As hypothesized, self-compassion was significantly associated with all three dimensions of burnout, and was measured to be the variable of greatest importance for the dimensions of emotional exhaustion and depersonalization. Teacher efficacy was only significantly associated with, and found to be relatively important to one dimension of burnout: personal accomplishment. When examined collectively, self-compassion, teacher efficacy, and years of teaching experience moderately predicted personal accomplishment, but

failed to significantly predict emotional exhaustion or depersonalization. Findings from this study suggest that efforts to diminish teacher burnout require development of multiple competencies that address the multidimensional aspect of burnout. Self-compassion warrants further examination as a potential competency that may serve to assist in such efforts.

Lay Summary

Growing rates of reported teacher stress and burnout, coupled alongside the increased rates of teachers prematurely leaving the field, warrants the need to find solutions to promote teacher well-being. Promising research within the field of Social and Emotional Learning (SEL) has shown that developing teachers' social and emotional competencies (SEC) may be particularly useful in mitigating the effects of burnout by providing teachers with needed skills to build their resilience. Such skills may enable teachers to cope with the emotional and social stressors associated with teaching. The aim of this study was to investigate teacher burnout and its relations to teacher efficacy and the SEC self-compassion. Findings suggest that efforts to buffer teacher burnout may require the development of multiple competencies that collectively address various aspect of burnout. Self-compassion warrants further examination as a potential competency that may serve to assist in such efforts alongside existing competencies.

Preface

Chapter 2 and 3 are based on work conducted with the Vancouver School Board (VSB) and School District No. 67 (Okanagan Skaha) by Dr. Kimberly A. Schonert-Reichl and research assistants. I was responsible for analyzing the data used in this thesis.

UBC Research Ethics Board approval was obtained for this research. The Certificate Numbers of the Ethic Certificates obtained are H10-02617, H11-00391, and H14-02370004.

Table of Contents

Abstract.....	ii
Lay Summary	iv
Preface.....	v
Table of Contents	vi
List of Tables	ix
List of Figures.....	x
Acknowledgements	xi
CHAPTER 1: INTRODUCTION.....	1
Understanding Teacher Burnout.....	4
Considering Context	4
Considering Self-Report Measures	6
Measuring Burnout.....	7
Relations Among Dimensions of Burnout.....	9
Factors of Burnout	10
Building Teacher Resilience: Protective and Promotive Factors	13
Developing Teachers’ Personal Characteristics.....	14
Teachers’ Social and Emotional Competencies (SEC)	16
Measuring Teacher SEC	17
Potential Benefits of SEC Beyond Teacher Well-Being	20
Teacher Efficacy.....	22
Teacher Efficacy and Burnout.....	24

Self-Compassion	26
Measuring Self-Compassion	27
Self-Compassion and Teacher Burnout	30
The Present Study	33
Research Question	34
Hypotheses	34
Self-Compassion and Years of Teaching Experience	34
Teacher Efficacy and Years of Teaching Experience	35
Self-Compassion and Teacher Efficacy	35
Self-Compassion, Teacher Efficacy, and the Dimensions of Burnout	36
CHAPTER 2: METHODOLOGY	38
Participants	38
Procedure	40
Data Collection	40
Measures	41
Demographic Questionnaire	42
Maslach Burnout Inventory - Educator's Survey	42
Personal Teaching Efficacy Scale	44
Occupational Self-Compassion Scale	44
CHAPTER 3: RESULTS	46
Data Analytic Procedure	46
Intercorrelations Among Variables	49
Predictors of Burnout	50

CHAPTER 3: DISCUSSION	55
Comparing Self-Compassion and Teacher Efficacy to the Dimensions of Burnout.....	56
Emotional Exhaustion and Depersonalization	56
Personal Accomplishment.....	58
Relations Between Self-Compassion and Teacher Efficacy....	61
Strengths and Limitations	62
Future Directions	67
REFERENCES.....	70
APPENDIX A: STUDY A PARTICIPANT CONSENT FORM.....	85
APPENDIX B: STUDY B PARTICIPANT CONSENT FORM	90
APPENDIX C: STUDY C PARTICIPANT CONSENT FORM.....	96
APPENDIX D: MASLACH BURNOUT INVENTORY – EDUCATORS’ SURVEY.....	102
APPENDIX E: PERSONAL TEACHING EFFICACY SCALE	105
APPENDIX F: OCCUPATIONAL SELF-COMPASSION SCALE	106

List of Tables

Table 1: Descriptive Statistics and Pearson Product-Moment Correlation Between Variables ...53

Table 2: Regression Analysis Exploring Relations Among Teachers' Personal Characteristics and
Dimensions of Burnout 54

List of Figures

Figure 1. The Prosocial Classroom Model (Jennings & Greenberg, 2009).....	21
Figure 2. Description of Variables and Regression Models Used	48

Acknowledgements

First, I would like to extend my gratitude to my supervisor, Dr. Kimberly Schonert-Reichl, for always providing me with inspiration and guidance that encourages me to continue to grow. I am especially grateful for the amount of time she has sacrificed in efforts to help improve my abilities and for the example of love and compassion she provides.

Thank you to my thesis committee members, Dr. Shelley Hymel for fostering my ability to think critically, and Dr. Amery Wu, for nurturing my newfound role as a researcher.

A special thanks to my colleagues for their love and support, especially Jacqueline Maloney and Jenna Whitehead, for their continual guidance throughout this process.

Finally, heartfelt gratitude and thanks to my family members, especially my husband Ryan, who continues to inspire me to be the best version of myself everyday.

Chapter 1: Introduction

There is a crisis facing our education system today. Teachers report feelings of *burnout* more than any other group of professionals (van Tonder & Williams, 2009). Burnout is triggered and accompanied by an inability to cope with the demands of extreme work-related stress, erodes one's occupational well-being, often includes the negative feelings of emotional exhaustion, depersonalization, and a lack of personal accomplishment, and results in a negative relationship between an employee and his or her work (Maslach & Jackson, & Leiter, 1997). The consequences of burnout often lead to teachers leaving the profession prematurely, or perhaps worse, continuing to teach while disengaged and unenthusiastic about their work (Borman & Dowling, 2008; Karsenti & Collin, 2013). Burnout impacts not only teachers' well-being, but student achievement through the deterioration of teacher quality, as well as the economy by increasing costs associated with the unremitting need to replenish the teaching field (Greenberg, Brown, & Abenavoli, 2016). Given the serious nature of these consequences, the problem of teacher burnout should be given serious consideration.

Some researchers posit that one way to combat teacher burnout is to bolster resilience, or the ability to withstand or recover from significant challenges (Sapienza & Masten, 2011), thereby strengthening teachers' abilities to cope with the stressors and challenges associated with teaching (Gu & Day, 2007). Fostering personal characteristics, or an individual's inner resources, is one way that teacher resilience is strengthened and includes the development of cognitive, social, and emotional skills or attitudes (Jennings & Greenberg, 2009; Jones, Bouffard, & Weissbourd, 2013; Maslach, Schaufeli, & Leiter, 2001). The role of teacher efficacy, that is a teacher's perception about their level of performance and ability to teach (Gibson & Dembo,

1984), is a personal characteristic that has received a large amount of attention within the field of education over the past few decades (Collie, Shapka, & Perry, 2012). There is good reason for this, given that teacher efficacy is associated with lower levels of teacher burnout and behaviours associated with resilience such as job satisfaction (Caprara, Barbaranelli, Steca, & Malone, 2006) and increased motivation and personal learning (Gorozidis & Papaioannou, 2014). Still, the benefits of teacher efficacy may be limited in promoting resilience, given that the development and maintenance of efficacy is contingent upon teachers' perception of their work ability and job performance (de Souza & Hutz, 2016). It is reasonable to assume that additional resilience promoting factors are needed to support teachers when the inherent challenges of teaching (such as persistent student misbehaviour or low test results) can easily erode teachers' feelings about their teaching ability and job performance (Jennings, 2015a). However, burgeoning research within the field of social and emotional learning (SEL) addresses this gap, and posits that fortifying a particular subset of personal characteristics, known as *social and emotional competencies* (SEC), may promote resilience by providing teachers with the skills needed to cope with the emotional and interpersonal stressors of teaching (e.g., Jennings & Greenberg, 2009; MLERN, 2012; Schonert-Reichl, Hanson-Peterson, & Hymel, 2015).

Though currently under researched, one SEC that shows promise in promoting teacher resilience is *self-compassion* (see Neff 2003a; Roeser et al., 2013). Self-compassion is defined as a way of kindly and positively relating to oneself without harsh self-evaluation or social comparison regardless of performance level or ability (Neff et al., 2005; Neff, 2009). Extant research has found significant associations between self-compassion and psychological health and well-being, suggesting that it may serve to promote resilience and buffer the effects of burnout (see MacBeth & Gumley, 2012).

The aim of the present study is to add to the growing body of research on self-compassion and its connection to teacher resilience by comparing the relations of teacher efficacy and self-compassion to teachers' self-reports of burnout. Because self-compassion provides individuals with an alternative model of relating with the self, one that is kind regardless of circumstance, and, unlike teacher efficacy, eliminates evaluation of the self that is contingent on performance ability (de Souza & Hutz, 2016; Neff, Kirkpatrick, & Rude, 2007), it was hypothesized that self-compassion would be associated with lower levels of teacher burnout more strongly than teacher efficacy (when controlling for years of teaching experience). A thorough scan of the extant literature has revealed no other studies that have examined the relations among efficacy, self-compassion, and burnout in teachers, making the present study especially warranted. Comparison of these relations allows for a greater understanding of how, and to what level self-compassion may play a role in buffering against teacher burnout and supporting resilience.

This thesis includes four chapters; each explores various dimensions of the present research study. Chapter One further defines important constructs and reviews literature relevant to the present study. It concludes with a description of the present study. Chapter Two explains the methodology of the present study. Chapter Three provides results of the study. Chapter Four concludes with a discussion regarding results, including limitations of the study and future directions for related research.

The following chapter is divided into three main sections. The first section reviews the phenomenon of teacher burnout and defines the three dimensions that comprise burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. The first section of this chapter also includes an exploration of the factors that have been found to influence

teacher burnout and resilience. The second section explores the benefits of developing teachers' personal characteristics, particularly SEC, and then further examines the personal characteristics of teacher efficacy and self-compassion. The third section introduces the proposed study, provides the research question that was investigated, and concludes with the study's hypotheses.

Understanding Teacher Burnout

Considering Context

Burnout is defined as “a psychological syndrome that develops in response to chronic emotional and interpersonal stressors in the work situation, which, *de facto*, articulates a non-productive relationship (effectively, a crisis) between employees and their work” (van Tonder & Williams, 2009, p. 2). Maslach (1998) proposed that burnout is multidimensional and is defined by three distinct, yet related factors including feelings of emotional exhaustion, depersonalization, and reduced personal accomplishment. In contrast, resilience is defined as “the capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development” (Sapienza & Masten, 2011, p. 268). Interestingly, both burnout and resilience literature indicate that an individual's context plays a critical role in deciphering how, why, or to what extent certain events (albeit positive or negative) influence an individual's experience (Maslach et al., 2001; Ungar, 2015). Context, as defined by Michael Ungar (2015), “refers to the broader social and physical ecologies” that influence and shape a person's lived experience (p. 38). These ecologies, or contextual factors, range from the broad influence of cultural systems (such as societal or governmental institutions) to unique personal factors (such as family dynamics or a person's health). An individual's context consists of not only the present circumstances that he or she lives in, but also the past contextual factors that have influenced the way he or she views life (Bronfenbrenner & Morris, 2006). Therefore,

context is an amalgamate of both past and present factors that influence the way an individual will interact with, and perceive, the world. Ample amount of research shows context also plays an important role in the development and maintenance of personal characteristics linked to a person's well-being and resilience (see Felitti et al., 1998; Luthar & Brown, 2007; Rutter, 2012; Ungar, 2015). For example, Kristin Neff's work suggests there may be an association between a person's context and level of self-compassion later in life. In a study conducted with 522 adolescents and young adults, Neff and McGehee (2010) found that participants' recollection of childhood contextual factors (such as maternal warmth, attachment style, and family functioning) were associated with their current level of self-compassion as measured by self-report surveys.

Although the present study does not measure the role that contextual factors may play in relation to teacher burnout, an understanding that context may have influence on personal characteristics is important to consider so that results are interpreted with caution and without over-generalization. It is equally important to recognize that while research has identified common factors associated with teacher burnout, due to context, the phenomena does not look the same for all individuals. The likelihood of experiencing burnout is dependent upon the interplay between risk factors (those things that cause stress to varying degrees), promotive factors (resources which lead to positive outcomes across most levels of exposure to adversity), and protective factors (resources which moderate the impact of high adversity, above and beyond the typical positive impact they usually elicit) present in one's life (Masten & Motti-Stefanidi, 2009). The presence and varying levels of these factors interact with one's personal characteristics and working context (e.g., environmental or cultural factors) (Ungar, 2015) to provide a unique work experience for the individual. Therefore, what leads to feelings of burnout for one person, may not affect another person in the same way. Furthermore, the same factors

may not impact the same person, the same way, every time (Rutter, 2012). The result is a complex phenomenon where some teachers are capable of exhibiting resilience, thus, overcoming stress and burnout, while others are not. Therefore, findings from studies examining the phenomenon of teacher burnout should be interpreted with caution because many of the contextual factors that support or deter teacher burnout are not yet fully understood (Brackett Palomera, Mojsa-Kaja, Reyes, & Salovey, 2010).

Considering Self-Report Measures

Much of the previous research that has examined teacher burnout, efficacy, and self-compassion has predominantly relied on self-report measures to capture the experiences of participants. Although the use of self-report measures provides a rich source of data because it allows participants to express their personal experience (Baldwin, 1999), self-report measures also possess some limitations. Indeed, the validity of self-report data has been criticized due to the potential for participants to answer questions falsely (either intentionally or subconsciously) due to social desirability or a distortion of memory (Chan, 2009). However, Baldwin (1999) argues that self-report measures allow for an understanding of participants that would not be accessible to researchers otherwise, given that individuals' perceptions and thoughts are not easily observable through behaviour. Perhaps it is for these reasons that self-report measures are frequently used within the field of social sciences, considered as one of the most valid ways to garner personal response regardless of the criticism received (Baldwin, 1999).

In the case of the present study, self-report measures were used to assess teachers' sense of burnout, efficacy, and occupational self-compassion. These constructs are heavily tied to perceptions that one has about the self. Therefore, the use of self-report measures in the present study was justified, given that these constructs are associated with intimate behaviour, thoughts,

and perceptions of the self that, as Baldwin suggests, may not be captured using measures other than those eliciting self-report data (Baldwin, 1999). The limitations of self-report data were considered when interpreting results of the present study and are further addressed in the discussion section of this thesis.

Measuring Burnout

In efforts to further understand teacher burnout and the ways in which to help teachers develop resilience, it is necessary to determine what exactly teacher burnout looks like.

Maslach's Burnout Inventory – Educators' Survey (MBI – ES) (Maslach et al., 1997) is a standard measure used to assess a teacher's level of burnout. The use of the MBI – ES provides the ability for researchers to assess the three dimensions of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment¹. *Emotional exhaustion* reflects the stress dimension of burnout. It is the predominant feature of burnout and the most obvious to observe of the three dimensions. It is characterized by an individual being overextended and depleted of resources (Maslach et al., 2001) while exhibiting a breakdown in coping ability associated with stress over time (Maslach et al., 1997). *Depersonalization* refers to the interpersonal aspect of burnout and is manifest as a negative, callous, or excessively detached response to other people (Ryan & Deci, 2000). Maslach and colleagues (2001) propose that depersonalization may be a coping strategy, given that through this process one puts distance

¹ Although Maslach's (1998) definition of burnout includes reduced personal accomplishment, the items on the MBI that correspond with this dimension are worded to measure the opposite of this construct: personal accomplishment. It is considered acceptable to report the results of this dimension as personal accomplishment, or reverse score the items to represent the data as reduced personal accomplishment. To maintain consistency with the original scale, items were not reverse scored for the present study and results for this dimension represent levels of teachers' personal accomplishment.

between themselves and those they work with by intentionally (or subconsciously) ignoring the qualities that make the other unique and human. This act makes it easier for the depersonalized person to pull away from those with whom he or she once had a caring relationship. *Reduced personal accomplishment* (or reduced feelings of competency) completes Maslach's definition of burnout. It represents the self-evaluation dimension of burnout and is distinguished by a lack of achievement or productivity and feelings of incompetence (Maslach et al., 2001).

Maslach and colleagues (2001) argue that examining burnout through this multidimensional lens creates a well-rounded definition of burnout that allows researchers to measure the contribution of the influences of burnout simultaneously (as a composite score), while also allowing for separation of unique contributors (scored at the subscale level). The relationship among these dimensions, as well as how each contributes to burnout, is explained in Maslach's (1998) Multidimensional Theory of Burnout. The theory proposes that examining burnout from the multidimensional perspective allows researchers to view burnout from three important angles: 1. Measuring emotional exhaustion reveals the individual's feelings and perceptions toward work (including physical and mental states of being); 2. Measuring depersonalization reveals the individual's feelings and perceptions toward others associated with work; 3. Measuring personal accomplishment (or reverse scoring the scale and measuring reduced personal accomplishment) reveals the individual's feelings and perceptions toward themselves in relation to performance ability and personal achievement when at work. It is theorized that one dimension of burnout can exist without the others, but most often the feelings perceived in one dimension are believed to be perpetuated by the existence of the others, with emotional exhaustion usually serving as the precipitating dimension (Maslach, 1998).

Some researchers have criticized Maslach's Multidimensional Theory of Burnout,

questioning whether emotional exhaustion, depersonalization, and reduced personal accomplishment are separate constructs, or whether more or fewer dimensions of burnout should be considered as part of the same phenomenon (e.g., Brookings, Bolton, Brown, & McEvoy, 1985; Densten, 2001; Schaufeli & van Dierendonck, 1993; Shirom, 1989). However, multiple analyses of the MBI, including a review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies, provide support for Maslach's three-factor model (see Worley, Vassar, Wheeler, & Barnes, 2008). Indeed, the meta-analysis reported that the three-factor model was valid and reliable. Furthermore, the meta-analysis revealed that the three dimensions of burnout were independent yet related, though the relationship among the three factors varied slightly across studies. Worley and colleagues (2008) suggested that one way this variation may be explained is due to the differences in sample characteristics among studies, reinforcing the important role context may play when interpreting the results in burnout literature.

Relations Among Dimensions of Burnout

Interpreting the results of the MBI – ES (Maslach et al., 1997) requires an understanding of how the three dimensions often unfold. According to the Multidimensional Theory of Burnout (Maslach, 1998), the phenomenon almost always begins with a person feeling emotionally exhausted toward work, and likely includes feelings of chronic stress accompanied by lack of physical and mental well-being. These feelings can remain in isolation or manifest into behaviours and perceptions that lead to the second and third dimensions of burnout: depersonalization and reduced personal accomplishment. When one begins to feel depersonalized, behaviours and actions toward others and work begin to change. In this stage, one may distance themselves from others and develop a cynical or detached attitude toward work. The third dimension of burnout, reduced personal accomplishment, differs in that it refers

to diminished perceptions that the individual develops about the self in relation to one's work. This reduced sense of personal accomplishment often leads to ineffectiveness and feelings of failure (Maslach, 1998).

Among those employed in human services (such as teaching) both theory and research (e.g., Byrne, 1994; Maslach et al., 2001) support that the burnout phenomenon typically unfolds in the expected sequential pattern: emotional exhaustion leads to overwhelming stress, which leads to distancing oneself from work and colleagues. This often leads to feelings of cynicism and depersonalization. Finally, feelings of chronic, overwhelming demands eventually erode a person's sense of efficacy resulting in a reduced sense of personal accomplishment. However, Maslach puts forth that the dimensions may not always unfold in this sequential manner, nor do all three always manifest themselves in all circumstances (Maslach et al., 2001). This suggests that more research beyond the current cross-sectional and statistical causal models available is needed to better understand to what extent, or how exactly, this sequence often plays out within populations of teachers.

Factors of Burnout

Below is an examination of each dimension of burnout including lists of factors teachers report as causes for stress and burnout within their schools. The studies described have employed the use of self-report surveys, open-ended questionnaires, and teacher interviews in efforts to understand the various factors potentially related to burnout. The use of such methods is key to understanding teacher burnout, as they allow the voice of teachers to be heard (Baldwin, 1999). Such methods have been used in samples of teachers across multiple industrialized countries and often similar results are reported. This suggests that the factors listed below may be generalizable to the broader teacher population of the industrialized world. However, as discussed above, the

contextual factors of each study should always be considered when drawing conclusions.

Moreover, a current limitation in the burnout literature is the lack of longitudinal and randomized controlled trials that may assist in strengthening causal relationships between the dimensions of burnout and potential contributing factors.

- a. *Emotional exhaustion* and high stress (related to feelings of overwhelming job duties) are one of the most frequently reported by teachers as reasons for feeling burnout (e.g., Jennings & Greenberg, 2009; van Tonder & Williams, 2009). Additional factors that are reported to increase teachers' emotional exhaustion include class size, resources available to the school, the inability to rest or recover due to heavy work load, low salary, time pressure, required work at home, and increasing demands on teacher quality (Borman & Dowling, 2008; Jennings & Greenberg, 2009; Karsenti & Collin, 2013; Skaalvik & Skaalvik, 2011; van Tonder & Williams, 2009).
- b. *Depersonalization* may be seen in teachers who were once full of life, loved to teach, cared for students, and collaborated with others retreat to their own world of isolation. Factors that may contribute to depersonalization include difficulties managing challenging students (Karsenti & Collin, 2013), feelings of isolation or lack of community within a school, lack of supervisory support, relationships (with students, colleagues, parents, community, and administration), dissatisfaction with school culture, and communication within the school (Skaalvik & Skaalvik, 2011; van Tonder & Williams, 2009). Jennings and Greenberg (2009) theorize that when a teacher is not equipped with the SEC to

effectively manage a classroom, they will begin to experience emotional exhaustion. A teacher's inability to mentally, physically, socially, or emotionally cope with the demands of teaching triggers what is called a "burnout cascade" that perpetuates further feelings of stress and burnout. Eventually, this teacher may become depersonalized and adopt a callous and hostile attitude toward students. This further exacerbates the burnout cascade.

- c. *Reduced Personal Accomplishment.* Maslach and colleagues reason that examining feelings of reduced personal accomplishment is complex due to the relationship these feelings have with the other two dimensions of burnout: *emotional exhaustion and depersonalization*. Lack of efficacy often appears alongside or in sequence with emotional exhaustion and depersonalization, yet rarely on its own. This has led burnout researchers to speculate that reduced personal accomplishment may be a byproduct of emotional exhaustion or depersonalization (Maslach et al., 2001). This idea is supported by Ryan and Deci (2000) who have found that as teachers lose their ability to cope with the pressures and challenges of teaching, feelings of self-efficacy (or the feeling of being able to complete one's goals) and one's locus of causality (feelings of autonomy and sense of control) diminish. Results garnered from self-report measures, interviews, and structural equation modeling (SEM) have shown that lack of autonomy and decreased feelings of efficacy are associated with lower levels of teacher motivation to engage in professional development or to try new teaching strategies and higher levels of burnout and negative emotions; meanwhile, higher levels of teacher motivation toward professional learning and

innovative teaching was associated with higher levels of personal achievement and decreased emotional exhaustion (Caprara et al., 2006; Gorozidis & Papaioannou, 2014). Furthermore, studies report that teachers with higher levels of teaching efficacy were more likely to report higher levels of job satisfaction, a greater commitment to their school, and have a more positive outlook regarding their career compared to those teachers who reported low levels of efficacy and competence (Caprara et al., 2006; Collie et al., 2012).

The studies cited above provide factors frequently reported by teachers as contributors to stress and burnout. However, these examples fail to represent all the factors reported in the burnout literature and represent inconsistencies between studies. Indeed, a meta-analysis completed by Borman and Dowling (2008) found large variation in results across 34 studies that examined factors of burnout related to teacher turnover. For example, factors that were reported as highly related to burnout in some studies (such as class size) were not correlated, or showed little relation to burnout in other studies (Borman & Dowling, 2008). This sheds lights on the complexity of the teacher burnout phenomenon, provides rationale for future meta-analysis to be conducted, and suggests that study results be interpreted with caution before assuming generalizability.

Building Teacher Resilience: Protective and Promotive Factors

Fortunately, fewer discrepancies have been found within the extant burnout research when identifying factors that promote teacher resilience. Although there is not a specific measure designed to assess teachers' resilience, factors that are theoretically associated with resiliency in teaching include job satisfaction, increased motivation, and occupational health and well-being (Gu & Day, 2007). Reported resilience promoting factors, measured by self-report surveys and

interviews, include: A principal's use of transformational leadership styles that elicit creative thinking, autonomy, and collaboration among faculty (Eyal & Roth, 2011); the establishment of a positive social climate and social support built through the development of relationships between colleagues and with administrators (Skaalvik & Skaalvik, 2011); meaningful personal and professional development and support through means such as coaching or mentoring (Borman & Dowling, 2008; Gray & Taie, 2015); and teacher autonomy (Skaalvik & Skaalvik, 2011). When comparing these reported factors, it becomes clear that meeting teachers' needs by developing their resources and personal characteristics is associated with the promotion of their occupational well-being; doing so may potentially serve to bolster resilience.

Developing Teachers' Personal Characteristics

Perhaps it is the mercurial nature of schools that make sustaining resilience a difficult task for teachers. As John Hattie (2009) puts it, "we reinvent schooling every year" (p. 1). Indeed, teachers must cope with the challenge of an ever-changing cohort of students, new mandates required by local or district leaders, and changing curriculum yearly. Even with most valiant efforts, many contextual variables within schools (such as culture, differing communication styles, policies, changing faculty, and clashing of personal characteristics) may make improving burnout more difficult on a schoolwide, or organizational level. Little research has been conducted to examine the influence of schoolwide, or organizational approaches to burnout. However, interventions designed to develop individual teachers' characteristics are more frequently studied and often show improvements in mental and physical well-being and teacher quality when designed and implemented well (Greenberg et al., 2016).

Some researchers propose that strengthening teachers' personal characteristics, albeit directly or by developing school factors that support personal characteristics (such as a

supportive work environment or by establishing mentoring programs), supports well-being and buffer the detrimental effects of burnout (Eyal & Roth, 2011; Gray & Taie, 2015; Skaalvik & Skaalvik, 2011). Personal characteristics are defined as unique cognitive, social, and emotional resources that an individual possesses and may include internal features such as attitudes, personality traits, or perceptions, or external structures such as family and social supports (Maslach et al., 2001). The findings of Borman and Dowling's (2008) meta-analysis provide support for the development of personal characteristics, suggesting that that doing so may be a promising route in efforts to promote teacher resilience. More specifically, through their analysis, they concluded that teachers' personal characteristics highly predicted teacher turnover and job satisfaction. Specifically, they found factors such as characteristics of the school environment, student characteristics, and resources available to teachers to help them perform their work were consistently influential in moderating (i.e., either dimming or enhancing) levels of teacher burnout (Borman & Dowling, 2008).

A study conducted by Brackett and colleagues (Brackett et al., 2010) provides support for the contention that there is association between teachers' personal characteristics and their job satisfaction. Brackett et al. conducted a cross-sectional study with 123 6th-12th grade teachers in England to examine the relations among teachers' emotional regulation, job satisfaction, and burnout. Data was garnered through self-report surveys as well as by using the *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)*, a performance evaluation test that measures participants' emotional response to hypothetical situations (Mayer, Salovey, & Caruso, 2002; Mayer, Salovey, Caruso, & Sitarenios, 2003). The study revealed positive relations of teachers' emotional regulation abilities to their positive affect, job satisfaction, principal support, and personal accomplishment. Although the dimensions of emotional exhaustion and

depersonalization were not associated with teachers' emotion regulation abilities, these dimensions were found to be positively associated with principal support and negatively associated with job satisfaction (Brackett et al., 2010). One strength of this study is that it included the use of self-report measures as well as the MSCEIT, a performance measure of emotional intelligence. Inclusion of the MSCEIT allowed for the collection of data that may be considered less subjective than self-report surveys alone, and additionally allowed for the research team to examine participants' emotional profile from various angles. The MSCEIT measures a participants' ability to *reason* with emotion, rather than relying on self-report measures that only tap into ones' *perceptions* of their emotional skills (Brackett et al., 2010). Not only does this study suggest that further understanding factors that relate to developing teachers' personal characteristics may play a key role in supporting teacher resilience, but it also provides an example of a type measure that may be useful in future studies as researchers seek to fully understand various perspectives related to burnout.

Teachers' Social and Emotional Competencies (SEC)

Jennings and Greenberg's (2009) Prosocial Classroom Model (see Figure 1) aims to help teachers cope with the school factors they cannot control (such as the behaviour of difficult students) by drawing upon the strength of their personal characteristics, specifically their SEC. Rather than focusing on changing external school factors, Jennings and Greenberg argue that developing teachers' SEC may strengthen resilience by providing them with the internal coping skills they need to stave off the effects of stress and burnout in the first place (Jennings, Lantieri, & Roeser, 2012). The development of one's SEC is a cognitive, emotional, and social process; it involves enlarging one's capacities through the growth of skills such as perspective taking, empathy, emotion recognition and regulation, understanding social cues, maintaining attention

and focus, and regulating impulses and behaviour (Jones et al., 2013). Just as any personal characteristic is malleable, a person's SEC can be developed and strengthened with training. Such development allows a person to expand valuable inter- and intra-personal skills such as perspective taking, empathy, emotion recognition, understanding social cues, sustaining attention, and regulating impulses and behaviour (Jones et al., 2013). According to the Collaborative for Academic, Social, and Emotional Learning (CASEL), a person's SEC are comprised of five primary skills: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Collaborative for Academic, Social, and Emotional Learning, 2013). Research aimed toward understanding the potential influence of teacher SEC is burgeoning. Although to date there are relatively few randomized controlled trials (RCT) that have studied programs designed to develop teacher SEC, those that have been completed show promising results.

Measuring Teacher SEC. RCTs designed to study teacher SEC have found an increase in teacher SEC to be associated with increased levels of physical and psychological well-being, reductions in burnout, enhanced teacher efficacy, greater ability to recognize and manage emotions, and increased ability to manage teaching challenges (Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013; Taylor et al., 2015). Indeed, Patricia Jennings and colleagues have conducted RCTs (e.g., Jennings et al., 2013; Jennings et al., 2017) to examine the effectiveness of the program *Cultivating Awareness and Resilience in Education* (CARE for Teachers). CARE is a mindfulness-based professional development program designed to reduce teacher stress and develop SEC (Jennings, Snowberg, Coccia, & Greenberg, 2011). CARE includes instruction in understanding how to recognize and appropriately respond to emotion, mindfulness practices that promote concentration and recognition of the present moment, and compassion exercises

designed to increase one's capacity to view themselves and others with kindness (Jennings et al., 2013). Jennings and colleagues (2013) examined a group of 50 preschool to high school teachers (89% female) from urban and suburban school districts from a small northeast metropolitan city of the United States. Participants in their study were randomly assigned to either receive training through the CARE program or serve as controls. Results of the study indicated that teachers who received the CARE intervention reported a significant increase in well-being and feelings of efficacy while also reporting reduction in levels of emotional exhaustion, feelings of depersonalization, daily negative physical symptoms (such as headaches or pain), and felt less stress due to teaching time constraints post-program compared to those assigned to the control group. These findings were reported using a battery of self-report measures, including the *Maslach Burnout Inventory – Educators' Survey*, the same scale used to measure burnout in the present study (Maslach, Jackson, & Leiter, 1997).

Similarly, Jennings and colleagues (2017) conducted an RCT evaluating the CARE program with 224 teachers (93% female) from 36 urban elementary schools in a high poverty region of New York City (Jennings et al., 2017); participants averaged 12.5 years of teaching experience and 96% had a Master's or Specialist degree. Teachers were randomly assigned to the intervention group (CARE) or a waitlist control group using a two-level randomized design. This design allowed for randomization to take place at the school level as well as the teacher level and was used to control for between-school variability. Findings revealed that teachers who received CARE training, in contrast to those teachers in the wait-list control group, had greater improvements in adaptive emotion regulation and mindfulness, and greater reductions in psychological distress and time urgency. CARE training also led to sustained levels of emotional support in the classroom compared to reductions across the year among teachers who did not

receive CARE (Jennings et al., 2017). Levels of classroom support were measured through objective observations obtained via the *Classroom Assessment Scoring System* (CLASS; Pianta et al., 2008).

An RCT conducted by Roeser and colleagues (2013) revealed that teachers from the United States and Canada ($N = 113$; 88% female) randomly assigned to receive training through the *Stress Management and Relaxation Techniques in Education* program (SMART-in-Education) reported significantly less job stress and burnout post-program than teachers who did not receive the program. SMART is a mindfulness-based professional development program designed for teachers and those that support education (such as counselors or parents). The program teaches components of mindfulness (such as being present, suspending judgement, and increasing awareness) as well as focuses on emotion theory and developing self-kindness, compassion, and forgiveness (Benn, Akiva, Arel, & Roeser, 2012). The program included 11 sessions and took eight weeks to complete. Symptoms of depression and anxiety were measured using self-report surveys within the U.S. sample ($N = 55$) and revealed a large effect in reduction of both symptoms for the intervention group at both post-program and 3-month follow up (Roeser et al., 2013). Additionally, teacher stress was measured by monitoring dates of teacher absenteeism and by collecting data related to physical stress such as cortisol (via collection of saliva samples), heart and pulse rate, and blood pressure. These measures concluded no significant difference between the control and intervention group (Roeser et al., 2013), but provide an example of the innovative types of measures beyond self-reports that can be used in future studies to help determine the effects that such interventions may have on teacher stress and burnout.

When conducting a mixed-methods study that included analysis of teacher interviews,

Taylor and colleagues (2015) also found that the development of teacher SEC supports teacher well-being. This study provided further examination of one of the two studies examined as part of the RCT conducted by Roeser and colleagues (see Roeser et al., 2013). Taylor et al. examined a sample of 59 elementary and secondary teachers (90% female) from a large urban city in Western Canada. Sample participants had an average of 15.2 years of teaching experience and the majority (42%) had bachelor's degrees. Participants were randomly assigned to an intervention or control group. Those in the intervention group received training through the SMART program. When interviewed by a member of the research team, those teachers who were assigned to the intervention group reported having adopted more adaptive strategies for coping with stressors related to teaching and evaluated challenging students in a more positive manner than teachers assigned to the control group. Furthermore, self-report surveys revealed that teachers assigned to the intervention group increased in feelings of efficacy and enlarged their capacities to forgive others beyond those teachers in the control group. Additionally, this study found that change in teacher efficacy and ability to forgive partially mediated reductions in stress from baseline to follow-up four months later.

Potential Benefits of SEC Beyond Teacher Well-being. The promising results of developing teachers' SEC may reach beyond the benefit of teachers and improve classroom and student outcomes as well. Indeed, the Prosocial Classroom Model (see Figure 1) posits that the development of teachers' SEC aides in the creation of positive, warm classrooms that are instructionally and emotionally supportive (Jennings & Greenberg, 2009). Socially and emotionally competent teachers have been found to create such environments by using effective management and instructional skills, creating supportive relationships with students, and by teaching social and emotional skills to students (Jennings, 2015a; Jennings et al., 2017). Skillful

instruction, emotional support, and a positive classroom climate are associated with positive behavioural and academic outcomes for students (Bergin & Bergin, 2009; Hamre & Pianta, 2005; Oliver & Reschly, 2007), as well as lower levels of emotional exhaustion and depersonalization for teachers (Jennings, 2015b).

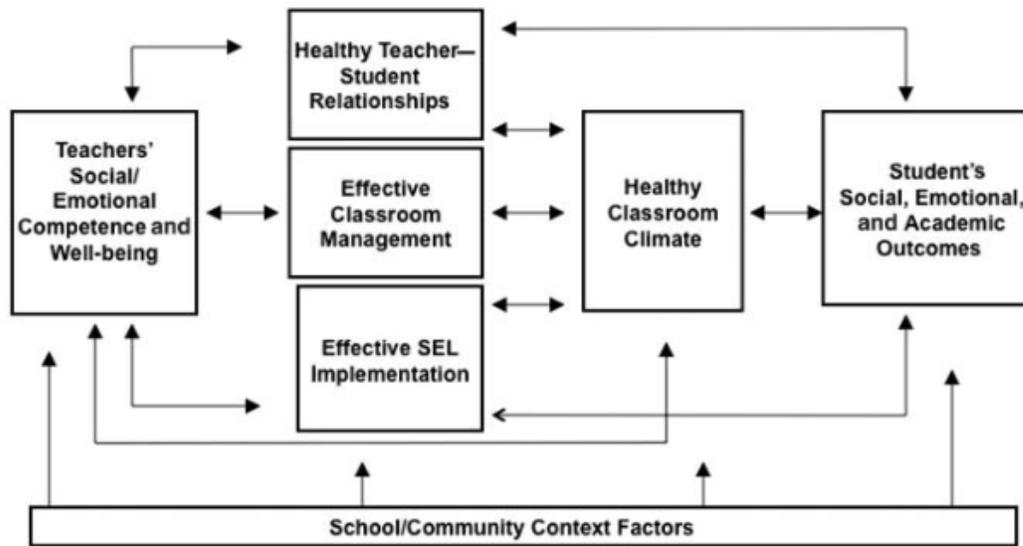


Figure 1. The Prosocial Classroom Model. From: Jennings, P. A. & Greenberg, M. T. (2009). The Prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79: 491–525. Reprinted with permission from SAGE Publications, Inc.

The findings and theories from these studies suggest that developing teacher SEC may play a key role in buffering the negative effects of teacher stress and burnout by providing teachers with a particularly effective set of personal characteristics (in the form of skills and attitudes) needed to cope with the challenges of teaching (Schonert-Reichl, Hanson-Peterson, & Hymel, 2015). Although the findings from this research are promising, it is in a nascent stage. The relatively small amount of research currently available on teacher SEC warrants the need for more research to be conducted to further understand how the development of teachers' SEC may

buffer the effects of teacher stress and burnout, and therefore support resilience. Additionally, longitudinal studies that examine the lasting effects of teacher SEC are especially warranted with larger samples to fully understand whether teacher SEC may serve as a resilience promoting factor throughout a teacher's career, and if so, how it may do so.

Teacher Efficacy

Perhaps it is due to the incipient nature of the research, but the development of teacher SEC is often ignored in teacher education courses or professional development efforts (Crain, Schonert-Reichl, & Roeser, 2016). However, one personal characteristic that is focused on a great deal in teacher training and professional development programs is the development of self-efficacy. There is good reason for this as self-efficacy, or as it is called in education literature, *teacher efficacy*, is associated with many positive outcomes including: the use of best teaching practices, student learning outcomes and achievement, student motivation, student self-efficacy, teacher motivation and goal attainment, and a decrease in teacher burnout (Collie et al., 2012; Skaalvik & Skaalvik, 2007). The definition of self-efficacy, from which the definition of teacher efficacy stems, is primarily based on Bandura's (1997) Social Cognitive Theory. Bandura defines self-efficacy as a person's perception about his or her capability to bring about a desired outcome (i.e., one's outcome expectation) and belief about his or her ability to achieve a desired level of performance within a certain situation (i.e., one's efficacy expectation). In the field of education, it is widely accepted that the concept of teacher efficacy is multi-dimensional, context specific, and includes two individual, yet related constructs: personal efficacy and teaching efficacy (Gibson & Dembo, 1984; Guskey, 1994; Tschannen-Moran & Woolfolk Hoy, 2001). *Personal efficacy* is defined as a teacher's perception of their own ability to elicit desired outcomes with students, or teach well, regardless of the difficulties inherent in teaching

(including external factors such as familial influences or lack of student motivation) (Tschannen-Moran & Woolfolk Hoy, 2001). *Teaching efficacy* is defined as a teacher's perception of whether they believe teaching can bring about the desired outcomes for students in general (Gibson & Dembo, 1984). Interestingly, these viewpoints have been found to work independently of each other. For example, Guskey (1994) found that a teacher may have high teaching efficacy, believing that teaching will produce student outcomes, but, if the teacher does not believe he or she can perform what is necessary to bring about those outcomes, the result is a low level of personal efficacy. A similar situation can be found when a teacher has little faith in teaching in general, thus exhibiting low levels of teaching efficacy, yet, believes that their own abilities are able to make a difference in the lives of students. A teacher in this case would have high personal efficacy.

Bandura (1997) proposed that self-efficacy beliefs are most unstable, yet malleable, in the early stages of one's learning and tend to become stable and resistant to change once set. A 2007 study conducted by Megan Tschannen-Moran and Anita Woolfolk Hoy found this to be the case as well. Their study included 255 teachers with various years of experience ($M = 8.2$) who were currently enrolled in graduate education courses. Results were measured through self-report surveys and showed that teacher efficacy beliefs were largely correlated with mastery experiences (i.e., having experiences where teachers could judge their teaching performances as successful). Novice teachers reported feeling less efficacious than their seasoned colleagues likely, as Bandura (1997) proposes, because novice teachers have fewer mastery experiences in comparison. Additional results from the study support Bandura's theory that novice teachers' efficacy may be more easily influenced than those with more experience. Indeed, results showed that school contextual factors (such as resources and interpersonal supports) had more significant

associations with the personal efficacy beliefs of novice teachers compared to those who had been teaching for more years (Tschannen-Moran & Woolfolk Hoy, 2007).

Teacher Efficacy and Burnout. Teachers who feel highly efficacious are more likely to report greater job satisfaction and lower levels of burnout than teachers with lower levels of teaching efficacy (e.g. Caprara et al., 2006; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2007). These findings suggest that burnout may be partially contingent upon perception or evaluation of one's own teaching abilities. Interestingly, teachers who participate in interventions designed to develop SEC often report feeling more efficacious in handling job duties after receiving the SEC intervention (e.g., Jennings et al., 2013; Jennings et al., 2017; Roeser et al., 2013; Taylor et al., 2015). As discussed above, more research is needed to fully understand the role SEC may play in supporting teacher resilience. However, the connection SEC has with teacher efficacy suggests that it may serve as an especially potent promoter of teacher resilience, perhaps buffering against teacher stress and burnout above and beyond teacher efficacy alone.

Teacher efficacy has been found to be significantly and negatively related to stress and burnout, although the precise mechanisms underlying this relation remain unclear (Skaalvik & Skaalvik, 2007). Caprara and colleagues (2006) found teacher efficacy linked to job satisfaction, which is a known contributor to resilience or stress and burnout. In a study with 224 elementary and middle school teachers, Skaalvik and Skaalvik (2007) found teacher efficacy to have a negative relationship with burnout when examining burnout as a composite of all three dimensions ($r = -.76$). These results suggest that a teacher high in efficacy may be less likely to experience burnout. Similar to Tschannen-Moran and Anita Woolfolk Hoy's (2007) study, Skaalvik and Skaalvik (2007) found that teachers with few mastery experiences to be more likely

to have lower levels of teacher efficacy. Moreover, they theorized that a lack of mastery experiences may precipitate a threat to a teacher's identity which may lead to heightened emotional exhaustion and depersonalization. The correlation between years of teaching experience and level of teaching efficacy provides support for Bandura's (1997) theory and posits that providing teachers with mastery experiences may be a needed feature of teacher professional development and training. Such support may be particularly warranted for new teachers, whose efficacy beliefs and identities are believed to be especially malleable, and who may be more vulnerable to burnout having had few mastery experiences amidst managing the challenges of teaching.

The reported findings above suggest that a person's *years of teaching experience* may play a role in both teacher efficacy and burnout outcomes (Tschannen-Moran & Woolfolk Hoy, 2007; Skaalvik & Skaalvik, 2007). Indeed, these findings corroborate with Bandura's Social Cognitive Theory (1997) regarding efficacy and Maslach's (2001) general findings regarding burnout. Both propose experience matters. For these reasons *years of teaching experience* is examined, as well as controlled for, when examining the relations among teacher efficacy, self-compassion, and the dimensions of burnout in the present study.

Collie and colleagues (2012) also found teacher efficacy to be related to feelings of stress and job satisfaction. This study examined the self-reports of 664 elementary and secondary teachers in western Canada and measured teacher perceptions of school climate among stress, efficacy, and job satisfaction. Using SEM, Collie and colleagues concluded that levels of stress influenced levels of teacher efficacy and job satisfaction, while teaching efficacy influenced job satisfaction. Specifically, results indicated that levels of teacher stress due to challenging student behaviour were related to lower levels of teacher efficacy (Collie et al., 2012). Interestingly,

these findings support the results of a study conducted by Jennings (2015b) that found higher levels of teacher efficacy to be associated with the ability to provide students with emotional support and sensitive discipline (measured by expert observation). Although these studies are limited in that they provide only a correlational understanding of the potential factors associated with teacher efficacy and burnout, they suggest that there is a relationship between SEC and teacher efficacy, and both may serve as promoters for teacher resilience.

Self-Compassion

Relatively new in teacher SEC research is a focus on self-compassion. The definition of self-compassion, summarized here by Roeser and Peck (2009), is comprised of three components:

(a) being aware of and open to one's own suffering, ...being willing to observe painful experiences, thoughts, and feelings without identifying with or fixating on them; (b) taking a kind, nonjudgmental, and understanding attitude toward oneself in instances of pain or difficulty rather than being self-critical; and (c) framing one's difficulties in light of the shared human experience of challenge and suffering rather than as something that isolates us from others. (p. 129)

Kristin Neff and her colleagues have done extensive research examining the outcomes of those individuals who have participated in intervention programs designed to develop self-compassion. According to Neff, there are three pillars of self-compassion: 1. Self-kindness (associated with the SECs self-awareness and self-management) manifests itself as an ability to be kind, caring, and comforting toward the self rather than harsh or judgmental; 2. Common humanity (associated with social awareness, relationship skills, and responsible decision making)

refers to an individual's ability to see themselves connected to the human condition and helps them see that all humans suffer and are imperfect; 3. Mindfulness allows an individual to approach the self in a present, balanced, non-judgmental way (Neff, 2011). Neff's work both theorizes and has shown that self-compassion is strongly related to psychological health (e.g., Neff, 2003b; Neff, 2009; Neff et al., 2007, Neff & McGehee, 2010). Specifically, these studies found higher levels of self-compassion positively associated with life-satisfaction, feelings of happiness, optimism, curiosity, social connectedness, the ability to adapt and cope with failure, and an increase in emotional intelligence.

Measuring Self-Compassion. A strength of Neff's studies is that they often capture various angles of one's level of self-compassion using multiple methods of data collection. An example of this is a study that Neff and colleagues (2007) conducted with 40 undergraduate students (95% female). In this study, Neff and colleagues used self-report surveys to measure participants' self-perceptions (such as self-compassion, self-esteem, and anxiety), analyzed participants' text responses to anxiety provoking questions, and used a *Gestalt Two-Chair Dialogue* exercise (Clarke & Greenberg, 1986). In this exercise, participants sat with a therapist to verbally work through a difficult situation, becoming aware of self-criticism with the help of the therapist. The study examined the change score of participants' levels of self-compassion among additional measures related to well-being over the course of a one-month interval, once at pre-test and once after completing the *Gestalt Two-Chair Dialogue* exercise. Differences in change scores indicated that increased levels of self-compassion were associated with higher levels of social connectedness and lower levels of self-criticism, depression, rumination, thought suppression, and anxiety. Within this publication, Neff and colleagues (2007) also included results from a preliminary study that included a larger group of undergraduate students ($N = 91$;

76% female). Results from this study found self-compassion to be negatively associated with neurotic perfectionism and decreased feelings of self-evaluative anxiety as measured by self-report surveys and text analysis of written responses.

A study conducted with 75 religious clergy also found self-compassion to serve as a buffer against two constructs positively correlated with burnout: the desire to please others ($r = -.43, p < .001$) and feelings of shame ($r = -.55, p < .001$) (Barnard & Curry, 2012). Although the measures used in this study were adapted to measure the experience of clergy, the study shows that self-compassion may be associated with lower levels of burnout by helping individuals adopt psychologically healthy perceptions of the self in relation to their work, as well as relate to others in a more positive manner.

Taken together, these studies support the contention that self-compassion may serve to protect against teacher burnout by supporting the development of a healthy, kind orientation toward the self in relation to one's work (Roeser et al., 2013). Some researchers argue that teachers especially need to adopt this type of kind, loving orientation toward the self, given that they are frequently criticized by multiple stakeholders (including policy makers, parents, students, administrators, and community members) who often have minimal awareness of the numerous demands teachers respond to on a daily basis (Gallant, 2013).

Although most of the research available on self-compassion and psychological well-being is correlational, several RCTs have been conducted to further examine these relations. Recently, Neff and Germer (2013) conducted an RCT examining the effectiveness of a self-compassionate intervention with a small group of adult community members ($N = 51$). Those assigned to the intervention group attended an 8-week *Mindful Self-Compassion* (MSC) program designed to train people to be more compassionate. Results from the study indicate that those in the invention

group had greater increases in compassion for others, life satisfaction, and greater decreases in depression, anxiety, and stress than those in the control group when comparing gain scores. Furthermore, no changes in either groups' gain scores were present at 1-year follow up (Neff & Germer, 2013). Such results suggest that effects of the MSC training may be lasting. However, due to the limited number of participants in this study, the results are difficult to generalize to the overall population.

The conclusions of a meta-analysis conducted by MacBeth and Gumley (2012) support the findings and theories of Neff's work, suggesting that self-compassion is highly related to psychological well-being. Indeed, after conducting a critical analysis of 14 international studies that examined the relations between self-compassion and psychological health, MacBeth and Gumley reported that higher levels of self-compassion were related to lower levels of psychopathology. Specifically, correlational analysis across the 14 studies resulted in a large (negative) effect size between self-compassion and psychopathology ($r = -0.54, p < .0001$). Although these results are promising, the current scope of the research on self-compassion limits ability to generalize the findings to populations of teachers. To date, most of the research examining outcomes related to self-compassion is correlational in nature and is limited to samples of the general adult population or specific groups such as college students or therapists (MacBeth & Gumley, 2012). Additionally, scant research is available examining the efficacy and effects of programs designed to develop self-compassion alone (without being taught within a mindfulness curriculum) with teacher populations. Therefore, generalization of the current findings related to self-compassion must be interpreted with caution. The paucity of research available examining self-compassion and burnout with teacher populations further warrants the need for the present study.

Self-Compassion and Teacher Burnout. Mindfulness interventions have received considerable attention within the last decade, with research even being done with populations of teachers (e.g., Jennings et al., 2017; Roeser et al., 2013). Since the development of self-compassion and mindfulness are related, mindfulness interventions are often used as a tool to teach about and study self-compassion. Findings indicate that mindfulness practices may promote the development of self-compassion by increasing motivational orientations toward the self and by decreasing defensive orientations toward the self and others (Roeser & Peck, 2009; Taylor et al., 2015). The practice of mindfulness cultivates attention that is purposeful, non-reactive, non-judgmental and based in the present moment (Kabat-Zinn, 1991). Programs such as CARE and SMART are teacher-specific programs designed to develop teacher SEC (see Jennings et al., 2012 for further descriptions of these programs). Each have shown promising results in building teacher resilience by providing teachers with effective stress management techniques, emotion awareness, and mindfulness practices as ways to promote resilience (Jennings et al., 2011; Roeser et al., 2013). These interventions have shown to significantly reduce occupational stress, feelings of burnout, and increase feelings of self-compassion (Jennings et al., 2012). Those studies that have examined self-compassion outcomes in relation to these interventions have found them to be associated with the development of self-compassion (e.g., Jennings, 2015b; Roeser et al., 2013).

An RCT conducted by Roeser and colleagues in 2013 is of the few studies that has examined self-compassion within a population of teachers, and provides some initial empirical evidence that self-compassion may play a role in promoting teacher well-being. Roeser and colleagues (2013) conducted two randomized waitlist-controlled field trials that included 113 elementary and secondary teachers (88% female) from the Western coast of the United States

and Canada. Although their study was not directly aimed at promoting self-compassion in teachers, Roeser and colleagues found that those participants randomized to receive training through the eight-week SMART program reported greater self-compassion at post-program and three-month follow-up after controlling for baseline than those in the control group. Furthermore, results indicated that self-compassion mediated reductions in stress and burnout post-program as well as symptoms of depression and anxiety at three-month follow-up for those who received the SMART training. Additionally, participants who received the SMART training reported an increase in occupational self-compassion, suggesting that self-compassion is a malleable trait that can be developed within populations of teachers with training (Roeser et al., 2013).

Although more research is needed to uncover exactly how or why self-compassion may relate to such outcomes in populations of teachers, these findings support the theory that development of self-compassion is associated with the promotion of teacher well-being, and therefore may play a role in buffering the effects of stress and burnout. Roeser and colleagues propose that self-compassion may serve as a powerful source in diminishing stress, anxiety, and burnout by equipping teachers with a positive mindset that allows a view of the self that is kind, forgiving, and able to adapt without harsh judgment to challenges and failures (Roeser et al., 2013).

Another study that provides understanding about the relations between self-compassion and burnout with teachers was recently conducted by Patricia Jennings. Participants in this study (Jennings, 2015b) included 35 preschool teachers ($M = 15$ years of experience) that all received CARE training. Measures included a battery of self-report measures, teacher interviews, and classroom observations conducted by experts. When specifically examining the associations among self-compassion, teacher SEC, and elements of teacher burnout, Jennings (2015b) found that levels of teacher self-compassion were positively related to levels of emotional support

provided to students. The findings of this study are particularly meaningful when contrasted with additional findings from the study that showed that two dimensions of burnout, emotional exhaustion and depersonalization, were negatively correlated with emotional support. Although the study does not report correlations between self-compassion and dimensions of burnout directly, a converse relationship between self-compassion and the dimensions of burnout can be hypothesized based on the opposing associations that these variables had in relation to emotional support. Although these results are promising, they only indirectly suggest that self-compassion plays a role in the reduction of teacher burnout. Furthermore, the small number of participants ($N = 35$) and inclusion of preschool teachers alone warrants further investigations with a larger, broader range of teachers (i.e., pre-K – 12th grade) to generalize the findings.

Although these studies provide promise that self-compassion may stave off the effects of burnout for teachers, caution needs to be taken when interpreting the results. It is difficult to untangle exactly how much of the reported results are due to self-compassion because the mode of intervention in these studies was mindfulness. Because Neff considers mindfulness to be one of the pillars of self-compassion, it is difficult to discern exactly if the reductions in burnout were driven by self-compassion, mindfulness variables, or a combination of both. Further studies on the relations between self-compassion and burnout are needed to better understand how exactly, and to what degree, self-compassion may buffer the effects of stress and burnout for teachers.

Due to the overall paucity of self-compassion research, it is premature to generalize about current findings at this point in time. Yet, emerging results point to the potential role that self-compassion may play in teachers' well-being and ability to adapt in a non-judgmental way to the challenges of their work. Neff (2009) argues, "Because self-compassionate individuals do not berate themselves when they fail, they are more able to admit mistakes, modify unproductive

behaviours and take on new challenges” (p. 212). These qualities may allow teachers to view themselves in a kind manner beyond their performance ability, and may serve to stave off burnout and support resilience above and beyond teacher efficacy alone. Such qualities are unmistakably desirable in any employee, but may be especially helpful to teachers where ‘mistakes’ are often made in front of students and the ‘challenges’ of teaching are often beyond their control.

This section has reviewed literature and research studies relevant to the present study in efforts to establish an understanding of how self-compassion, teacher efficacy, years of teaching experience, and the dimensions of burnout (i.e., emotional exhaustion, depersonalization, and reduced personal accomplishment) are currently understood with populations of teachers. The following section outlines the purpose of the present study. It includes the research question examined and concludes with the hypotheses for the study.

The Present Study

The purpose of the present study was twofold: First, it aimed to add to the extant research in efforts to further current understanding of the phenomenon of teacher burnout. Second, it sought to provide potential solutions to the known challenges associated with teacher burnout by exploring resources that may promote teacher resilience. Specifically, the present study aimed to examine the relations that the personal characteristic self-compassion had among the dimensions of burnout (i.e., emotional exhaustion, depersonalization, personal accomplishment) when also considering other personal characteristics known to relate to burnout (i.e., teacher efficacy and years of teaching experience). Although prior research has been conducted that promotes the theory that self-compassion may buffer against the negative effects of teacher burnout (e.g., Jennings, 2015b; MacBeth & Gumley, 2012; Neff & Germer, 2013; Roeser et al., 2013), no

other study that the author is aware of has examined the relations between these constructs directly with a sample of teachers.

Research Question

The following research question was examined:

1. *How is self-compassion related to the dimensions of burnout when considering teacher efficacy and years of teaching experience?*

Analysis of the research question was explored using correlational and multiple regression analysis. Analysis of the research question in this manner allowed for examination of the relations among self-compassion, teacher efficacy, and years of experience to each of the dimensions of burnout, as well as between each of the individual constructs separately (e.g. self-compassion and teacher efficacy). Examining the constructs in this manner, both between variables (concerning two) and among variables (concerning all), allowed for deeper examination of the research question. Further details regarding the data analysis and results of this study are included in the forthcoming chapters.

Hypotheses

Self-Compassion and Years of Teaching Experience

Studies exploring the relation between self-compassion and years of teaching experience have not been conducted and, therefore, could not be drawn upon directly as reference when developing a hypothesis for these constructs. Therefore, additional theory was considered when creating the hypothesis for the expected relation between self-compassion and years of teaching experience. It was hypothesized that self-compassion and years of teaching experience would be positively correlated, with higher levels of self-compassion being associated with years of

teaching experience. This hypothesis was based on findings that have shown that teachers are at a great risk for burnout during the first years of their teaching experience (see Borman & Dowling, 2008). These findings, coupled with the growing rates of new teachers leaving the field (Karsenti & Collin, 2013), suggest that new teachers are likely missing needed skills to maintain resilience when faced with the challenges of teaching.

Teacher Efficacy and Years of Teaching Experience

Extant research consistently shows a positive relation between teacher efficacy and years of teaching experience (e.g., Tschannen-Moran & Woolfolk Hoy, 2007; Skaalvik & Skaalvik, 2007). There was no reason to indicate a contradiction to these findings within the current study's parameters, thus it was hypothesized that teacher efficacy and years of teaching experience would be positively correlated.

Self-Compassion and Teacher Efficacy

Although a thorough scan of the literature revealed no studies having examined the relations between self-compassion and efficacy with teachers, those available (mainly conducted with college students) show a positive correlation between self-compassion and efficacy. The studies identified below include those that were used to develop the hypothesis regarding relations between self-compassion and teacher efficacy for the present study. Each of these studies used the *Self-Compassion Scale* (SCS; Neff, 2003a), the measure from which the self-compassion scale used in the current study was adapted from (see Roeser et al., 2013). Due to the consistent findings across these studies and the use of the SCS, it was hypothesized that a positive correlation would be found between self-compassion and teacher efficacy in the present study. Below is a brief description of each of the studies used to establish this hypothesis.

A study conducted with 390 university age students (56% female) in Turkey revealed

moderate associations between self-compassion and self-efficacy when examining self-compassion at the subscale level, as measured by self-report surveys (Iskender, 2009). In this study, self-efficacy was moderately related to some subscales of self-compassion (as defined by the SCS; see Neff 2003a) including self-kindness ($r = .33, p < .05$), common humanity ($r = .27, p < .05$), and mindfulness ($r = .38, p < .05$). However, when Iskender examined the relation between self-compassion and self-efficacy using the composite score from the SCS, a non-significant correlation ($r = .09, p > .05$) was found (Iskender, 2009). This study may warrant concern about examining self-compassion at the composite level. However, additional studies provide support for the use of the measure at either the subscale or the composite level. Indeed, a study conducted with 216 university age students (65% female) in Tehran found that correlations between self-compassion and self-efficacy were consistently positive regardless of examination at the subscale or composite level (Manavipour & Saeedian, 2014). Additionally, a recent study conducted with a sample of 432 Brazilian adults from the general population (50% female, with an average age of 32.5 years), found self-compassion to be highly correlated with self-efficacy ($r = .50, p < .001$) (de Souza and Hutz, 2016). Although these studies did not use the same efficacy scale used in the present study, their findings suggest positive associations between self-compassion and efficacy. Though further research is needed to fully uncover the relations between self-compassion and efficacy, these studies are exemplary in that they are of the few that have examined the relations between efficacy and self-compassion directly to date.

Self-Compassion, Efficacy, and the Dimensions of Burnout

It was also hypothesized that self-compassion would be associated with lower levels of emotional exhaustion and depersonalization more strongly than teacher efficacy (when controlling for years of teaching experience). Although it was believed that self-compassion

would be positively associated with all three dimensions of burnout, due to the similarity between definitions of teacher efficacy and personal accomplishment (both describe one's perception about their abilities at work) it was hypothesized that teacher efficacy would be associated with higher levels of personal accomplishment more strongly than self-compassion (when controlling for years of teaching experience). Self-compassion may address the emotional and intra- and inter-personal dimensions of burnout beyond that of teacher efficacy, suggesting that self-compassion may have significant negative associations with emotional exhaustion and depersonalization. This hypothesis is based on both theories and research reviewed in this thesis that, when examined collectively, argue that the development of self-compassion fosters needed social and emotional skills that may help teachers cope with the emotional and interpersonal stressors of teaching. Important skills associated with the development of self-compassion that may address emotional exhaustion and depersonalization include: the development of a kind, healthy orientation toward the self in relation to one's work (Barnard & Curry, 2012); improved ability to navigate relations with colleagues through the use of skills such as perspective taking or practicing forgiveness (Neff & Pommier, 2013); the use of emotional regulation and awareness to mindfully relate to the self and others (Neff, 2003a; Neff et al., 2005), and the ability to forgive oneself and adapt when confronted with failure (Neff et al., 2005; Neff et al., 2007).

Chapter 2: Methodology

Participants

A secondary data set was used for the current study. Specifically, participants for the current study included teachers who were drawn from baseline (i.e., pre-test) data from three studies that examined teacher health and well-being. A brief description of each study is included below. See the teacher consent form provided for further description of each study (see Appendices A, B, and C).

1. Study A: This program feasibility study aimed to investigate the experiences of teachers' health and well-being while participating in the SMART program and/or implementing the MindUp program within their classrooms. SMART is a mindfulness-based intervention program designed to teach educators how to cope with stress and develop resilience while helping them learn to create mindful, caring, and supportive classroom environments (Roeser et al., 2013). MindUp is a mindfulness-based social and emotional curriculum for students. It includes lessons that focus on teaching children skills such as mindfulness (through attentive listening and breathing), neuroscience, executive functions (such as self-regulation), social and emotional understanding, while also promoting prosocial behaviours such as performing acts of kindness for others (Schonert-Reichl, Oberle, et al., 2015). Specifically, this study investigated the single and joint effects these programs have in relation to teachers' health, well-being, and perceptions about SEL. Participants for this study included 17 classroom teachers ($N = 17$). Data were collected in the Spring of 2011.

2. Study B: This study continued to investigate the single and joint effects of the SMART and MindUp programs using an RCT design (intervention and control groups). The study evaluated student and teacher outcomes related to health, well-being, behaviour, and perceptions of SEL. Participants for this study included 18 classroom teachers ($N = 18$). Data were collected in the Fall of 2011.
3. Study C: The goal of this RCT was to evaluate the effectiveness of the Random Acts of Kindness (RAK) program. RAK consists of lessons that provide children with the opportunity to develop kindness, resilience, and well-being by practicing prosocial behaviours (such as sharing or cooperating) and engaging in activities that promote kindness and altruism. Both student and teacher outcomes were measured to assess health, well-being, prosocial behaviour, and perceptions of SEL. Participants for this study included 31 classroom teachers ($N = 31$). Data were collected between February to March of 2014.

After providing consent to participate, teachers completed a baseline questionnaire assessing their health and well-being as part of one of three studies listed above. It is from this teacher health and well-being baseline questionnaire that the participants (and therefore data) were drawn for the present study. Beyond evaluation of teacher health and well-being, measures designed to assess student outcomes were also included in Studies B and C. However, data related to students were not included in the present study.

Sixty-six teachers consented to participate in one of the three original studies ($N = 66$). Yet, due to a copying error and incomplete baseline questionnaires from Study C, 13 participants were eliminated from the present sample due to incomplete data. Therefore, participants for the present study included 53 teachers (77% female). Seventeen of the participants were drawn from

Study A, 18 from Study B, and 18 from Study C. Average age of the participants was 43.5 years ($SD = 9$); age of participants ranged from 30 to 60 years. All participants taught between fourth through seventh-grade at the time data were collected.

Participants were recruited from two public school districts in Western Canada; labeled as District One and District Two in the present study. District One was located within a large urban city that served approximately 55,000 students. District Two was located within a small regional metropolis that served approximately 7,000 students. Eighty-nine percent of participants taught within District One, while 11% taught within District Two. Regarding ethnicity, 68% percent of participants identified themselves as European, 20% as Asian, 6% as South Asian (e.g., East Indian, Pakistani), and 6% as Aboriginal. These percentages do not reflect the ethnic background of the entire sample, as two participants chose not to answer this question on the demographic questionnaire. When asked to identify their highest level of education, 38% percent of participants reported having a B.Ed. (B.A. plus additional university coursework to receive teacher certification). Forty-five percent reported having received additional education beyond a B.Ed. through the attainment of a Post Baccalaureate Diploma, and 17% reported having a graduate degree. Years of teaching experience ranged from one-half of a year to 39 years, with an average of 14.4 years of teaching experience for the entire sample ($SD = 7.51$).

Procedure

Data collection. Ethics approval to conduct each of the three original studies was obtained from the University's Behavioural Research Ethics Board (BREB). After receiving approval from BREB, approval to conduct research from the three respective school district's ethics committee prior to conducting research was obtained. Once approval was granted, teachers were recruited via flyers inviting them to participate in each study provided to them by their

school principal or via a district e-mail. Prior to completing baseline assessments, teachers provided their consent to participate (see Appendices A, B, and C). Teachers from all three studies were asked to complete the baseline teacher health and well-being questionnaire. This questionnaire asked teachers about professional identity beliefs, stress, health, well-being, and beliefs about social and emotional learning. Length of the teacher health and well-being questionnaire varied across studies. Participants in Study A were expected to take 40 minutes to complete the questionnaire, while those in Studies B and C were expected to take 15-20 minutes. Teachers who participated in Studies B and C also completed ratings and assessments for each student within their classroom who had received parental consent and assented to participate. Completion of each students' assessment was expected to take ten minutes. Teachers were invited to complete these measures at home should they chose to do so. Teacher and student data were collected through these assessments at three time points over the course of the school year for each study. As remuneration for their participation, teachers were provided with a gift card (\$20 for Study A, \$25 for Study B, and \$50 for Study C) and received free curriculum materials for the program associated with their study. Additionally, teachers from Studies B and C were provided with a TOC (teacher-on-call) to provide them with the time needed to complete student assessments.

Measures

Data garnered for the present study were collected only from measures and demographic variables used across all three of the teacher health and well-being baseline questionnaires collected as part of the original studies. Measures found to be inconsistent in wording across the original questionnaires or irrelevant to the research question of the present study were omitted. Beyond demographic variables, the present study retained measures from the original

questionnaires that assessed burnout, teacher efficacy, and self-compassion (described below). Additional measures included within the original questionnaires assessed teachers' physical health symptoms (e.g., Buysse et al., 2010), psychological health (Andrews & Slade, 2001; Kessler et al., 2002), life and job satisfaction (Diener, Emmons, Larsen, & Griffin, 1985; Ho & Au, 2006; Shutz & Long, 1988), ability to regulate and express emotion (Gross & John, 2003), mental habits and mindfulness within the classroom (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Greenberg, Jennings, & Goodman, 2010), perceptions of SEL within the classroom and school (Brackett, Reyes, Rivers, Elbertson, & Salovey, 2012; Merrell & Gueldner, 2010), and adoption of personal SEL-based or stress management practices.

Demographic Questionnaire. Teacher demographic data retained from the original studies included age, sex, ethnicity, years of teaching experience, district demographic (i.e., location and district size), and highest level of education obtained. Specifically, the demographic questionnaire asked the following questions: *What is your birthdate? What is your gender? What is your ethnic background? How many years have you worked as a teacher? What is your highest level of education?*

The measurement of teachers' level of occupational burnout: Maslach Burnout Inventory – Educators' Survey (MBI – ES). This measure consisted of 22 items that assessed the frequency of burnout symptoms over the past few months (for a copy of this measure see Appendix D). The measure assessed burnout at the subscale level with each subscale associated with one of three dimensions of burnout (i.e., emotional exhaustion, depersonalization, and personal accomplishment) (Maslach et al., 1997; Maslach et al., 2001). Items are assessed on a 7-point metric scale (1 = *never*, 2 = *a few times*, 3 = *once a month or less*, 4 = *a few times a month*, 5 = *once a week*, 6 = *a few times a week*, 7 = *everyday*). The survey begins with a question that

states, “Using the rating scale above think about the school year and answer the following questions. How often do you...” then provides scenarios that teachers rate such as “feel happy at work” or “feel emotionally drained from your work” (Maslach et al., 1997).

Scoring for the current study included calculating a mean score for each subscale. The three dimensions of burnout were examined as individual factors as recommended by Maslach (see Maslach, 1998). The subscale emotional exhaustion included nine items and asked questions such as, “feel fatigued when you get up in the morning and have to face another day on the job?” and “feel frustrated by your job?” The depersonalization subscale included five items. Example items from the depersonalization subscale included questions such as, “feel that you treat some students as if they were impersonal objects?” and “feel that you’ve become more callous toward people since you took this job?” Examples from the subscale personal accomplishment included, “feel very energetic at work?” and “feel that you have accomplished many worthwhile things in this job?” This subscale originally included eight items, but one item was cut due to inconsistency in wording across the original studies. This item traditionally reads “feel like you are positively influencing other people’s lives through your work?” However, Study C did not include the words “through your work” at the end of the item. Omitting this item reduced the personal accomplishment subscale to seven items and made the MBI – ES a 21-item measure in the present study. Reliability for the subscales of the MBI - ES in the present study were satisfactory: Emotional exhaustion ($\alpha = .889$); depersonalization ($\alpha = .689$); personal accomplishment ($\alpha = .756$). These alphas are comparable to those reported in previous research (Abenavoli, Jennings, Greenberg, Harris, & Katz, 2013; Maslach et al., 1997).

The measurement of teachers' level of teaching and personal efficacy: Personal Teaching Efficacy Scale. This measure consisted of seven items that assessed personal teaching efficacy (for a copy of this measure see Appendix E). This measure was created by Midgley and colleagues (2000) modeled after previous scales created by Gibson and Dembo (1984) and Woolfolk and Hoy (1990) (see Hoy & Woolfolk, 1993; Midgley, 2002; Tschannen-Moran & Woolfolk Hoy, 2001). This measure assessed personal teaching efficacy as one construct. In relation to this measure, Midgley and colleagues (2000) define teacher efficacy as “teachers’ beliefs that they are contributing significantly to the academic progress of their students, and can effectively teach all students” (p. 38). This seven-item measure used a 5-point Likert scale to assess how much participants agree or disagree with given statements (1 = *strongly disagree*, 2 = *disagree*, 3 = *unsure*, 4 = *agree*, 5 = *strongly agree*). Items included statements such as “The amount a student can learn is primarily related to background” and “I am good at helping all the students in my classes make significant improvement” (Midgley et al., 2000). Three items were reverse scored. Participants then received a mean composite score for all items. The reliability of the scale for the present study was satisfactory ($\alpha = .631$) when considering the few number of items in the scale (Schmitt, 1996). However, reliability for the current study was less than what has been reported by Midgley and colleagues (2000) in the *Patterns of Adaptive Learning Manual* ($\alpha = .74$).

The measurement of teachers' level of occupational self-compassion: Occupational Self-Compassion Scale. This measure included nine items that were modified for teachers based off Neff's 12-item *Self-Compassion Scale – Short Form* (see Raes, Pommier, Neff, & Van Gucht, 2011; Roeser et al., 2013) (for a copy of this measure see Appendix F). Similar to Neff's *Self-Compassion Scale – Short Form*, Roeser's modified scale included items that assessed

elements of self-compassion such as self-kindness, self-judgement, common humanity, isolation, and over-identification with difficulties. Yet, Roeser's modified version excluded items that assessed mindfulness and included wording specific to teachers. Roeser's previous use of this measure indicated it is not to be evaluated at the subscale level, rather the *Occupational Self-Compassion Scale* is meant to be used to calculate a composite score to represent levels of self-compassion (see Roeser et al., 2013). Use of this scale to calculate a composite score is likely supported by Neff as well, who warns that the reliability of the *Self-Compassion Scale – Short Form* is weakened at the subscale level due to the small number of items per construct (see Raes et al., 2011). Following these guidelines, the current study calculated participants' level of self-compassion by producing a mean composite score after reverse scoring three items. Items for this measure were rated on 5-point metrics of frequency to assess to what degree participants associated themselves with given statements (1 = *Not at all true of me*, 2 = *Rarely true of me*, 3 = *Somewhat true of me*, 4 = *Often true of me*, 5 = *Very true of me*). Items included phrases such as “When I see aspects of myself as a teacher that I don't like I can get down on myself” and “When things are going badly for me in the classroom, I tend to see such difficulties as part of a process of development that every teacher goes through.” Although a relatively new measure, Roeser's previous research conducted using the *Occupational Self-Compassion Scale* has shown it to be statistically reliable ($\alpha = .89$; Roeser et al., 2013). Reliability for the current study was satisfactory ($\alpha = .737$).

Chapter 3: Results

A series of analytic procedures were conducted to explore the present study's research question: *How is self-compassion related to burnout when considering teacher efficacy and years of teaching experience?* The first section of this chapter delineates the data analytic procedures taken to obtain results. The second and third sections of this chapter contain the results of these analyses. Specifically, the second section provides results regarding binary correlations between variables, while the third section provides results related to the multiple regression models used to explore the research question.

Data Analytic Procedure

Before beginning data analysis, all necessary preparation of data was performed. This included merging the three data sets from the Studies A ($N = 17$), B ($N = 18$), and C ($N = 18$). The combined data ($N = 53$) were then further prepared by checking for missing data, errors, evaluating outliers, and preliminary analysis were conducted to determine if the assumptions for linear regression analysis were met for each of the three proposed models. A mean composite score was created for each measure if at least 80% of that measure, or sub-scale for the measure of burnout, was completed. Two participants completed less than 80% of the *Occupational Self-Compassion Scale*, therefore, their data were not included in the final regression models. Exclusion of these data reduced the sample size to $N = 51$. Tests for assumption included evaluating linearity, independence, normality, homoscedasticity, skewness, and kurtosis. All assumptions were met for the models including the dependent variables (DV) emotional exhaustion and personal accomplishment. However, the weighted nature (positively skewed) of the data for the DV depersonalization caused this model to fail to meet the assumptions of

normality and homoscedasticity. One participant's data was eliminated from all models due to high influence and high leverage, reducing the final sample size to $N = 50$. Yet, omitting these data failed to normalize the distribution for the DV depersonalization. Therefore, additional observations within the depersonalization model were examined using Cook's Distance and leverage scores in efforts to identify and remove outliers. Five observations were considered potential outliers as measured by Cook's Distance, but evaluation of leverage scores indicated little influence. As recommended by Achen (1982), various models were run without these data in efforts to normalize the distribution. Model coefficients maintained stability regardless of the deletion of these observations suggesting no need to remove the potential outliers (Achen, 1982). These observations were then retained. Implications regarding the violation of these assumptions are elaborated upon in the discussion section of this paper.

Preliminary analysis of the data also included running zero-order (binary) correlations between each of the six core variables of the study (i.e., emotional exhaustion, depersonalization, reduced personal accomplishment, years of teaching experience, teacher efficacy, and self-compassion). Next, multiple regression analysis was conducted to explore the relation among the three dimensions of burnout (emotional exhaustion, depersonalization, and personal accomplishment) and years of teaching experience, teacher efficacy, and self-compassion.

Because this study aimed to explore the three dimensions of burnout individually, a separate model was created for each dimension of burnout (see Figure 2). This created three models for the current study, one model for each dimension of burnout with the dimension of burnout as the DV and years of teaching experience, teacher efficacy, and self-compassion as the IVs. Significance level indicating the statistical significance of effect size was set to the standard

value of $p < .05$ (see Fisher, 1954).

Description of Variables:

- **DVs = Individual Dimensions of Burnout** as separate DVs
 1. Emotional Exhaustion = EE
 2. Depersonalization = DP
 3. Personal Accomplishment = PA
 - Numerical scale, mean composite score for each DV

- **IVs= Years of Teaching Experience, Teacher Efficacy, Self-Compassion**
 1. Years of Teaching Experience = YE
 2. Teacher Efficacy = TE
 3. Self-Compassion = SC
 - Numerical scale, mean composite score for Teacher Efficacy and Self-Compassion

Models:

Model 1: $EE = a_0 + a_1YE + a_2TE + a_3SC + \text{residual}_{EE}$

Model 2: $DP = b_0 + b_1YE + b_2TE + b_3SC + \text{residual}_{DP}$

Model 3: $PA = c_0 + c_1YE + c_2TE + c_3SC + \text{residual}_{PA}$

Figure 2. Description of Variables and Regression Models Used

To provide interpretation of the relative importance of each variable, the Pratt-Index (see Thomas, Hughes, & Zumbo, 1998) was also calculated for each independent variable (i.e., years of teaching experience, teacher efficacy, and self-compassion) for each model. The Pratt-Index provides a measure of relative importance for each IV by calculating the overall proportion of variance explained by each IV in relation to the regression model. The Pratt-index for each IV is calculated by multiplying the variable's β -weight with the correlation value of that IV and the DV, then dividing that product by R^2 ($d = (\beta r_{xy}) / R^2$) (Thomas et al., 1998). The Pratt-Index specifies the variance that each IV in accounts for of the total R^2 by providing an index (ranging

between 0 to 1) for each IV (Thomas et al., 1998). The Pratt-index for an IV can easily be calculated into a percentage by multiplying the given index by 100. This percentage indicates the percentage of variance that the IV accounts for of the R^2 for that model. For example, an IV with a Pratt-index of .7 would account for 70% of the variance of the R^2 of that model. The sum of the Pratt-indices for all variables equals 100% of the R^2 in that model. The IV with the largest Pratt-index, or highest percentage, is considered the most important in that model (Thomas et al., 1998). However, according to Thomas (1992) further examination beyond comparing percentage of variance is necessary when determining the relative importance of a variable. Calculating a cut-off value to determine which IVs are relatively unimportant is also required. This cut-off value is determined using the mathematical expression $d < 1 / (2p)$, where p equals the total number of IVs in the model (Thomas, 1992). For the present study, this cut-off value was rounded to .17 ($p = 3$; $d < 1 / 6$). IVs with a Pratt-index below .17 were interpreted as unimportant within each of the models².

Intercorrelations Among Variables

Examining the binary correlations produced as part of the preliminary analysis was a beginning step in exploring the research question: *How is self-compassion related to burnout when considering teacher efficacy and years of teaching experience?* Correlational analysis revealed self-compassion to have negative and significant relations to emotional exhaustion and

² The calculated value of the Pratt-Index is based on the final sample size ($N = 50$). This reflects the omission of participant data identified as incomplete during preliminary analysis. Binary correlations reported in the preliminary analysis include the two participants' observations that were incomplete for the self-compassion measure, retaining a larger sample ($N = 52$) for all variables other than self-compassion ($N = 50$). This accounts for the difference between the zero-order correlations in the models used to calculate the Pratt-Index and those reported in the preliminary analysis.

depersonalization, and positive and significant relations to personal accomplishment and teacher efficacy (see Table 1 for correlations between all variables). These correlations were moderate in strength, ranging in magnitude from $r = .29$ to $r = .326$. A strong and significant positive relation was found between teacher efficacy and personal accomplishment $r(52) = .436, p = .001$. No significant associations were found between the variable years of teaching experience and any other variable. Therefore, hypotheses concerning the correlations between variables was only partially met, as it was expected that years of teaching experience would be positively associated with teacher efficacy and self-compassion. As hypothesized, self-compassion was more strongly associated (negatively related) with the burnout dimensions of emotional exhaustion and depersonalization than teacher efficacy or years of teaching experience. Neither teacher efficacy nor years of teaching experience were significantly associated with emotional exhaustion or depersonalization. As hypothesized, both teacher efficacy and self-compassion were significantly and positively related to personal accomplishment, with teacher efficacy having a stronger relation to personal accomplishment than self-compassion.

Predictors of Burnout

Multiple regression analyses were conducted to examine the relations among variables and to further explore the research question: *How is self-compassion related to burnout when considering teacher efficacy and years of teaching experience?* Each dimension of burnout (emotional exhaustion, depersonalization, and personal accomplishment) was individually regressed on the IVs (years of teaching experience, teacher efficacy, and self-compassion) as covariates. Three regression analyses were conducted, evaluating each dimension of burnout as a separate DV. Relative importance of each IV was then calculated using the Pratt-index (see Thomas et al., 1998).

Overall, as can be seen in Table 2, two of the three models tested provided non-significant results. Specifically years of teaching experience, teacher efficacy, and self-compassion explained only 10% of the outcome for emotional exhaustion ($R^2 = .10$, $F(3, 46) = 1.725$, $p > .05$) and 11% for depersonalization ($R^2 = .11$, $F(3, 46) = 1.928$, $p > .05$). However, results of the third model indicated moderate significant relations among years of teaching experience, teacher efficacy, and self-compassion and personal accomplishment. The three predictors accounted for 27% of the variance in this model ($R^2 = .27$, $F(3, 46) = 5.628$, $p < .05$).

Next, the Pratt-index was calculated for all variables in each of the three models in efforts to measure relative importance of each variable within the given models. If a variable was found to have a Pratt-index less than .17 ($d < .17$) it was considered unimportant to the model, explaining less than 17% of the R^2 of that model. This cut-off value was determined by the expression $d < 1 / (2p)$, where p equals the total number of IVs in the model (see Thomas, 1992). Within the emotional exhaustion and depersonalization models, only self-compassion was considered relatively important, explaining 89% ($d = .89$) of the R^2 for emotional exhaustion and 90% ($d = .90$) of R^2 for depersonalization. The remaining variables in these models (years of teaching experience and teacher efficacy) were relatively unimportant, each contributing less than 17% to R^2 . Both teacher efficacy and self-compassion were found to be relatively important to the personal accomplishment model, while years of teaching experience was unimportant. In this model teacher efficacy was the variable of most relative importance explaining 70% ($d = .70$) of the R^2 for the personal accomplishment model. Self-compassion explained 21% ($d = .21$) of the model's R^2 . Overall findings of the study support the hypothesis that self-compassion would be associated with burnout more strongly than teacher efficacy for the dimensions of emotional exhaustion and depersonalization when controlling for years of teaching experience.

Additionally, the study supported the hypothesis that teacher efficacy would be more strongly associated with personal accomplishment than self-compassion when controlling for years of teaching experience.

Table 1. Descriptive Statistics and Pearson Product-Moment Correlation Between Variables

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.
1. Emotional Exhaustion	3.611	1.234	-					
2. Depersonalization	1.648	.762	.597**	-				
3. Personal Accomplishment	6.255	.601	-.358**	-.408**	-			
4. Years of Teaching Experience	13.923	6.735	.074	-.138	.154	-		
5. Teacher Efficacy	3.665	.467	-.033	-.117	.436**	-.005	-	
6. Self-Compassion ^a	3.522	.567	-.290*	-.326*	.322*	.109	.321*	-

Note. $N = 52$; ^a $n = 50$. Two participants did not complete the *Occupational Self-Compassion Scale* Questionnaire.

* $p < .05$ (1-tailed). ** $p < .01$ (1-tailed).

Table 2. Regression Analysis Exploring Relations Among Teachers' Personal Characteristics and Dimensions of Burnout

Model 1: Emotional Exhaustion					
Variable	<i>B</i>	SE	β	t value	PRATT (<i>d</i>)
Years of Teaching Experience	.024	.026	.131	.926	.126
Teacher Efficacy	.047	.414	.017	.114	-.014
Self-Compassion	-.678	.326	-.310	-2.083*	.890
Model 2: Depersonalization					
Variable	<i>B</i>	SE	β	t value	PRATT (<i>d</i>)
Years of Teaching Experience	-.008	.016	-.070	-.501	.064
Teacher Efficacy	-.044	.254	-.025	-.173	.027
Self-Compassion	-.419	.200	-.310	-2.099*	.902
Model 3: Personal Accomplishment					
Variable	<i>B</i>	SE	β	t value	PRATT (<i>d</i>)
Years of Teaching Experience	.014	.012	.152	1.198	.091
Teacher Efficacy	.565	.184	.409	3.063**	.702
Self-Compassion	.188	.145	.174	1.295	.209

Note. *N* = 50.
 p* < .05. *p* < .01.

Chapter 4: Discussion

This chapter begins with further discussion regarding the results of this study. Discussion includes implications associated with results and considers characteristics of the study that inspire further exploration. A discussion of the strengths and limitations of the study follows. Although suggestions for future research are found throughout the discussion, this chapter ends with further discussion regarding future directions for the study of self-compassion in efforts to promote teacher resilience and buffer effects of teacher burnout.

The present study is one of the few that has directly examined self-compassion and burnout with a population of teachers. The unique contribution of this study to the extant literature is that it has provided additional understanding about the potential value, or contribution, that self-compassion may have in buffering teacher burnout by examining it in relation to another well-established personal characteristic: teacher efficacy. Overall, the results of the present study support the findings of the few studies that have examined self-compassion and teacher burnout (Roeser et al., 2013; Jennings, 2015b) and those that have examined teacher efficacy and burnout (e.g., MacBeth & Gumley, 2012; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2007). Specifically, results of this study found that for two of the dimensions of burnout (emotional exhaustion and depersonalization) self-compassion was relatively more important than teacher efficacy (measured by the Pratt-index) and more strongly associated with the dimensions of emotional exhaustion and depersonalization than that of teacher efficacy. In fact, teacher efficacy was found to be non-significantly related to emotional exhaustion and depersonalization. However, collectively the variables years of teaching experience, teacher efficacy, and self-compassion were non-significant in predicting variance for

emotional exhaustion or depersonalization. Although self-compassion was found to be relatively important in these models, the models themselves were non-significant. Therefore, results of these findings suggest the relations of self-compassion to burnout, when considering years of teaching experience and teacher efficacy, are relatively small. Although teacher efficacy was more strongly associated with personal accomplishment, self-compassion was positively associated (when measured by correlational analysis) and relatively important (when measured by the Pratt-index) to this dimension of burnout. In fact, the only model that was significant was that of personal accomplishment, suggesting that the combination of years of teaching experience, teacher efficacy, and self-compassion collectively serve to explain the variance of personal accomplishment better than the other dimensions of burnout.

Years of teaching experience was found to have little to no influence in relation to any variables of the study. Indeed, the number of years of teaching experience was found to be non-significant and relatively unimportant to all three dimensions of burnout, and was not significantly related to self-compassion or teacher efficacy. Results of this study suggest that efforts to buffer teacher burnout, and thereby support resilience, may require the development of multiple competencies or personal characteristics that collectively address the various dimensions of burnout. Although findings from this study are modest, self-compassion warrants further examination as a potential SEC that may serve, alongside additional competencies and personal characteristics, to address teacher burnout.

Comparing Self-Compassion and Teacher Efficacy to the Dimensions of Burnout Emotional Exhaustion and Depersonalization

Findings from the present study suggest that promoting the development of self-compassion may serve a small role in addressing teacher burnout. As hypothesized, the study

found that the relations between self-compassion and two of the dimensions of burnout, emotional exhaustion and depersonalization, were not only significant, but larger, in comparison to the relations found between these dimensions of burnout and teacher efficacy when comparing binary correlations. Furthermore, self-compassion was found to be the variable of most importance (measured by the Pratt-index) in relation to the multiple regression models that included emotional exhaustion and depersonalization as the DV and years of teaching experience, teacher efficacy, and self-compassion as the IVs. It is important to note that the relations between teacher efficacy with the burnout dimensions, emotional exhaustion and depersonalization, were non-significant and overall the proportion of variance self-compassion accounted for was small. This indicates that additional variables (not included in the model) would have served as better predictors for emotional exhaustion and depersonalization. Furthermore, the Pratt-index measured teacher efficacy to be relatively unimportant for the multiple regression models that included these dimensions as their DV. These results suggest that teacher efficacy is not significantly associated with, nor an important predictor of the dimensions emotional exhaustion or depersonalization. Additionally, years of teaching experience was non-significant and relatively unimportant (determined by the cut-off value related to the Pratt-index) to emotional exhaustion and depersonalization. Comparison of the results of these analyses allow for the conclusion that self-compassion was associated with lower levels of burnout, for the dimensions emotional exhaustion and depersonalization, more strongly than teacher efficacy and years of teaching experience when examining the variables through various analyses.

The findings above are in partial accord with both theory and research that have previously examined the benefits of self-compassion. Previous research has shown that self-compassion is associated with psychological well-being (MacBeth & Gumley, 2012; Neff &

Vonk, 2009) and other characteristics linked to resilience such as coping with, or adapting to, perceived failures (Neff et al., 2005; Neff et al., 2009), improved interpersonal relations (Barnard & Curry, 2011), improved emotion awareness (Neff 2003a; Neff et al., 2005), positive emotions such as happiness and optimism (Neff & Vonk, 2009), and the adoption of a healthy, forgiving, and kind orientation toward the self (Barnard & Curry, 2011). With teachers, Roeser and colleagues (2013) found self-compassion to mediate reductions in stress, depression, anxiety, and burnout (reported as a mean composite score of all three dimensions of Maslach's burnout dimensions). Additionally, Jennings (2015b) found self-compassion to be positively related to a teacher's ability to provide emotional support to students. The findings from this study are modest, and therefore fail to fully support the findings reported in the extant literature. However, results from the present study do warrant the need to further research self-compassion to fully understand its relations to teacher burnout. Furthermore, the present study warrants the need to further examine predictors of emotional exhaustion and depersonalization. Extant research indicates that characteristics such as the development of principal support or job satisfaction (Brackett et al., 2010) and the ability to provide emotional support to students (Jennings, 2015b) are associated with lower levels of emotional exhaustion and depersonalization.

Personal Accomplishment

As hypothesized, teacher efficacy had a significant and positive association to personal accomplishment in comparison to self-compassion and personal accomplishment. Furthermore, teacher efficacy was found to be the most important variable (measured by the Pratt-index) in relation to the multiple regression model that included personal accomplishment as the DV and years of teaching experience, teacher efficacy, and self-compassion as the IVs. These findings were not surprising, given that the constructs of teacher efficacy and personal accomplishment

both directly relate to a teacher's perception regarding performance ability at work (Maslach et al., 1997; Maslach et al. 2001; Midgley et al., 2000). Although neither the variance inflation factor (VIF) nor the binary correlation between the constructs indicated a high level of multicollinearity between personal accomplishment and teacher efficacy (see Belsley, Kuh, & Welsch, 1980), consideration should be given to the similarity between these constructs when interpreting results. Given the similarities between the constructs, it is reasonable to question if the strength of association is indeed significant, or simply due to an overlap in measures. Self-compassion was also significantly and positively related to personal accomplishment when examined through correlational analysis. Additionally, self-compassion was found to be important (measured by the Pratt-index) in relation to this model. As was the case with the previous models, years of teaching experience was non-significant and relatively unimportant to the DV personal accomplishment. Analysis of this model suggests that the development of teacher efficacy and self-compassion, both individually and in combination, play a role in the development of teachers' personal accomplishment. This conclusion is further supported by the fact that this model, in comparison to those that included emotional exhaustion and depersonalization as the DV, was the only model to produce a significant R^2 . This suggests that, when examined in combination, years of teaching experience, teacher efficacy, and self-compassion collectively serve to predict personal accomplishment, but fail to do so for emotional exhaustion or depersonalization. This suggests that addressing the dimensions of burnout may require more than the development of a few personal characteristics. Indeed, it is more likely that combinations of multiple characteristics are needed to address the unique qualities of each of the dimensions of burnout individually.

Analysis of this model concludes that teacher efficacy is associated with personal accomplishment, a resilience promoting factor believed to buffer the effects of burnout. These findings support the extant research that has previously established teacher efficacy to be positively related to job satisfaction and negatively related to burnout, specifically with the dimension of personal accomplishment when measured at the subscale level (see Caprara et al., 2006; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2007). Moreover, the overall study aligns with research that has reported teacher efficacy to be non-significantly related to the dimensions of emotional exhaustion and depersonalization (Skaalvik & Skaalvik, 2010). Although the development of teacher efficacy is associated with personal accomplishment and a reduction in burnout, findings from this study posit that teacher efficacy may not adequately address all the dimensions of burnout by failing to support the unmet social and emotional needs of teachers that often lead to emotional exhaustion and depersonalization. These findings further support current theoretical and empirical work regarding the development of teacher SEC which postulates that development of teachers' social and emotional skills may promote resilience by equipping teachers with the needed skills to cope with the emotional and interpersonal stressors of teaching (Jennings & Greenberg, 2009; MLERN, 2012; Schonert-Reichl, Hanson-Peterson, & Hymel, 2015). One unique trait often developed with self-compassion is a healthy, kind, forgiving stance towards oneself (Barnard & Curry, 2012; Neff et al., 2005). Although it is yet unknown exactly how self-compassion may connect to personal accomplishment, it may be that this kind, loving stance towards the self may be particularly helpful in supporting feelings of personal accomplishment when feelings of teacher efficacy are dwindling (Gallant, 2013; Roeser et al., 2013). Further research is needed to fully understand the

relationship between self-compassion and teacher efficacy, and how each of them work in relation to the dimension personal accomplishment.

Relations Between Self-Compassion and Teacher Efficacy

Correlational findings from this study are in harmony with the few studies that have directly examined the relations between self-compassion and efficacy with general populations, further suggesting positive associations between the two constructs (see de Souza & Hutz, 2016; Iskender, 2009; Manavipour & Saeedian, 2014). Similar to those reported by Iskender (2009) and Manavipour and Saeedian (2014), the present study found moderately significant relations between self-compassion and efficacy. However, correlations between the constructs reported by de Souza and Hutz (2016) were larger than those found in the present study. Because extant studies that have directly examined the relations between self-compassion and efficacy are correlational, and have yet to be conducted with teachers, further research is needed to fully understand this relationship in the teaching context. Studies that have examined interventions designed to develop self-compassion, albeit mostly with general adult populations or college students, and those that have examined interventions to develop teacher SEC (where self-compassion was taught), may provide additional understanding of the relationship between self-compassion and efficacy. Indeed, such work has found the development of self-compassion to be related to increased levels of efficacy (Jennings, 2015b; Jennings et al., 2017; Neff & Germer, 2013) suggesting that the development of self-compassion may lead to further development of efficacy. However, interpretation of these findings must be taken with care. Because these studies intended to measure outcomes related to self-compassion, and not those related to efficacy, it is not clear if the presence of participants' efficacy may, or may not, lead to their ability to develop self-compassion. Examination of the extant literature does not yet reveal

whether self-compassion leads to development of efficacy, or if efficacy leads to development of self-compassion. Perhaps this relationship is bidirectional, with the development of one leading to the other. Further research on this matter is needed, particularly with samples of teachers, to answer these questions. Nonetheless, what is known is that there is a positive relationship between self-compassion and teacher efficacy. Furthermore, the present study provides rationale for teacher training efforts to develop both teacher efficacy and self-compassion, given that development of both constructs collectively addresses personal accomplishment.

Strengths and Limitations of the Study

This study adds to the extant literature by providing further understanding of the relations between self-compassion and teacher burnout. It is the first study known to directly examine relations of self-compassion and teacher efficacy to dimensions of teacher burnout. Doing so has provided a greater understanding of the potential reach that self-compassion may have in addressing the three dimensions of burnout. This was accomplished by comparing the strength of relations (measured by correlational analysis) and relative importance (measured by the Pratt-index) of self-compassion to the dimensions of burnout with the relations and relative importance of teacher efficacy to the dimensions of burnout. Unique to this study, teacher efficacy was used as a sort of *baseline* or *standard* personal characteristic from which concrete comparisons could be made. A corpus of research has previously established teacher efficacy to be highly associated with teacher resilience and lower levels of teacher burnout (e.g., Caprara et al., 2006; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2007). The findings associated with self-compassion were more easily interpreted and meaningful when directly compared to that of teacher efficacy. By comparing the results of self-compassion to those of

teacher efficacy, the potential contribution of self-compassion to the teacher burnout phenomenon was made more concrete.

An additional strength of this study is that it examined teacher burnout at the subscale, rather than composite level. Doing so provided a deeper understanding of how, and to what extent, the personal characteristics self-compassion and teacher efficacy addressed each of the dimensions of burnout individually. It is expected that examining burnout at the subscale level is done, but most often studies report findings at the composite level (Byrne, 1994). Perhaps this is done in efforts to report the most statistically significant results. However, burnout theorists argue that without being evaluated at the subscale level, the nuance of relations between constructs and the dimensions of burnout will remain unknown (Byrne, 1994; Maslach & Jackson, 1984). Examining burnout at the subscale level in this study provides argument that multiple teacher interventions, those that provide support for a corpus of personal characteristics, are likely needed to fully address all three dimensions of burnout.

The present study has several limitations. Although, participants' observations for emotional exhaustion were normally distributed, those for depersonalization and personal accomplishment were skewed. In consequence, the depersonalization model failed to meet the assumptions for normality and homoscedasticity. Failure to meet these assumptions should be considered when interpreting any results from this study associated with depersonalization. However, failure to meet normality and homoscedasticity may not have a large bearing on the results reported, and does negate the results (Achen, 1982; Stevens, 1984). Further statistical analysis conducted with the depersonalization model revealed that observations identified as potential outliers were non-influential (measured by Cook's Distance) and had low leverage.

Another potential limitation is the relatively small sample size ($N = 50$). A larger sample may have provided results that are easier to generalize to the overall teacher population. Given that larger sample sizes can help produce more precise estimates, the relatively modest R^2 values found for the emotional exhaustion and depersonalization models may have been found to be significant, and more generalizable, with a larger sample size. Indeed, R^2 values as low as those in this study (i.e., 10%) have been found significant in multiple cases with larger sample sizes (see Cohen, 1988). Evaluation of the regression models using a multi-lens approach (i.e., through the use of correlational analysis, Pratt-index, and multiple regression) revealed that self-compassion is associated with all three dimensions of burnout and teacher efficacy. Examination of self-compassion with larger samples would provide further understanding about the significance of these associations and potentially provide more generalizable results. Although the overall sample reported above average levels of personal accomplishment and slightly lower levels of depersonalization in comparison to those reported in other studies, the skewed nature of the distributions for depersonalization and personal accomplishment are common among samples of teachers, and have been validated and replicated with empirical research (see Byrne, 1994). Although the sample size for this study was relatively small in comparison to other studies that have examined teacher burnout (e.g., Byrne, 1994; Jennings et al., 2017), comparison between distribution of the dimensions of burnout provides support that findings from this study can be generalized to the larger population of teachers. Furthermore, the sample of teachers in this study may not be representative to the larger population of teachers because it represents a group of teachers who chose to sign up for a study designed to promote well-being for themselves or their students (or a combination of both). Although the exact influence of these characteristics cannot be known, speculations can be made. Due to their desire to participate in such programs and to

share SEL-based programming with students, teachers in this sample may have had an increased awareness of the benefits of well-being and SEC. Additionally, they may have previously developed their own SEC which contributed to their desire to share the SEL-based programming with students (this may only be the case for Studies B and C). Furthermore, they may have participated in programs to support their well-being in the past, or in contrast, be in dire need of developing skills to cope with the stressors associated with work. Regardless of the reasons why the teachers chose to sign up, the important thing to note is that they chose to sign up. Doing so signifies that the teachers valued what each of the studies had to offer them: well-being for themselves, well-being for their students, or a combination of both. Extending an invitation to teachers to participate in such studies without receiving any intervention may help remedy this limitation in future research.

Another limitation of the study is the lack of variance of years of teaching experience among participants. The average years of teaching experience ($M = 13.9$) was in accordance with that typically reported in extant studies (e.g., Roeser et al., 2013; Skaalvik & Skaalvik 2010). Yet, in contradiction to extant literature, years of teaching experience was not significantly related to any of the dimensions of burnout. Indeed, previous studies most frequently report a curvilinear relationship (U-shaped) between years of teaching experience and burnout, with teachers in their first and last years of teaching reporting highest levels of burnout (see Ingersoll, 2010). Given that only two teachers had less than five years of teaching experience, the present sample failed to adequately represent new teachers. This lack of variance may account for the results that are inconsistent with the extant literature. The range of years of teaching experience may also account for this inconsistency. When compared to larger studies (e.g. Jennings et al, 2017) the range of teaching experience in the present study (34.5 years) was relatively small.

Had the one influential observation not been deleted from the sample, the total years of teaching experience would have ranged 38.5 years. Yet, this small difference would not likely have made a change in the relationship between years of teaching experience and burnout. Without a sample that equally and adequately represents teachers with a wide range of years of experience it is difficult to generalize any findings from this study associated with years of teaching experience.

An additional limitation of the study is the use of self-report questionnaires alone. Given that teacher efficacy, self-compassion, and feelings of burnout are related to self-perceptions, the use of self-report measures for this study is appropriate. Because a participant's perceptions or thoughts are not observable, the use of self-report measures is considered one of the most valid ways to help understand constructs studied within the field of social sciences (Baldwin, 1999). However, use of self-report measures does provide limitations that should be considered when interpreting the results of this study. Use of self-report measures alone provides the potential for an increase in relationship between variables to be measured due to single-source bias (Collie et al, 2012). Without the use of additional measures, self-reported data is subject to limitations such as participant misinterpretation, false answering of questions, and social desirability (Chan, 2009). Future use of a mixed-methods design that incorporates methods such as interviews or expert observations would allow for data to be collected from various sources and provide a richer depiction of the teacher burnout phenomenon. Studies that include the use of 'non-traditional' social science methods, such as those used to measure symptoms of teachers' and students' physiological stress, serve as examples of the type of research that may provide a more concrete understanding of the burnout phenomenon when used alongside self-report measures (see Oberle & Schonert-Reichl, 2016; Roeser et al., 2013).

Future Directions

Results from this study suggest that self-compassion should continue to be evaluated as a potential buffer against teacher burnout in future studies with larger samples of teachers. Very little research exists that has directly examined self-compassion and burnout with teacher populations, and that which is available is mostly cross-sectional and correlational. Examination of these variables in efforts to understand causal relationships will further increase understanding of how, and to what extent self-compassion may serve to support teacher resilience and potentially stave off the effects of burnout. Research designs that include testing interventions, are longitudinal, and examine outcomes through the use of mixed-methods would provide a more in-depth understanding of the full potential self-compassion may have in relation to the teacher burnout phenomenon.

To ensure that they fully capture aspects of the burnout phenomenon, further understanding regarding the measures used in this study is also warranted. As recommended by Maslach (1998), evaluation of the dimensions of burnout at the subscale level will allow for a more nuanced understanding of the characteristics of teacher burnout, as well as help uncover additional personal characteristics that may address each of the dimensions of burnout. However, characteristics of burnout may be missing from Maslach's scale. For example, physiological symptoms (e.g., illness or physical pain) are linked to reports of burnout (see Greenberg et al., 2016). Although Maslach's theory suggests physical exhaustion plays a role in the burnout phenomenon, the scale itself may not fully capture this physical side of burnout due to the limited number of items that address physiological symptoms. Future iterations of burnout measures need more fully address this dimension as well. Additionally, further understanding regarding Neff's *Self-Compassion Scale* is needed. Although extant research has shown a variety

of positive outcomes associated with the development of self-compassion (see Neff & Germer, 2013), need for further understanding regarding the construct and how to better measure it has been proposed (e.g., Lopez et al., 2015; Montero-Marín et al., 2016). Indeed, further exploration of the opposite side of self-compassion, or self-criticism, may help provide a more balanced understanding of how the construct may play a role in burnout. Perhaps the right balance of self-criticism and self-compassion is needed to provide teachers with the motivation needed to best perform their jobs. Many questions have yet to be addressed regarding self-compassion, and future research would benefit from doing so. Does too much self-compassion make a person lazy? Does the right amount of self-criticism motivate a person? Perhaps to understand self-compassion we also need to better understand self-criticism. Researchers such as Lopez and Montero-Marín are seeking to answer these questions in efforts to create measures that provide a more accurate and balanced understanding of the entire continuum of self-compassion and self-criticism. Future burnout research would benefit from using such measures, as they would advance knowledge of how specifically self-compassion and self-criticism together may, or may not, support teacher well-being.

Findings of this study are modest. They suggest that further research is needed to better understand the potential reach that self-compassion may have in buffering the effects of teacher burnout. Examination of the multiple dimensions of burnout make it clear that efforts to address teacher burnout will likely require a multidimensional approach, one that provides strengthening of characteristics that address emotional exhaustion, depersonalization, and personal accomplishment individually. There is not a panacea that will address teacher burnout alone. Likely addressing burnout effectively will take a much greater understanding of the numerous factors that may serve to promote teacher resilience. Additionally, a deeper understanding of the

phenomenon itself is needed. Perhaps such an understanding will help uncover what combination of factors is needed to best equip teachers with the skills needed to address burnout. Although findings from this study are small, self-compassion warrants further examination as a potential contributor to this much-needed solution.

References

- Abenavoli, R. M., Jennings, P. A., Greenberg, M. T., Harris, A. R., & Katz, D. A. (2013). The protective effects of mindfulness against burnout among educators. *Psychology of Education Review, 37*, 57-69. Retrieved from <https://www.researchgate.net/publication/256464666>
- Achen, C. H. (1982). *Interpreting and using regression*. Thousand Oaks: SAGE Publications, Incorporated.
- Andrews, G., Slade, T. (2001). Interpreting scores on the Kessler Psychological Distress Scale (K10). *Australian and New Zealand Journal of Public Health, 25*, 494-497.
doi:10.1111/j.1467-842x.2001.tb00310.x
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27-45.
doi:10.1177/1073191105283504
- Baldwin, W. (2000). Information no one else knows: The value of self-report. In A. A. Stone, J. S. Turkkan, C. A. Bachrach, J. B. Jobe, H. S. Kurtzman, & V. S. Cain (Eds.), *The science of self-report: Implications for research and practice* (pp. 3 – 8). New Jersey: Psychology Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Barnard, L. K., & Curry, J. F. (2012). The relationship of clergy burnout to self-compassion and other personality dimensions. *Pastoral Psychology, 61*, 149-163.
doi:10.1007/s11089011-0377-0
- Belsley, D. A., Kuh, E., & Welsch, R. E. (1980). Detecting and assessing collinearity. In D. A.

- Belsley, E. Kuh, & R. E. Welsch (Eds.), *Regression diagnostics: Identifying influential data and sources of collinearity* (pp. 85-191). New York: Wiley.
- Benn, R., Akiva, T., Arel, S., & Roeser, R. W. (2012). Mindfulness training effects for parents and educators of children with special needs. *Developmental Psychology, 48*, 1476-1487. doi:10.1037/a0027537
- Bergin, C., & Bergin, D. (2009). Attachment in the classroom. *Educational Psychology Review, 21*, 141-170. doi:10.1007/s10648-009-9104-0
- Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research, 78*, 367-409. doi: 10.3102/0034654308321455
- Brackett, M., Palomera, R., Mojsa-Kaja, J., Reyes, M., & Salovey, P. (2010). Emotion-regulation ability, burnout, and job satisfaction among British secondary-school teachers. *Psychology in the Schools, 47*, 406-417. doi:10.1002/pits.20478
- Brackett, M., Reyes, M. R., Rivers, S. E., Elbertson, N. A., & Salovey, P. (2012). Assessing teachers' beliefs about social and emotional learning. *Journal of Psychoeducational Assessment, 30*, 219-236. doi:10.1177/0734282911424879
- Bronfenbrenner, U., & Morris, P. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Theoretical models of human development. Handbook of child psychology* (5th ed., pp. 793-828). NY: Wiley.
- Brookings, J. B., Bolton, B., Brown, C. E., & McEvoy, A. (1985). Self-reported job burnout among female human service professionals. *Journal of Occupational Behaviour, 6*, 143-150. Retrieved from <http://www.jstor.org.ezproxy.library.ubc.ca/stable/3000248>
- Buysse, D. J., Yu, L., Moul, D. E., Germain, A., Stover, A., Dodds, N. E., ... Pilkonis, P. A.

- (2010). Development and validation of patient-reported outcome measures for sleep disturbance and sleep-related impairments. *Sleep, 33*, 781–792.
doi:10.1093/sleep/33.6.781
- Byrne, B. M. (1994). Burnout: Testing for the validity, replication, and invariance of causal structure across elementary, intermediate, and secondary teachers. *American Educational Research Journal, 31*, 645-673. doi:10.2307/1163231
- Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*, 473-490.
doi:10.1016/j.jsp.2006.09.001
- Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309 – 336). New York: Routledge.
- Clarke, K. M., & Greenberg, L. S. (1986). Differential effects of the Gestalt Two-Chair Intervention and problem solving in resolving decisional conflict. *Journal of Counseling Psychology, 33*, 11-15. doi:10.1037/0022-0167.33.1.11
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd Edition). Hillsdale, NJ: Erlbaum.
- Collaborative for Academic, Social, and Emotional Learning. (2013). *2013 CASEL guide: Effective social and emotional learning programs — Preschool and elementary school edition*. Chicago, IL: Retrieved from <http://www.casel.org/guide>
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional

- learning: Predicting stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, *104*, 1189–1204. doi: 10.1037/a0029356
- Crain, T. L., Schonert-Reichl, K. A., & Roeser, R. W. (2016). Cultivating teacher mindfulness: Effects of a randomized controlled trial on work, home, and sleep outcomes. *Journal of Occupational Health Psychology*, *22*, 138-152. doi:10.1037/ocp0000043
- de Souza, L. K., & Hutz, C. S. (2016). Self-compassion in relation to self-esteem, self-efficacy and demographical aspects. *Paidéia (Ribeirão Preto)*, *26*, 181-188.
doi:10.1590/1982-43272664201604
- Densten, I. L. (2001). Re-thinking burnout. *Journal of Organizational Behavior*, *22*, 833-847.
doi:10.1002/job.115
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71-75. doi: 10.1207/s15327752jpa4901_13
- Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Weissberg, R. P., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*, 405-432.
doi:10.1111/j.1467-8624.2010.01564.x
- Eyal, O., & Roth, G. (2011). Principals' leadership and teachers' motivation. *Journal of Educational Administration*, *49*, 256 – 275. doi:10.1108/09578231111129055
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, *14*, 245 – 258. doi:10.1016/S0749-3797(98)00017-8

- Fisher, R. A. (1954). *Statistical methods for research workers* (12th, ed.). Edinburgh: Oliver and Boyd.
- Gallant, A. (2013). Self-conscious emotion: how two teachers explore the emotional work of teaching. In M. Newberry, A. Gallant, & P. Riley (Eds.), *Emotion and school: understanding how the hidden curriculum influences relationships, leadership, teaching and learning* (pp.163-181). England: Emerald Group Publishing.
- Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76, 569-582. doi:10.1037//0022-0663.76.4.569
- Gorozidis, G., & Papaioannou, A. G. (2014). Teachers' motivation to participate in training and to implement innovations. *Teaching and Teacher Education*, 39, 1-11.
doi:10.1016/j.tate.2013.12.001
- Gray, L., & Taie, S. (2015). *Public school teacher attrition and mobility in the first five years: Results from the first through fifth waves of the 2007–08 beginning teacher longitudinal study (NCES 2015-337)*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved from
<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015337>
- Greenberg, M. T., Brown J. L., & Abenavoli, R. M. (2016). *Teacher stress and health effects on teachers, students, and schools*. Edna Bennett Pierce Prevention Research Center, Pennsylvania State University. Retrieved from
http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2016/rwjf430428
- Greenberg, M. T., Jennings, P. A., & Goodman, B. (2010). *The interpersonal mindfulness in teaching scale*. University Park, PA: Pennsylvania State University.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes:

- Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348–362. doi:10.1037/0022-3514.85.2.348
- Gu, Q., & Day, C. (2007). Teachers resilience: A necessary condition for effectiveness. *Teaching and Teacher Education*, 23, 1302-1316. doi:10.1016/j.tate.2006.06.006
- Guskey, T. R., & Passaro, P. D. (1994). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal*, 31, 627–643. doi:10.2307/1163230
- Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development*, 76, 949-967. doi:10.1111/j.1467-8624.2005.00889.x
- Hattie, J. (2009). *Visible learning: A synthesis of meta-analyses in education*. London, England: Routledge.
- Ho, C., & Au, W. (2006). Teaching satisfaction scale: Measuring job satisfaction of teachers. *Educational and Psychological Measurement*, 66, 172-185. doi:10.1177/0013164405278573
- Hoy, W. K. & Woolfolk, A. E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal*, 93, 356-372. doi: 10.1086/461729
- Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38, 499-534. doi:10.3102/00028312038003499
- Iskender, M. (2009). The relationship between self-compassion, self-efficacy, and control belief about learning in Turkish university students. *Social Behavior and Personality: An International Journal*, 37, 711-720. doi:10.2224/sbp.2009.37.5.711

- Jennings, P. A. (2015a). CARE for teachers: A mindfulness-based approach to promoting teachers' social and emotional competence and well-being. In K. A. Schonert-Reichl & R. W. Roeser (Eds.), *Handbook of mindfulness in education: Integrating theory and research into practice* (pp. 133 – 148). New York: Springer.
- Jennings, P. A. (2015b). Early childhood teachers' well-being, mindfulness, and self-compassion in relation to classroom quality and attitudes towards challenging students. *Mindfulness*, 6, 732-743. doi:10.1007/s12671-14-0312-4
- Jennings, P. A., Brown, J. L., Frank, J. L., Doyle, S., Oh, Y., Davis, R., ... Greenberg, M. T. (2017). Impacts of the CARE for Teachers program on teachers' social and emotional competence and classroom interactions. *Journal of Educational Psychology*. Advance online publication. doi: <http://dx.doi.org/10.1037/edu0000187>
- Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2013). Improving classroom learning environments by cultivating awareness and resilience in education (CARE): Results of a randomized control trial. *School Psychology Quarterly*, 28, 374 – 390. doi: 10.1037/spq0000035
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79, 491–525. doi: 10.3102/0034654308325693
- Jennings, P. A., Lantieri, L., & Roeser, R. W. (2012). Supporting educational goals through cultivating mindfulness: Approaches for teachers and students. In P. M. Brown, M. W. Corrigan, & A. Higgins-D'Alessandro (Eds.), *Handbook of prosocial education* (pp. 371-397). Lanham, Maryland: Rowan & Littlefield.
- Jennings, P. A., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2011). Improving

- classroom learning environments by cultivating awareness and resilience in education (CARE): Results of two pilot studies. *Journal of Classroom Interaction*, 46, 37 – 48.
Retrieved from www.jstor.org/stable/23870550
- Jones, S. M., Bouffard, S. M., & Weissbourd, R. (2013). Educators' social and emotional skills vital to learning. *The Phi Delta Kappan*, 94, 62-65. doi:10.1177/003172171309400815
- Kabat-Zinn, J. (1991). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, N.Y: Dell Pub.
- Karsenti, T., & Collin, S. (2013). Why are new teachers leaving the profession? Results of Canada-wide survey. *Education*, 3, 141-149. doi: 10.5923/j.edu.20130303.01
- Kessler, R. C., Andrews, G., Colpe, L., Hiripi, E., Mroczek, D., Normand, S., . . . Zaslavsky, A. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959-976.
doi:10.1017/S0033291702006074
- López, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Ranchor, A., & Schroevers, M. J. (2015). A reconsideration of the Self-Compassion Scale's total score: Self-compassion versus self-criticism. *Plos One*, 10, 1-12. doi:10.1371/journal.pone.0132940
- Luthar, S. S., & Brown, P. J. (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development and Psychopathology*, 19, 931-955. doi: 10.1017/S0954579407000454
- MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, 32, 545-552. doi:10.1016/j.cpr.2012.06.003
- Manavipour, D., & Saeedian, Y. (2016). The role of self-compassion and control belief about

- learning in university students' self-efficacy. *Journal of Contextual Behavioral Science*, 5, 121-126. doi:10.1016/j.jcbs.2016.02.003
- Maslach, C. (1998). A multidimensional theory of burnout. In C. L. Cooper (Ed.), *Theories of organizational stress* (pp. 68-85). Oxford, England: Oxford University Press.
- Maslach, C., & Jackson, S. E. (1984). Burnout in organizational settings. In S. Oskamp (Ed.), *Applied social psychology annual, Vol. 5: Applications in organizational settings* (pp. 133-153). Beverly Hills, CA: Sage.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). *Maslach burnout inventory manual* (3rd ed.). Palo Alto, CA: CPP.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397- 422. doi: 10.1146/annurev.psych.52.1.397
- Masten, A. S., & Motti-Stefanidi, F. (2009). Understanding and promoting resilience in children: Promotive and protective processes in schools. In T. B. Gutkin & C. R. Reynolds (Eds.), *The handbook of school psychology* (4th ed., pp. 721-738). New York: Wiley.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) item booklet*. Toronto, Canada: MHS Publishers.
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2003). Measuring emotional intelligence with the MSCEIT V.2.0. *Emotion*, 3, 97 – 105.
doi: 10.1037/1528-3542.3.1.97
- Merrell, K. & Gueldner, B. (2010). *Social and emotional learning in the classroom: Promoting mental health and academic success*. New York: Guilford Press.
- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., ...
Urduan, T. (2000). *Manual for the Patterns of Adaptive Learning Scales (PALS)*. Ann

- Arbor, MI: University of Michigan.
- Midgley, C. (Ed.) (2002). *Goals, goal structures, and patterns of adaptive learning*. Mahwah, N.J: L. Erlbaum Associates.
- Mind and Life Education Research Network. (2012). Contemplative practices and mental training: Prospects for American education. *Child Development Perspectives*, 6, 146–153. doi: 10.1111/j.1750-8606.2012.00240.x
- Montero-Marín, J., Gaete, J., Demarzo, M., Rodero, B., Serrano Lopez, L. C. & García-Campayo, J. (2016). Self-criticism: A measure of uncompassionate behaviors toward the self, based on the negative components of the Self-Compassion Scale. *Frontiers in Psychology*, 7, 1–15. doi: 10.3389/fpsyg.2016.01281
- Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223-250. doi:10.1080/15298860309027
- Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2, 85-102. doi:10.1080/15298860309032
- Neff, K. D. (2009). The role of self-compassion in development: A healthier way to relate to oneself. *Human Development*, 52, 211 – 214. doi: 10.1159/000215071
- Neff, K. D. (2011). Self-compassion, self-esteem, and well-being. *Social and Personality Psychology Compass*, 5, 1 – 12. doi:10.1111/j.1751-9004.2010.00330.x
- Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful Self-Compassion program. *Journal of Clinical Psychology*, 69, 28-44. doi:10.1002/jclp.21923
- Neff, K. D., Hsieh, Y., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, 4, 263-287. doi:10.1080/13576500444000317

- Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*, 139 – 154.
doi:10.1016/j.jrp.2006.03.004
- Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity, 9*, 225-240,
doi:10.1080/15298860902979307
- Neff, K. D., & Pommier, E. (2013). The relationship between self-compassion and other-focused concern among college undergraduates, community adults, and practicing meditators. *Self and Identity, 12*, 160-176. doi:10.1080 /15298868.2011.649546
- Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77*, 23-50. doi:10.1111/j.1467-6494.2008.00537.x
- Oberle, E., & Schonert-Reichl, K. A. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science and Medicine, 159*, 30 – 37.
doi:10.1016/j.socscimed.2016.04.031
- Oliver, R. M., & Reschly, D. J. (2007). *Effective classroom management: Teacher preparation and professional development*. Washington, DC; National Comprehensive Center for Teacher Quality.
- Pianta, R. C., La Paro, K., & Hamre, B. K. (2008). *Classroom Assessment Scoring System (CLASS) manual: K–3*. Baltimore, MD: Brookes.
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical Psychology &*

- Psychotherapy*, 18, 250-255. doi:10.1002/cpp.702
- Roeser, R. W., & Midgley, C. (1997). Teachers' views of issues involving students' mental health. *The Elementary School Journal*, 98, 115-133. doi: 10.1086/461887
- Roeser, R. W., & Peck, S. C. (2009). An education in awareness: Self, motivation, and self-regulated learning in contemplative perspective. *Educational Psychologist*, 44, 119 – 136. doi: 10.1080/00461520902832376
- Roeser, R. W., Schonert-Reichl, K. A., Jha, A., Cullen, M., Wallace, L., Wilensky, R., ... Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomised, waitlist-control field trials. *Journal of Educational Psychology*, 105, 787-804. doi: 10.1037/a0032093
- Rutter, M. (2012). Resilience as a dynamic concept. *Development and Psychopathology*, 24, 335-344. doi:10.1017/S0954579412000028
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78. doi: 10.1037/0003-066X.55.1.68
- Sapienza, J. K., & Masten, A. S. (2011). Understanding and promoting resilience in children and youth. *Current Opinion in Psychiatry*, 24, 267 – 273. doi:10.1097/YCO.0b013e32834776a8
- Schaufeli, W. B., & van Dierendonck, D. (1993). The construct validity of two burnout measures. *Journal of Organizational Behavior*, 14, 631-647. doi:10.1002/job.4030140703
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, 8, 350-353. doi:10.1037/1040-3590.8.4.350

- Schonert-Reichl, K. A., Hanson-Peterson, J. L., & Hymel, S. (2015). SEL and preservice education. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook of social and emotional learning: Research and practice* (pp. 406 – 421). New York: Guilford Press.
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Developmental Psychology, 51*, 52-66.
doi:10.1037/a0038454
- Shirom, A. (1989). Burnout in work organizations. In C. L. Cooper & I. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 25–48). New York: Wiley.
- Shutz, R. W., & Long, B. C. (1988). Confirmatory factor analysis validation, and revision of a Teacher Stress Inventory. *Educational and Psychological Measurement (48)*, 497- 511.
doi: 10.1177/0013164488482025
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology, 99*, 611-625. doi:10.1037/0022-0663.99.3.611
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*, 1059-1069.
doi:10.1016/j.tate.2009.11.001
- Skaalvik, E. M. & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and

- emotional exhaustion. *Teaching and Teacher Education*, 27, 1029-1038.
doi:10.1016/j.tate.2011.04.001
- Stevens, J. P. (1984). Outliers and influential data points in regression analysis. *Psychological Bulletin*, 95, 334-344. doi: <http://dx.doi.org/10.1037/0033-2909.95.2.334>
- Taylor, C., Harrison, J., Haimovitz, K., Oberle, E., Thomson, K., Schonert-Reichl, K. A., & Roeser, R. W. (2015). Examining ways that a mindfulness-based intervention reduces stress in public school teachers: A mixed-methods study. *Mindfulness*, 7, 115 – 129.
doi: 10.1007/s12671-015-0425-4
- Thomas, D. R. (1992). Interpreting discriminant functions: A data analytic approach. *Multivariate Behavioral Research*, 27, 355-362. doi: 10.1207/s15327906mbr2703_3
- Thomas, D. R., Hughes, E., & Zumbo, B. D. (1998). On variable importance in linear regression. *Social Indicators Research: An International and Interdisciplinary Journal for Quality-of-Life Measurement*, 45, 253-275. doi:10.1023/A:1006954016433
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805.
doi:10.1016/S0742-051X(01)00036-1
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23, 944-956. doi:10.1016/j.tate.2006.05.003
- Ungar, M. (2015). Resilience and culture: The diversity of protective processes and positive adaptation. In L. C. Theron, L. Liebenberg, and M. Ungar (Eds.), *Youth resilience and culture: Commonalities and complexities* (pp. 37-48). New York: Springer.
- van Tonder, C. L., & Williams, C. (2009). Exploring the origins of burnout among secondary

educators. *SA Journal of Industrial Psychology*, 35, 1 – 15. doi: 10.4102/sajip. v35i1.762

Woolfolk, A. E. & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and their beliefs about control. *Journal of Educational Psychology*, 82, 81-91.

doi:10.1037/00220663.82.1.81

Worley, J. A., Vassar, M., Wheeler, D. L., & Barnes, L. L. B. (2008). Factor structure of scores from the Maslach Burnout Inventory: A review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies. *Educational and Psychological Measurement*, 68,

797-823. doi:10.1177/001316440831

Appendices

Appendix A: Study A Teacher Consent Form



THE UNIVERSITY OF BRITISH COLUMBIA | VANCOUVER



Teachers' Experiences with Mindfulness-Based Education Programs Teacher Consent Form

Dear Teacher,

Greetings. We are writing to invite you to participate in a research study that we are conducting entitled “Teachers’ Experiences with Mindfulness-Based Education Programs.” Please note that your participation is completely voluntary. This study is being organized by educators at the Vancouver School Board, Dr. Kimberly A. Schonert-Reichl (Faculty of Education, University of British Columbia) and Dr. Robert W. Roeser (Faculty of Psychology, Portland State University). In this consent form we describe (a) the purpose and procedures of the study; (b) the risks and benefits of participating in the study; (c) your rights as a participant in the study, including confidentiality rights; and (d) contact information if you would like to learn more about the study or ask questions about the study at any time.

Study Purpose: The purpose of this research study is to assess teachers’ experiences of participating in **a**) an 8-week stress reduction program for teachers called the **S.M.A.R.T. - in-Education** program (**S**truss **M**anagement **A**nd Relaxation **T**echniques – in – Education) and/or **b**) implementing a teacher-delivered classroom-based mindfulness program for children called **MindUp**.

Please note: You may be either be participating exclusively in S.M.A.R.T., in S.M.A.R.T. plus MindUp, or in MindUp only.

In this study, we are investigating the single and joint effects these programs have with respect to teachers’ health, well-being, and beliefs about social and emotional learning. The programs under investigation aim to cultivate skills and dispositions that are hypothesized to assist teachers in managing job-related stress and in creating mindful and caring classroom environments conducive to academic learning, social-emotional learning, and civic responsibility.

Study Procedure:

As is standard in all research studies, it is important for participants to know that participation in the research is entirely voluntary. You have the right to skip particular questions in the assessments that comprise the research study if you wish, and may discontinue participation in the research at any time without penalty. If you give your consent to be in the study, the following will occur:

1. You will be asked to participate, free of charge, in an 8-week stress-reduction program (i.e., the SMART-in-Education Program) and/or attend a free 1-day workshop for a classroom-based mindfulness program for students (MindUp). The S.M.A.R.T. program meets for 11 sessions in total. The first session will be on a Friday evening from 4 to 6 pm. There will be two day long Saturday sessions, with the majority of the remainder of the sessions occurring on Thursday evenings from 4-6:30 pm (the final session will be on a Tuesday from 4-6:30 pm). Home practice of meditative exercises is also part of the program. The total contact time for the program sessions is 36 hours. Teachers will receive the program during January to April 2011. MindUp training will take place on February 18th 2011 facilitated by a MindUp trainer. Throughout the training, MindUp participants will receive a program manual with detailed information on how to implement the program in their classrooms. The MindUp program is comprised of 15 lessons that are implemented over a 15-week time period.

2. The S.M.A.R.T. training sessions will be held in a central location in Vancouver. During the training sessions, you will receive training in a variety of techniques for learning how to understand and regulate your thoughts and feelings. These techniques will include training in meditative practices, self-reflective exercises, discussions, and mindful body stretching. At the end of each session, as part of the self-reflective nature of the course, we will ask you to briefly describe what you did and did not find useful/helpful about the session.

3. You will also be asked to participate in research assessments at two time points: January 2011, and April 2011.

4. At each assessment period, you will be asked to participate in a take-home survey (approximately 40 – 50 minutes). After completion of S.M.A.R.T. and/or MindUp, we will contact you for a 30-minute phone interview about your experiences throughout the program(s). If you implement the MindUp program, we also ask that you complete a very brief “Implementation Calendar” checklist in which you document the degree to which your lesson for that week was implemented (this takes approximately 2 to 5 minutes to complete for each of the 15 lessons).

Questionnaire. The battery of self-report questionnaires asks questions about your professional identity beliefs, stress, health, well-being, and social and emotional learning. This survey is completed at home as a paper and pencil version that you can fill out and send back in a self-addressed, stamped envelope that we will provide for you. As noted above, the survey will take approximately 40 to 50 minutes to complete.

In summary, the total time required for your participation in the S.M.A.R.T.-in-Education program is 36 contact hours for the actual program (plus time for recommended home practice). The total time required for the MindUp training is 1 full day. If you receive MindUp, you will be implementing the program on a weekly basis in your classroom. In addition, across the three assessment periods, the total time required for participation in the research is approximately 110

to 130 minutes for the questionnaires at pre- and posttest as well as the phone interview. Note that this time varies depending on which group you are a participant.

Study Risks: We anticipate minimal risks for individuals' participation in the program and the research assessments. There are no known risks to receiving training and implementing MindUp in your classroom. With regard to participation in the S.M.A.R.T.-in-Education program, it is possible that some aspects of the program may prove to be mildly stressful in that the program requires self-reflection and an examination of one's emotional habits and experiences. Should the program prove overly stressful for a participant, a resource sheet with referral information for mental health professionals will be offered. In addition, the program instructor is also a Marriage and Family Therapist. With regard to the questionnaires, some of the questions are rather personal concerning one's health and well-being, but confidentiality is insured and individuals can choose to skip any question that they would rather not answer. The questionnaires, it is important to note, are not "tests" but rather assessments that provide individuals to report on their own beliefs, behaviours and experiences. There are no right or wrong answers on these questionnaires. As well, your name will not appear on any of your surveys. Instead, you will be assigned an ID number. The list linking names and IDs will be kept in a locked cabinet in the UBC office of Dr. Kimberly Schonert-Reichl.

Study Benefits. With regard to study benefits, we anticipate personal benefits from S.M.A.R.T. participation as well as from the MindUp training. Based on previous research with this program in Vancouver, BC and elsewhere, we have reason to believe that engagement in the S.M.A.R.T.-in-Education program will be beneficial for participants in terms of helping them to manage job-related stress more effectively and to create even more mindful and caring classroom environments. The program, offered free of charge in the context of this research study, is valued at \$485.00. Regarding the MindUp program, previous research has indicated that implementing MindUp in the classroom has positive effects on classroom management, and students' learning and well-being. Furthermore, a large number of teachers who have implemented MindUp report very high levels of satisfaction with the program and that they would recommend it to their colleagues. The program is being offered through the Vancouver School Board and is valued at approximately \$150.00. In addition to receiving S.M.A.R.T. and/or MindUp free of charge, teachers will receive a \$20 gift card for participating in the research project.

Confidentiality: All information resulting from this research study, including your identity as a participant, will be kept strictly confidential. All data and documents collected during the study will be identified only by a unique numerical identifier (and not the participants' names) and will be kept in a secured information system and locked filing cabinet. The identity of the participants in this study will be entirely confidential. No information that discloses your identity will be released or published. Copies of the relevant data, which identify the participants only by code number, may be published in scientific journals, but no participant will be identified by name. However, research records identifying participants may be inspected in the presence of the Investigator or his or her designate by representatives of the UBC Research Ethics Board for the purpose of monitoring the research.

Contacts: If you would like more information and have any questions and/or concerns at any time regarding this study, please call Dr. Kimberly A. Schonert-Reichl at [REDACTED]. If you have any concerns now or later about your treatment or rights as a research subject, you may contact the Research Subject's Information Line in the UBC Office of Research Services at [REDACTED]. We would appreciate it if you could indicate on the consent form provided on the attached page whether or not you give your consent to participate in the S.M.A.R.T.-in-Education program and/or the MindUp program and related research assessments. If you do consent to participate, kindly sign and date the attached consent form where indicated. A copy of this consent form will be provided to you to keep for your records.

Thank you very much for considering this request.

Sincerely,

Kimberly Schonert-Reichl, Ph.D.
Principal Investigator
Associate Professor
Department of Educational and Counselling Psychology,
Psychology, and Special Education
University of British Columbia
Vancouver, British Columbia

Robert W. Roeser, Ph.D.
Co-Principal investigator
Associate Professor
Department of Psychology
Portland State University
[REDACTED]
Portland, Oregon, USA

Teachers' Experiences with Mindfulness-Based Education Programs

Teacher Consent Form

Principal Investigator:

Dr. Kimberly Schonert-Reichl, Associate Professor, Department of Educational and Counselling Psychology and Special Education, *University of British Columbia*,
Vancouver, B.C.

PLEASE KEEP THIS PORTION FOR YOUR RECORDS

I understand that my participation in the above research study is entirely voluntary, that I may refuse to participate, and that I am free to withdraw from the study at any time without any consequences. I have received a copy of this consent form for my own records. I understand that by signing this document, I consent to my participation in this study. I also understand that by signing this document I am, in no way, waiving my legal rights.

I have read and understand the attached letter regarding the research study entitled "Evaluating the SMART-in-Education and the MindUp Program."

I have also kept copies of both the letter describing the research study and this consent form.

PLEASE CHECK ONE:

YES, I agree to participate in this research study.

NO, I do not consent to participate in this research study.

Signature

Sincerely,

Printed Name

Date

Kimberly Schonert-Reichl, Ph.D.
Associate Professor
Department of Educational and Counselling Psychology,
Psychology, and Special Education
University of British Columbia
Vancouver, British Columbia
Phone: [REDACTED]
E-mail: [REDACTED]

Robert W. Roeser, Ph.D.
Associate Professor
Department of Psychology
Portland State University
[REDACTED]
Portland, Oregon, USA
Phone: [REDACTED]
E-mail: [REDACTED]

Appendix B: Study B Teacher Consent Form



University of British
Columbia
Department of
Pediatrics
British Columbia
Children's and Women's
Health Center

THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Education 



Teacher Consent Form

"Effectiveness of Mindfulness Education Programs on Children's Social-Emotional Competence, Psychological Well-Being Cognitive Control, and Stress Reactivity"

Principal Investigator: Dr. Kimberly Schonert-Reichl, *Associate Professor, Department of Education, UBC*

Co-Investigators:

Dr. Tim Oberlander, *Developmental Paediatrician, Department of Paediatrics, UBC*

Dr. Adele Diamond, *Professor, Developmental Cognitive Neuroscience, UBC*

Ms. Eva Oberle, *Ph.D. candidate, Department of Education, UBC*

Contact Person: Jenna Whitehead, MA Student

Email: [REDACTED]

Telephone: [REDACTED]

This study is being organized by educators at the Coquitlam School Board and Dr. Kimberly A. Schonert-Reichl (Faculty of Education, University of British Columbia), Dr. Tim Oberlander (Department of Pediatrics, Children's and Women's Health Centre), Dr. Adele Diamond (Developmental Cognitive Neuroscience, UBC), and Ms. Eva Oberle (Faculty of Education, University of British Columbia). It is hoped that the results of this study will help parents and educators better understand children's emotional and social development and therefore be better equipped to improve education for all. Listed below are several aspects of this project that you need to know.

Purpose: The purpose of this study is to evaluate the effectiveness of the "MindUp" program – an educational program for children, designed to promote children's psychological social responsibility, well-being, and academic success, and the SMART (Stress Management and Relaxation Techniques) program – an intervention program for teachers, designed to improve teachers' ability to deal with stress and enhance their well-being and satisfaction as a teacher.

The MindUp program consists of teaching a series of simple techniques designed to enhance self-awareness, focused attention, problem solving abilities, stress reduction, conflict resolution, and prosocial behaviours in children (such as, sharing, helping, and cooperating). MindUp is being taught in several schools throughout the Vancouver School District as part of the District's goal to promote students' social and emotional learning and social responsibility. Some of the children who participate in the research study will receive the MindUp program in their classroom while other children in the study will not receive the program (comparison group). Teachers who do not receive training in the MindUp program initially, and whose classroom is thus part of the comparison group will receive all MindUp materials after the study has been completed and may implement the program then if they wish.

The SMART-program is a program for teachers, and it consists of a series of afternoon and weekend workshops. You may or may not (comparison group) participate in SMART throughout the duration of this research project. Those teachers who are part of the comparison group and do not take part in SMART throughout the research study will be given a CD with guided mindfulness practices by John Kabat-Zinn after the study has been completed. After the study has been completed, teacher will also receive a gift certificate as a small honorarium for participating in the study, and we will organize a pizza party in your classroom, providing pizza for all children (including those who do not receive consent for participation). Note that if you are assigned to a condition involving SMART and/or MindUp, we will carry any cost for you for participating in those programs and the material involved.

Please note that this study is conducted as a randomized control trial, which means that teachers will be randomly assigned to either receiving MindUp only, SMART *and* MindUp, SMART only, or no intervention for the duration of this research project. Assigning teachers randomly to one of those conditions, and not letting them choose which condition they would like to be part of is important to obtain valid data from this study that allows us to answer our research questions.

Procedure: If you agree to participate, we will work closely with you to schedule study sessions during your class's regular school day. We would first schedule a time with you to come in and hand out parental permission slips to students in your class. We would then visit your classroom for **nine separate sessions: three sessions will take place in October 2011** on three consecutive days in a week, **three sessions will take place in January 2012**, and **three sessions will take place in the end of the school year**. At all three times (October, January, end of the school year) the three classroom visits will involve the same data collection done by graduate research assistants as described in the following section:

1. On the **first visit** (*ca. 50-60 minutes*) we will ask participating students to fill out some **questionnaires** that ask about their background, feelings about themselves, their peers, and school (these are described in more detail below). Participating students will complete one set of questionnaires in the next couple of weeks and another set of questionnaires at near the end of the school year. Research assistants will be there to explain the directions and make sure students understand the instructions; each question will be read out loud by a researcher assistant and a second research assistant will be in the class to help with any specific question a student may have during the questionnaire. The first questionnaire asks

about background, such as age, gender, family composition, and language spoken at home. Another set of questionnaires asks about students' feelings about themselves, their classroom, and their positive social behaviours. The third set of questionnaires asks students to provide ratings of their classmates' positive classroom behaviours, and the last questionnaire asks for information on their feelings about school. Both prior to and upon completion of the questionnaire portion of the study, it is explained to participants that their answers are only their own and should be kept private from others. Further, the purpose of the peer nomination task is explained: the peer nomination task gives the researchers the students' opinion of the class composition to help us learn more about classroom dynamics. Children who do not participate in this research will be given an activity to do that is related to their regular classroom instruction. Please note: Students who are not participating in the research study will have their names removed from the peer nomination task in the questionnaire.

2. On **day 2**, we want to learn about the daily pattern of substances found in children's saliva. To learn about this, we will ask participating children to give us a **saliva (spit) samples** 3 times during one day (*this takes ca. 5 minutes each time*): when students first come to school, before lunch, and right before dismissal Note: All saliva samples will be destroyed after we have done our testing.
3. On **day 3**, we want to learn about the development of children's self-control, rule learning, and memory and see how these "cognitive control" behaviours: 1) might change as a result of participation in the ME program, and 2) are associated with children's psychological well-being and academic success. To learn about this, we will be giving children **games to play and problems to solve on the computer** (*ca. 15 minutes per child*). Specifically, students will be asked to respond to pictures using various rules that we will explain to them. During the course of the game, the rules might change. Before each game we will explain the rules and go over them, giving students an opportunity to practice. In games where the rules change, we will explain that and explain what they will change to. We will do our very best to make sure that students understand how to play a game before we start. We never rush or criticize anyone, and try to keep each student engaged so that he or she performs well. Most children enjoy the individual attention. The computer session will be done individually with each participating student and takes about 15 minutes to complete.

In addition, we will ask teachers to complete two to three different measures as part of this study (depending on the condition you will be assigned to in this study):

- a) If you are implementing the MindUp program, we ask you to complete a weekly implementation diary in which you note what activities you completed in a given week, and to what extent you implemented the activities in the curriculum. Completing the diary will take no longer than 2-5 minutes per week.
- b) In addition, ALL teachers will be asked to complete a brief questionnaire at the pretest (fall 2011), mid-point (January 2012), and posttest (June 2012). This survey includes questions about teachers' demographic background, mindful attention, and beliefs about social and emotional learning. Completing this survey will take approximately 20 minutes at each time point.

- c) Furthermore, ALL teachers will be asked to complete a brief survey for each child, rating children's behaviors in the classroom and student-teacher relationship. This survey will take approximately 10 minutes per child.

What will teachers be asked to do by this study?

- Collect permission slips from the children
- Provide class lists to Ms. Jenna Whitehead
- Co-ordinate with Ms. Jenna Whitehead times that are convenient to distribute the permission slips
- Co-ordinate with Ms. Jenna Whitehead times for study session appointments
- Complete a brief survey assessing various dimensions of each child's social behaviours in the classroom. You will be asked to complete this checklist twice – once during the next month and again in May. Each checklist will take approximately 5-10 minutes to complete per child.
- Indicate if/when would be appropriate to have a pizza lunch
- Complete the MindUp implementation diary (weekly ca. 2 minutes) if you are implementing MindUp
- Complete a survey about experiences during SMART if you are participating in the SMART program
- Written consent to participate in this study will be requested from participating teachers.

Risks: For the questionnaire portion of this study, it is important for you to know that it is not a test and there are no right or wrong answers – we are not in any sense “testing” the children. We are only interested in finding out children's opinions and feelings. It is hoped that the results of this study will help teachers and parents better understand the way that students think and improve education for all. For the portion of this research in which we collect students' saliva (spit), you should know that helping with this project will not hurt your students or make them sick. The dental rolls used to collect saliva will taste like paper. There are no known risks or side effects of the cortisol collection to children's development. There are no known risks for completing the teacher surveys. Teachers' participation in this project is voluntary. At any given time, teachers can decide to withdraw from participating in the study.

Confidentiality: Any information resulting from this research study will be kept strictly confidential. All documents will be identified only by code number and kept in a secured information system and locked filing cabinet. The identity of the participants in this study (both teachers and students) will be entirely confidential. No information that discloses your or your students' identities will be released or published without specific consent to the disclosure. Neither you nor your students will be identified by name in any reports of the completed study.

Copies of the relevant data, which identify the participants only by code number, may be published in scientific journals, but no participant will be identified by name. However, research records identifying participants may be inspected in the presence of the Investigator or his or her designate by representatives of the UBC Research Ethics Board for the purpose of monitoring the research.

Who can I talk to if I have any questions?

If you have any questions at any time during this project, you may contact Dr. Kimberly Schonert-Reichl: [REDACTED] or Ms. Jenna Whitehead, [REDACTED]. Furthermore, you may contact the Research Subject Information Line in the UBC Office of Research Services at [REDACTED] or, for long distance, e-mail [REDACTED] or call toll free under [REDACTED].

We would appreciate it if you could indicate on the slip provided on the attached page whether or not you would like to participate. Would you kindly sign and date the attached slip where indicated? Thank you very much for considering this request.

Sincerely,

Kimberly Schonert-Reichl
Principal Investigator
Associate Professor
Department of Educational and Counselling Psychology,
and Special Education, UBC
Email: [REDACTED]
Phone: [REDACTED]

Co-Investigators

Dr. Tim Oberlander, Professor, Department of Paediatrics, UBC
Dr. Adele Diamond, Professor, Developmental Cognitive Neuroscience, UBC
Ms. Eva Oberle, Ph.D. student, Department of Educational and Counselling and Special Education, UBC

TEACHER CONSENT FORM

Study Title: "Effectiveness of Mindfulness Education Programs on Children's Social-Emotional Competence, Psychological Well-Being, Cognitive Control, and Stress Reactivity"

Principal Investigator: Dr. Kimberly Schonert-Reichl, Associate Professor, Department Educational and Counselling Psychology and Special Education
University of British Columbia, Vancouver, B.C.

KEEP THIS PORTION FOR YOUR RECORDS

I understand that my participation in the above study is entirely voluntary, and that I or students in my class may refuse to participate, or I or my students are free to withdraw from the study at any time without any consequences. I have received a copy of this consent form for my own records. I consent to my participation in this study and in signing this document.

I have read and understand the attached letter regarding the study entitled "**Effectiveness of Mindfulness Education Programs on Children's Social-Emotional Competence, Psychological Well-Being, Cognitive Control, and Stress Reactivity**" I have also kept copies of both the letter describing the study and this permission slip.

_____ Yes, I agree to participating in this project.

_____ No, I do not agree to participate.

Teacher's Signature

Printed Name

Date

School Name

DETACH AND RETURN TO PROJECT COORDINATOR

I understand that my participation in the above study is entirely voluntary, and that I or students in my class may refuse to participate, or I or my students are free to withdraw from the study at any time without any consequences. I have received a copy of this consent form for my own records. I consent to my participation in this study and in signing this document.

I have read and understand the attached letter regarding the study "**Effectiveness of Mindfulness Education Programs on Children's Social-Emotional Competence, Psychological Well-Being, Cognitive Control, and Stress Reactivity**" I have also kept copies of both the letter describing the study and this permission slip.

_____ Yes, I agree to participating in this project.

_____ No, I do not agree to participate.

Teacher's Signature

Printed Name

Date

School Name

Appendix C: Study C Teacher Consent Form



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Education Vancouver Campus
Educational and Counselling Psychology,
and Special Education

Vancouver, B.C. Canada,
Tel: [REDACTED]

PROJECT TITLE: *Evaluating the Effectiveness of the Random Acts of Kindness Curriculum in Elementary School Children: A Randomized Controlled Trial*

November, 2014

Dear _____,

We are writing to invite you to participate in a research study that we are conducting evaluating the effectiveness of a social and emotional learning program designed to promote kindness and well-being in elementary school students. Our study, titled “*Evaluating the Effectiveness of the Random Acts of Kindness Curriculum in Elementary School Children: A Randomized Controlled Trial*,” will take place in elementary schools in the Vancouver School District from approximately November, 2014 to June, 2015.

Who is conducting this study?

This study is being organized by educators in the Vancouver School District and Dr. Kimberly A. Schonert-Reichl in the Faculty of Education at the University of British Columbia. This project is also linked to the Vancouver School District’s focus on promoting students’ social and emotional learning and social responsibility in school. We hope that the results of this study will help parents and educators better understand how to promote students’ emotional and social development in relation to school success and, therefore, be better equipped to improve education for all.

What is the purpose of this study?

The goal of this study is to evaluate the effectiveness of a social and emotional learning (SEL) promotion program for children that focuses on promoting kindness and well-being: the *Random Acts of Kindness Curriculum*. The Random Acts of Kindness (RAK) Curriculum focuses on *promoting kindness, resiliency, and well-being* in children during the elementary school years. The program provides opportunities for children to enhance their prosocial behaviours (for example, sharing, helping, cooperating) and well-being by engaging in activities identified to promote knowledge and skills associated with kindness and compassion. More specifically, the RAK lessons provide opportunities for children to enhance their social and emotional learning by engaging in activities identified to promote caring for self and others, including emotional

literacy and emotion understanding, empathy, perspective-taking, and kindness. Research has demonstrated that such skills and knowledge lead to increases in children's positive social behaviours and school success.

How will the study work?

In order to understand whether the program is effective or not, we are conducting a scientific *randomized controlled trial*. Teachers who choose to participate will be randomly chosen (with a coin flip) to either teach the program during the study, or be a comparison group in which they continue with their regular classroom routine. A randomized controlled trial allows us to understand whether any changes are a result of the program itself, and not other variables, for example teaching style or class composition.

We understand that teachers who choose to participate in our research study do so because they are interested in implementing the Random Acts of Kindness curriculum. With this in mind, we have made arrangements so that *every teacher who participates in the research* has the opportunity to get the RAK training and materials regardless of whether they are randomly chosen for the Random Acts of Kindness (RAK) implementation group or the comparison classroom group. The teachers in the RAK implementation group will receive a ½ day of training in the RAK curriculum in early January, 2015 and will start the lessons with their class immediately following the training. These teachers will also receive a ½ day booster session midway through the program implementation (in about March). The teachers in the comparison classrooms will not start any lessons in January; they will continue with their regular classroom routine. The teachers in the comparison classrooms will have the opportunity to receive the RAK training after the study has ended (the RAK training will be made available to teachers in September, 2015).

What will you be asked to do if you choose to participate in the study?

- Provide your written consent to participate in this study.
- Complete a survey about your background and teaching experience (this will take approximately 10-15 minutes to complete).
- Complete a survey in which you rate participating students' behaviours. This survey will ask you to rate their classroom and social behaviours and should take approximately 5-10 minutes per student. You will be asked to complete these surveys three times during the school year (November/December, March, May/June). Note that you will receive a ½ day EOC for each of these 3 time periods.
- Host research assistants in your classroom during the three data collection periods (November/December, March, and June) for approximately 50 minutes each time. These research assistants will administer surveys to the children as a group during regular school hours.
- Complete a weekly "implementation calendar" throughout the duration of the study. This is a brief survey in which you will be asked to answer questions and record lessons related to any social and emotional learning activities that you implement during the duration of the study.

If you are randomly chosen to implement the Random Acts of Kindness Curriculum, in addition to the above-mentioned tasks, you will be asked to:

- Implement the Random Acts of Kindness Lessons from January until May. Note that each lesson is approximately 20 – 45 minutes in length.
- Attend a half-day training on the Random Acts of Kindness Curriculum in early January.
- Attend a half-day booster session in the spring (note that EOC costs will be covered for each of these sessions).

What are the benefits of participating in this study?

Teachers and students will help contribute to the growing knowledge about the development of social-emotional well-being in children and adolescents. Your students will also have the opportunity to learn about scientific research. Additionally, all teachers will receive the Random Acts of Kindness Curriculum materials and program training free of charge. As previously mentioned, teachers randomly chosen to be in the Comparison Group will receive these at the end of the study.

Will you be compensated for participating in the study?

As a token of appreciation, we will be providing you with a \$50 gift card for participating. You will also be provided with a half-day release with an EOC during each of the three data collection periods to compensate for the time it takes you to fill out the surveys. Additionally, you will receive a half-day release for both the training session and booster session. All classrooms will receive a pizza party at the end of the study as a token of our gratitude to you and your students for participating. Compensation is not dependent on completion of the project, but may be pro-rated should you choose to withdraw before completion of the study.

Are there any risks if you participate in this study?

There are no known risks to teachers for participating in this study. Your participation in this project is voluntary. At any given time, you can decide to withdraw from participating in the study, even after signing this consent form. Refusing to participate or withdrawing from the study will not jeopardize your job or professional standing in any way.

How will your privacy be maintained?

Any personal information resulting from this research study will be kept strictly confidential. No school, teacher, or students will be identified by name in any reports of the completed study. All documents will be identified by code number only, and kept in a secured information system and locked filing cabinet in Kimberly Schonert-Reichl's research lab at UBC. Only the researchers and research assistants will know the identity of the participants in this study (both teachers and students). No information that discloses your or your students' identities will be released or published without specific consent. Research records identifying participants may be inspected in the presence of the Investigator or her designate by representatives of the UBC Research Ethics Board for the purpose of monitoring the research.

How will results be disseminated?

Findings from the study, in which the participants are identified by code number only, may be published in reports, scientific journals, and/or included in presentations. A summary of the

overall study results will be made available to participants upon request once analysis is completed.

Who can you contact if you have questions about the study?

If you have any questions at any time during this project, you may contact Dr. Kimberly Schonert-Reichl: [REDACTED] or Ms. [REDACTED].

Who can you contact if you have any concerns about the study?

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, you may contact the Research Subject Information Line in the UBC Office of Research Services at [REDACTED] or if long distance [REDACTED] or call toll free [REDACTED].

Sincerely,

Kimberly A. Schonert-Reichl, Ph.D.
Principal Investigator
Professor, Department of Educational and Counselling Psychology,
and Special Education, UBC

TEACHER CONSENT FORM

Study Title: *Evaluating the Effectiveness of the Random Acts of Kindness Curriculum in Elementary School Children: A Randomized Controlled Trial*

Researcher: Kimberly A. Schonert-Reichl, Ph.D.
Professor, Department of Educational and Counselling Psychology and
Special Education, [REDACTED],
Vancouver, B.C. [REDACTED]
Phone: [REDACTED] e-mail: [REDACTED]

Contact: Jenna Whitehead
PhD Student, Department of Educational and Counselling Psychology and Special
Education, [REDACTED], University of British Columbia, Vancouver, B.C.,
[REDACTED]
Phone: [REDACTED] e-mail: [REDACTED]

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to withdraw from the study at any time without giving a reason and without any negative impact.

Your signature below indicates that you have received a copy of this consent form for your own records. Your signature indicates that you consent to participate in this study.

Participant Signature Date

Participant Printed Name

TEACHER CONSENT FORM

Please return this form to the researchers.

Study Title: *Evaluating the Effectiveness of the Random Acts of Kindness Curriculum in Elementary School Children: A Randomized Controlled Trial*

Researcher: Kimberly A. Schonert-Reichl, Ph.D.
Professor, Department of Educational and Counselling Psychology and Special Education, [REDACTED], Vancouver, B.C.
Phone: [REDACTED]; e-mail: [REDACTED]

Contact: Jenna Whitehead
PhD Student, Department of Educational and Counselling Psychology and Special Education, [REDACTED], University of British Columbia, Vancouver, B.C., [REDACTED]
Phone: [REDACTED] e-mail: [REDACTED]

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you decide to take part, you may choose to withdraw from the study at any time without giving a reason and without any negative impact.

Your signature below indicates that you have received a copy of this consent form for your own records. Your signature indicates that you consent to participate in this study.

Participant Signature Date

Participant Printed Name

Appendix D: Maslach Burnout Inventory – Educators’ Survey

Maslach Burnout Inventory – Educators’ Survey (MBI – ES) (Maslach, Jackson, & Leiter, 1997)							
Using the rating scale above, think about the school year and answer the following questions.	Never	A few times	Once a month or less	A few times a month	Once a week	A few times a week	Every day
<u>How often do you...</u>							
Please circle your responses.							
1. feel emotionally drained from your work?	1	2	3	4	5	6	7
2. feel used up at the end of the work day?	1	2	3	4	5	6	7
3. feel fatigued when you get up in the morning and have to face another day on the job?	1	2	3	4	5	6	7
4. easily understand how your students are feeling about things?	1	2	3	4	5	6	7
5. feel that you treat some students as if they were impersonal objects?	1	2	3	4	5	6	7
6. feel that working with people all day is really a strain?	1	2	3	4	5	6	7
7. deal very effectively with the problems of your students?	1	2	3	4	5	6	7
8. feel burned out from your work?	1	2	3	4	5	6	7
9. feel like you are positively influencing other people’s lives through your work?	1	2	3	4	5	6	7
10. feel like you’ve become more callous toward people since you took this job?	1	2	3	4	5	6	7
11. worry that this job is hardening you emotionally?	1	2	3	4	5	6	7

12. feel very energetic at work?	1	2	3	4	5	6	7
13. feel frustrated by your job?	1	2	3	4	5	6	7
14. feel you're working too hard on your job?	1	2	3	4	5	6	7
15. feel you don't really care what happens to some students?	1	2	3	4	5	6	7
16. feel working with people directly puts too much stress on you?	1	2	3	4	5	6	7
17. create a relaxed classroom atmosphere with your students?	1	2	3	4	5	6	7
18. feel exhilarated after working closely with your students?	1	2	3	4	5	6	7
19. feel you have accomplished many worthwhile things in this job?	1	2	3	4	5	6	7
20. feel like you're at the end of your rope?	1	2	3	4	5	6	7
21. deal with emotional problems in the classroom very calmly?	1	2	3	4	5	6	7
22. feel students blame you for some of their problems?	1	2	3	4	5	6	7

Note: Scoring for the MBI – ES may be calculated as a composite score or at the subscale level. Each subscale represents a unique dimension of burnout (Maslach, 1998; Maslach et al., 1997).

MBI –ES Items Broken Down per Subscale

Emotional Exhaustion Subscale: Nine items; # 1, 2, 3, 6, 8, 13, 14, 16, 20

1. feel emotionally drained from your work?
2. feel used up at the end of the work day?
3. feel fatigued when you get up in the morning and have to face another day on the job?
6. feel that working with people all day is really a strain?
8. feel burned out from your work?
13. feel frustrated by your job?
14. feel you're working too hard on your job?
16. feel working with people directly puts too much stress on you?
20. feel like you're at the end of your rope?

Depersonalization Subscale: Five items; # 5, 10, 11, 15, 22

5. feel that you treat some students as if they were impersonal objects?
10. feel like you've become more callous toward people since you took this job?
11. worry that this job is hardening you emotionally?
15. feel you don't really care what happens to some students?
22. feel students blame you for some of their problems?

Personal Accomplishment Subscale: Eight items; # 4, 7, 9, 12, 17, 18, 19, 21

4. easily understand how your students are feeling about things?
7. deal very effectively with the problems of your students?
9. feel like you are positively influencing other people's lives through your work?
12. feel very energetic at work?
17. create a relaxed classroom atmosphere with your students?
18. feel exhilarated after working closely with your students?
19. feel you have accomplished many worthwhile things in this job?
21. deal with emotional problems in the classroom very calmly?

Appendix E: Personal Teaching Efficacy Scale

Personal Teaching Efficacy Scale (PTES) From the <i>Patterns of Adaptive Learning Scales Manual</i> (Midgley et al., 2000)					
Please indicate how much you disagree or agree with each statement.	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
1. If I try really hard, I can get through to even the most difficult student.	1	2	3	4	5
2. Factors beyond my control have a greater influence on my students' achievement than I do.	1	2	3	4	5
3. I am good at helping all the students in my classes make significant improvement.	1	2	3	4	5
4. Some students are not going to make a lot of progress this year, no matter what I do.	1	2	3	4	5
5. I am certain that I am making a difference in the lives of my students.	1	2	3	4	5
6. There is little I can do to ensure that all my students make significant progress this year.	1	2	3	4	5
7. I can deal with almost any learning problem.	1	2	3	4	5

Note: A composite score is calculated for this scale. It does not include subscales. Items # 2, 4, and 6 are reverse scored (Midgley et al., 2000).

Appendix F: Occupational Self-Compassion

Not at all True of Me	Rarely True of Me	Somewhat True of Me	Often True of Me	Very True of Me
1	2	3	4	5

How true is this of you...

When I see aspects of myself as a teacher that I don't like, I can get down on myself.	1	2	3	4	5
I try to be loving towards myself when I'm feeling emotionally upset or stressed out at work.	1	2	3	4	5
When I am upset with my class, I can nonetheless calmly communicate to them how I am feeling.	1	2	3	4	5
When something or someone upsets me in the classroom, I am able to take a balanced view of the situation.	1	2	3	4	5
When something or someone upsets me in the classroom, it takes me some time to come to a less emotional, and more rational, perspective on the situation.	1	2	3	4	5
I try to be understanding and patient towards myself when those aspects of my personality that I don't like come out in the classroom.	1	2	3	4	5
When things are going badly for me in the classroom, I tend to see such difficulties as part of a process of development that every teacher goes through.	1	2	3	4	5
When I'm really struggling with my teaching, I tend to feel like other teachers must be having an easier time of it.	1	2	3	4	5
When I feel inadequate in my role as a teacher in some way, I try to remind myself that most teachers experience feelings of inadequacy.	1	2	3	4	5

Note: This scale is intended to calculate a composite score, and does not include subscales. Adapted for teachers by Rob Roeser (Roeser et al., 2013) from the *Self-Compassion Scale – Short Form* (see Neff, 2003a).