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Received 2 August 2017
Revised 22 November 2017
Accepted 6 December 2017

Compassionate education from preschool to graduate school

Bringing a culture of compassion into the classroom

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Abstract

Purpose – The purpose of this paper is to make the case for bringing compassion to students in educational settings, preschool through graduate school (PK-20).

Design/methodology/approach – First, the author defines what is meant by "compassion" and differentiates it from the related constructs. Next, the author discusses the importance of bringing compassion into education, thinking specifically about preschool, K-12 (elementary and middle school/junior high/high school), college students, and graduate students (e.g. law, medical, nurses, counselors and therapists-in-training). The author then reviews the scant empirical literature on compassion in education and makes recommendations for future research. In the final section, the author makes specific and practical recommendations for the classroom (e.g. how to teach and evaluate compassion in PK-20).

Findings – While there is a fair amount of research on compassion with college students, and specifically regarding compassion for oneself, as the author reviews in this paper, the field is wide open in terms of empirical research with other students and examining other forms of compassion.

Research limitations/implications – This is not a formal review or meta-analysis.

Practical implications – This paper will be a useful resource for teachers and those interested in PK-20 education.

Social implications – This paper highlights the problems and opportunities for bringing compassion into education settings.

Originality/value – To date, no review of compassion in PK-20 exists.

Keywords Education, Schools, Classroom, Students, Compassion, PK-20

Paper type General review

1. Introduction

Beyond academic learning, schools are playing an increasingly central role in cultivating the necessary social, emotional, and ethical skills required to lead meaningful and successful lives. Over the last decade, there has been great interest in bringing mindfulness to educators and students alike (for reviews, see MeikleJohn *et al.*, 2012; Zenner *et al.*, 2014). Entire books (e.g. Jennings, 2015b; Rechtschaffen, 2016; Hahn and Weare, 2017), journal issues (e.g. *Mindfulness*, 2016, Volume 7, Issue 1; *Childhood Education,* 2017, Volume 93, Issue 2), and structured training programs (e.g. Mindful Schools; Learning to BREATHE; MindUP) have been dedicated to the topic of mindfulness and education.

More recently, there has been a wave of interest in social-emotional learning (SEL) more specifically. SEL programs tend to cover the concepts related to five core competencies: self-awareness (skills around identifying emotions, accurate self-perception, recognizing strengths, self-confidence, and self-efficacy), self-management (skills around impulse control, stress management, self-discipline, self-motivation, goal setting, and organizational

Journal of Research in Innovative Teaching & Learning
Vol. 11 No. 1, 2018
pp. 22-66
Emerald Publishing Limited
2397-7604
DOI 10.1108/JRIT-08-2017-0017

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skills), social awareness (skills around perspective taking, empathy, appreciating diversity, and respect for others), relationship skills (skills around communication, social engagement, relationship building, and teamwork), and responsible decision-making (skills around identifying problems, analyzing situations, solving problems, evaluating, reflecting, and ethical responsibility) (Weissberg *et al.*, 2015; Zins *et al.*, 2004).

While a recent meta-analysis that reviewed 82 school-based SEL programs suggests that these programs are effective and the benefits are lasting (Taylor *et al.*, 2017), what is noticeably absent from SEL programs is the important construct of compassion – compassion for oneself, compassion for others (known and unknown, liked and disliked, etc.), and receiving compassion from others. To date, while formal, evidenced-based, secular[1], compassion training programs exist for adults (e.g. Gilbert and Proctor, 2006, 2010; Jazaieri *et al.*, 2013; Neff and Germer, 2013; Pace *et al.*, 2009; for a review, see Kirby, 2016) and data from these programs suggest that compassion can indeed be "taught' " these compassion programs have not been widely used in the contexts of children, adolescents, or young adults. Given the links between compassion and emotional intelligence (e.g. Heffernan *et al.*, 2010; Şenyuva *et al.*, 2014), and the links between compassion and connection (instead of loneliness and isolation; for a review, see Seppälä *et al.*, 2013), children, adolescents, and young adults seem to be a germane group to examine the construct of compassion within.

In this paper, I make the case for bringing compassion to students in education settings, PK-20. While important, the focus of this paper is not on teachers or educators (see Jennings, 2015a), but rather specifically focuses on students. In the next section, I define exactly what is meant by the term "compassion" and differentiate compassion from the related constructs. Next, I discuss the importance of bringing a culture of compassion into education, thinking specifically about preschool, K-12 (elementary and middle, junior high, and high school), college students, and graduate students (focusing on those in the helping/service professions). In the following section, I review the empirical literature on compassion in education and make recommendations for future research. Finally, I make recommendations for bringing compassion into the classroom from PK to 20.

2. What is compassion?

Various definitions of compassion have been presented in the literature and the term itself has been met with some controversy (for a review, see Goetz *et al.*, 2010). Some theorists consider compassion to be a distinct emotion (e.g. Darwin, 1871/2004; Lazarus, 1991; Trivers, 1971), a vicarious emotion (e.g. Hoffman, 1981), a variant of love or sadness (e.g. Post, 2002; Shaver *et al.*, 1987; Sprecher and Fehr, 2005), and a combination of a distinct and vicarious emotions (e.g. Batson, 1991).

The word compassion originates from the Latin root com- + pati (to bear, suffer). According to the Merriam-Webster.com (2017) Dictionary, compassion is defined as a "sympathetic consciousness of others' distress together with a desire to alleviate it" (2017). In general, compassion can be considered to be a multidimensional state rather than a singular construct. Some have suggested that compassion has "two main components: the affective feeling of caring for one who is suffering, and the motivation to relieve suffering" (Halifax, 2012, p. 228). Author and Scholar Jack Kornfield (1993) has described compassion as "the heart's response to the sorrow" (p. 326).

In this paper, the term "compassion" is referring to four key components. First, compassion involves an awareness of suffering (cognitive component). Second, compassion involves a sympathetic concern related to being emotionally moved by suffering (affective component). Third, compassion includes a wish to see the relief of that suffering (intentional component). Finally, compassion includes a responsiveness or readiness to help relieve that suffering (motivational component). From this perspective, compassion can be thought of as

a complex combination of a cognitive perspective, an affective state, an intention, and motivation, that may eventually give rise to cooperative and altruistic behavior (Jinpa, 2010, 2015; Jinpa and Weiss, 2013).

Differentiating compassion from the related constructs

Although compassion is a seemingly well-known construct, it is actually greatly misunderstood and is often confused with related but distinct constructs (e.g. Shaver *et al.*, 1987). Just as it is important to define what compassion is, it is equally important to define what it is not. To aid in this conceptual clarification, I will briefly review some of these related, other-oriented constructs – empathy, sympathy, pity, personal distress, love, prosociality, altruism, well-wishing – highlighting what they mean and how they are different from compassion.

Empathy. Most commonly, compassion is confused with empathy. Similar to compassion, empathy has no universally accepted definition (Gerdes, 2011). Many suggest that empathy involves multiple components (e.g. Bernhardt and Singer, 2012; Davis, 1994), mostly cognitive and affective components (Eisenberg, 1989). However, unlike compassion, empathy does not include an intention to see the relief of the suffering or a motivation or readiness to act in order to relieve suffering. Frans de Waal (2008) described empathy as the "capacity to (a) be affected by and share the emotional state of another, (b) assess the reasons for the other's state, and (c) identify with the other, adopting his or her perspective" (p. 281). Some have described empathy as "feeling with" or "feeling as" the other, while in the case of compassion, it is more of a "feeling for" others (Hein and Singer, 2008). In some regard, empathy focuses on sharing another's emotional state (an emotional resonance of what the other person is feeling), while with compassion there is the recognition of the other person's emotional state (pain or suffering) while also having one's own affective experience to that suffering. Furthermore, neural evidence suggests that compassion-related brain networks do not resemble empathy-related brain networks (Klimecki *et al.*, 2014).

Sympathy. Closely related to empathy is sympathy. Similarly, sympathy has been defined in a variety of ways in the past (Wispé, 1986). In fact, through the 1950s, the word "sympathy" was used to describe what we understand today as "empathy" (Escalas and Stern, 2003). Some suggest that for empathy to elicit prosociality it must be transformed into sympathy (Eisenberg, 2007). Sympathy has been defined as an "affective response that consists of feeling sorrow or concern for the distressed or needy other (rather than feeling the same emotion as the other person [as in the case of empathy])" (Eisenberg, 1989, p. 678). Similar to compassion and empathy, sympathy is described to result from cognitive processes (e.g. perspective taking) (Batson, 1991; Eisenberg, 1989). Sometimes sympathy is some sort of an affective state paired with an intention – for example, Bernhardt and Singer (2012) define sympathy as "feelings for someone, generally coupled with the wish to see them better off or happier" (p. 3).

Pity. One "near enemy" of compassion is pity (Jinpa, 2010, 2015). Apparent in the religious perspectives and texts reviewed above as well as in modern day literature, pity is often used to describe a state similar to compassion. Yet, pity actually refers to feeling sorry for, or a sense of concern for someone thought to be inferior or weaker than oneself (Fiske *et al.*, 2002). Pity by definition is rooted in a sense of superiority over someone else. This sense of superiority implies a separation between "me" and "them." In a sense, pity has a flavor of, "I feel sorry for you, you are so different from me." Compassion, on the other hand, is quite different – compassion does not consider the object of suffering to be weak or inferior in any way. With compassion, a hierarchy (which by definition creates a division) does not exist.

Personal distress. A second "near enemy" of compassion is personal distress (Jinpa, 2010, 2012). Personal distress has been described as a "self-centered and aversive response in the observer" (Bernhardt and Singer, 2012; Eisenberg and Fabes, 1990). This "self-centered distress is born from empathy with another's distress" (de Waal, 2008, p. 283). However, compassion is not about one's distress in response to another's distress, which is why from a neural perspective, brain regions implicated in compassion are distinct from those associated with personal distress (for a review see Goetz *et al.*, 2010). In children, experiencing personal distress is associated with avoidance of the distressed other or at times, aggressive behavior toward the distressed other (Volling *et al.*, 2008). Compassion on the other hand is the courage to "be with" suffering rather than taking on another's suffering as one's own suffering.

Love. Compassion is sometimes used interchangeably with the term "love" (Post, 2002; Shaver *et al.*, 1987; Sprecher and Fehr, 2005). However, compassion is "functionally distinct from love" (Goetz *et al.*, 2010). The two most common forms of love that come up in the literature are the love of a parent to a child (maternal love) and that of romantic love. Yet as pointed out by Goetz *et al.* (2010), these two forms of love have different core functions (i.e. forming secure bond and attachment with one's offspring and finding a mate and reproducing). Love is generally associated with positive affect and experiences, which can be contrasted with compassion (not to be confused with loving-kindness; see Hofmann *et al.*, 2011), which is about being open to suffering. While compassion too can be associated with positive affect (e.g. Jazaieri *et al.*, 2014; Klimecki *et al.*, 2014), negative affect is still generally also present (compassion is about suffering, after all). Thus, because compassion likely involves a complex combination of multiple positive and negative emotions, love stands clearly in contrast as a mostly positive emotional state. Furthermore, from a neural perspective, regions implicated in compassion are distinct from those related to love (for a review, see Goetz *et al.*, 2010).

Prosociality, altruism, well-wishing, or kindness. People often confuse compassion with prosociality, acting in a way that benefits others, or altruism, acting in ways that benefits others even when there is a cost to oneself (or at a minimum, no apparent benefit to oneself). Yet compassion itself does not include self-sacrifice of oneself or one's resources. Instead, compassion involves an openness to experiencing suffering and responding to this suffering with a sense of genuine concern, without any self-referential or negative judgment (Jinpa, 2010).

According to the multidimensional definition of compassion presented earlier, while compassion may give rise to behavior, compassion can (and often does) exist without there necessarily being an immediate, tangible (i.e. prosocial or altruistic) behavior that follows. Lastly, it is also important to note that compassion is not simply wishful thinking, but rather compassion arises from a genuine feeling of care or concern.

Finally, the word "compassion" is often thought to only refer to "self-compassion." While self-compassion is one important (and well-studied) form of compassion, there are many other forms of compassion including: compassion for others – loved ones, neutral individuals, disliked individuals, receiving compassion from others – from those who you consider to be peers, those who you consider to be "above" or "below" you in the social hierarchy, and witnessing compassion between others. In summary, there can be many "objects" of compassion aside from oneself.

3. The case for compassion in education

Developmentally speaking, "compassionate behavior in adulthood must, in part, stem from the experiences that the individual had as a child" (Volling *et al.*, 2008, p. 162). While parents and family systems are powerful models of compassion for young children, I argue that

compassion can also be modeled for students within the classroom, beginning with preschool and continuing into graduate school. Although entire books exist on the topic of "preventative mental health at school," there is consistently no mention of compassion (e.g. Macklem, 2014). In this section, I consider why it is useful and beneficial to cultivate compassion (a "soft" skill) within various stages of PK-20 education. In the following sections, I will briefly describe some of the challenges that exist for students at various stages and make the case for meeting these challenges with compassion.

Preschool students

It was once thought that preschool age children were too developmentally immature to experience various mental health issues. This notion has since been disproven. Even children as young as preschool ages are affected by parental mental health (e.g. Field, 2010; Robinson *et al.*, 2008; Gross *et al.*, 1995). Biologically, newborns can mimic their depressed mothers' biochemical profiles; for example, infants of depressed mothers have also shown lower dopamine, lower vagal tone, higher cortisol and norepinephrine levels, and greater relative right frontal EEG activation (e.g. Diego *et al.*, 2004; Field *et al.*, 2004; Lundy *et al.*, 1999).

While there is a range in estimated prevalence rates (e.g. Bufferd *et al.*, 2011; Lavigne *et al.*, 2009; Wichstrøm *et al.*, 2012), various forms of mental health disorders can arise in the preschool period including attention-deficit/hyperactivity disorder, oppositional defiant disorder, eating disorders, anxiety disorders, posttraumatic stress disorder, sleep disorders, mood disorders, attachment disorders, and autism spectrum disorders (for a review see Luby, 2009). Bufferd *et al.* (2012) found that "children who met criteria for any diagnosis at age 3 were nearly five times as likely as the others to meet criteria for a diagnosis at age 6" (p. 1157). While the research is not as robust in preschoolers when compared to older children (Egger and Angold, 2006), given the significant influence of mental health in early childhood on subsequent mental health outcomes in adolescents and adulthood, preventative measures to enhance and maintain mental health and well-being beginning at a young age are worthy pursuits.

It has been suggested that children as young as two years old have the cognitive, affective, and behavioral repertoire needed "to alleviate discomfort in others" (Zahn-Waxler *et al.*, 1992, p. 127). Preschool is an age that while personal suffering may be seemingly low, there are still challenges – whether biologically based or within the home environment (e.g. parental mental health issues, food and/or housing instability due to financial challenges, various forms of neglect and abuse). Aside from simply learning about the basic primary emotions, learning about what compassion is, the various forms of compassion, and how to recognize compassion (in oneself and others) in order to lay the groundwork for the years to come is an important consideration for preschool education.

K-12 students

Elementary school students. Amongst adolescents who report anxiety disorders, approximately 50 percent report onset by six years old (Merikangas *et al.*, 2010). Further, 50 percent of mental disorders in adulthood begin before the age of 14 (World Health Organization, 2013). One of the consequences to this is disrupted thinking, learning, and school performance (e.g. Mazzone *et al.*, 2007). One study with over 100 peer-nominated bullies indicated that these students scored lower on "moral compassion" (emotional awareness and conscience concerning moral transgressions) compared to their peers (Gini *et al.*, 2011).

Thus, elementary school can be seen as an opportunity for preemptive compassion intervention. In a large Midwestern suburban school district, 254 elementary school teachers (71 percent teaching in public schools, primarily female (92 percent), Caucasian (61.4 percent), with master's degrees (61.4 percent)) responded to 24 items on the

Character Education Efficacy Belief Instrument (Milson and Mehlig, 2002). According to the data, 58.3 percent of teachers disagreed with the item: "I sometimes don't know what to do to help students become more compassionate" (Milson and Mehlig, 2002), meaning that the majority to teachers believe that they can help students foster compassion. An interesting question for future research with teachers would be to identify the specific things teachers are already doing in their classrooms to help their students become more compassionate (and to measure objective outcomes).

When considering compassion training programs for elementary school children, recently a secular cognitive-based compassion training (CBCT) developed at the Emory University has been adapted for children, specifically elementary school children and adolescent youth (Dodson-Lavelle and Negi, 2013; Ozawa-de Silva and Dodson-Lavelle, 2011). In CBCT, the participants progress through eight topics: developing attention and stability of mind, cultivating insight in the nature of mental experience, cultivating self-compassion, 4) developing equanimity, developing appreciation and gratitude for others, developing affection and empathy, realizing wishing and aspirational compassion, and realizing active compassion for others.

Ozawa-de Silva and Dodson-Lavelle (2011) write: "The goal of the CBCT curriculum designed for children is not only to help children generate altruism and engaged compassion but to transform both the school community of children, parents, teachers, staff, and administrators as well as the family unit and foster system into a community of compassion" (p. 12). Aside from the CBCT program, to my knowledge no other formal compassion training programs have been modified and implemented with elementary school children.

Middle school/junior high/high school students. Adolescence is a notoriously challenging time. This is often around the time when questions around identity formation come up – "Who am I?", "What do others think of me?", "Am I good enough?" There is often an emphasis on academic performance in order to get into reputable colleges, stressors around peer groups and "fitting in," not to mention the biological changes that are occurring. Shame, self-criticism, negative self-beliefs, and judgments amongst adolescents are rampant (e.g. Gilbert and Irons, 2009).

According to data from National Comorbidity Survey for Adolescents (Merikangas *et al.*, 2010), a survey with 10,123 adolescents (13-18 years of age in the USA) suggests that anxiety (31.9 percent) and mood (14.3 percent) disorders are common. These prevalence rates are much higher than many major physical conditions that adolescents often experience such as asthma (Akinbami *et al.*, 2009) and diabetes (CDC, 2011). In total, 40 percent of affected youth report more than one mental health disorder in their lifetime, with mood disorders being the most common to co-occur with other disorders (Merikangas *et al.*, 2010). According to the Centers for Disease Control and Prevention, suicide is the second leading cause of death amongst adolescents 15-19 years of age (Heron, 2016).

As noted by Roeser and Pinela (2014), the neural and psychological plasticity during adolescents provides an optimal time to cultivate compassion. Thus, middle school, junior high, and high school may in fact be the most opportune times for intervening with compassion interventions. When considering the different forms of compassion, given the high prevalence of social comparison, evaluation, and negative self-talk in this population (e.g. Roeser and Pinela, 2014), compassion for oneself may be most useful within middle school, junior high, and high school students. As Self-compassion Expert Kristin Neff (2003a) writes: "Adolescent ego-centricism no doubt contributes to increased self-criticism, feelings of isolation, and over-identification with emotions, meaning that self-compassion is likely to be especially needed but especially lacking during this stage

of life" (p. 95). Given adolescents' developmental needs for purpose and self-transcendence, compassion practices within education settings may be particularly fruitful (Roeser and Pinela, 2014).

College students

The college years can represent a developmentally challenging transition into adulthood. Aside from the academic pressures, for many college students this is the first time being away from home, or the first time being tasked with making new friends. Existing literature bleakly suggests that college students are entering more "overwhelmed and more damaged than those of previous years" (Levine and Cureton, 1998, p. 95).

Notably, there has been an increased demand in counseling services in colleges (Kitzrow, 2003). National surveys amongst college counseling centers indicate that both the prevalence and severity of mental health issues with college students seems to be increasing (Gallagher, 2007). While it is unclear whether there have been increases in mental health issues or simply increases in help-seeking behavior among college students, multiple studies indicate that untreated mental health disorders are prevalent in college student populations (e.g. Eisenberg *et al.*, 2007; Kessler *et al.*, 2005; Wang *et al.*, 2004). One study found that of those college students diagnosed with depression, only 24 percent were receiving treatment (American College Health Association, 2008). Other studies found that less than half of those diagnosed with mood disorders and less than 20 percent of those diagnosed with anxiety disorders were receiving treatment (Blanco *et al.*, 2008). When compared to non-college attending peers, college students are significantly less likely to receive treatment for alcohol or drug use disorders (Blanco *et al.*, 2008). Longitudinal studies suggest that mental health issues seem to be persistent throughout college rather than episodic in nature (e.g. Zivin *et al.*, 2009).

College students have many barriers to getting help – lack of time, privacy concerns, stigma, financial constraints, to name a few (e.g. Eisenberg *et al.*, 2009); integrating opportunities for compassion within the college classroom is an important endeavor. Plante and Halman (2016) have provided longitudinal data to suggest that compassion can continue to grow in college students (compassion at college entrance only accounted for 25 percent of the variance of compassion at time of graduation). Furthermore, this longitudinal study showed that various activities and features (e.g. diversity trainings, frequency of religious service attendance, participation in community-based service-learning, political identification, feeling valued as a member of the university community) accounted for an additional 10 percent of the variance in compassion at time of graduation. As highlighted in greater detail in the next section, the majority of compassion research (trait- and intervention-based) has been conducted on college students. It would be fair to conclude that the population that we know the most about with regards to compassion is in fact college students.

Graduate students

Over the course of one's graduate career, "budding professionals learn to suppress the empathy and compassion that once was natural and that may have been their reason for choosing their profession in the first place" (Gerdy, 2008, p. 37). At times, people mistakenly believe that compassion will detract from their ability to perform, making them "weak" or "soft." Prominent compassion teacher and scholar Salzberg (2002) writes that: "compassion is not at all weak. It is the strength that arises out of seeing the true nature of suffering in the world. Compassion allows us to bear witness to that suffering, whether it is in ourselves or others, without fear; it allows us to name injustice without hesitation, and to act strongly, with all the skill at our disposal" (p. 131). Graduate students experience many stressors including competition, personal stressors

(e.g. moving for school, finding life partners, starting families), financial debt that often accompanies graduate training, trying to find internships and post-graduate employment (or additional training, e.g., post-docs, residency, fellowships, etc.). In the subsections that follow, I briefly consider a few specific groups of graduate students who are training for careers in the helping/service professions – law students, medical students, nursing students, and counselors and therapists-in-training.

Law students. Addiction (alcohol and drug abuse) and mental illness (Robinson, 2010), including high rates of depression is pervasive amongst lawyers (Mounteer, 2004). These issues have significant professional costs and often go untreated (Robinson, 2010). Unfortunately these problems do not just affect practicing lawyers, but law students as well. Anxiety, depression, stress, burnout, suicidal ideation are prevalent amongst law students (e.g. Peterson and Peterson, 2009; Jolly-Ryan, 2009). As cited by McKinney (2002), "up to 40 percent of law students may experience depression or other symptoms as a result of the law school experience." While these symptoms are absent before law school (Benjamin *et al.*, 1986), it has been noted that the law school environment can at times be the opposite of compassionate – authors have cited cultures of bullying, peer intimidation, harassment, and humiliation (e.g. Flanagan, 2007; Glesner, 1990).

Prominent Legal Scholar Karl Llewellyn once said, "compassion without technique is a mess; and technique without compassion is a menace" (Cramton, 1987, p. 510). Yet in general, lawyers have been said to experience "compassion fatigue[2]" due to the value placed on competition, self-sufficiency, rejecting one's emotional needs, and this often translates into chronic health problems, poor job performance, alcohol and drug abuse, and impoverished relationships (e.g. high divorce rates) (Norton *et al.*, 2015). As described by Gerdy (2008, p. 8), there is often a "perception that lawyers lack caring and compassion." For example, in a survey, less than 20 percent of the respondents agreed that the phrase "caring and compassionate" was an accurate description of lawyers and 46 percent felt the phrase was not an appropriate description of lawyers. Elizabeth Mertz (2007) studied first-year contracts classes in eight different law schools and found that in these classes students were taught to "think like lawyers" primarily by discounting their own feelings (e.g. empathy, compassion) and moral values and instead thinking in a strictly analytical and strategic way.

Some have called for bringing compassion into first-year law education in order to help "students to realize that empathy and compassion are critical for successful law practice" (Gerdy, 2008, p. 3). Others have written that the "ambition to master critical reading, writing, argument, and reasoning skills met with the ambition to cultivate compassion creates the ideal for what it means to be 'successful' in the art of legal advocacy and counseling" (Tollefson, 2003).

Unfortunately, in reality "traditional law school curriculum devotes little emphasis to teaching students about clients or about the role of empathy and compassion in law practice" (Gerdy, 2008, p. 4). A survey given before graduation to 45 third-year law students asked: "To what extent do you feel that your legal education has helped you to understand, appreciate, and experience the importance of the following in law practice?" The majority of the students (68.9 percent) responded that they had little or no meaningful education on "the importance of compassion and empathy" (p. 35). Students reported that they learned the most about empathy and compassion through their work or externship experiences rather than in school (Gerdy, 2008). Further, much of what is written on the topic of compassion and law students or practicing lawyers relates to bringing compassion to one's clients, and occasionally the topic of cultivating compassion toward opposing counsel is mentioned; however, it is equally important for law students (and lawyers) to learn the skills of cultivating compassion for oneself.

Medical students. While stress and depression amongst entering medical students appears to be low (e.g. Yusoff *et al.*, 2013), psychological distress amongst physicians has been found to originate in the early years of medical school, persisting throughout their careers (Dyrbye *et al.*, 2006). Stress and depression amongst medical students is not just unique to the USA, this seems to be a common element across countries (e.g. Dahlin *et al.*, 2005). These high levels of psychological distress have negative consequences for academic performance (Stewart *et al.*, 1999) and patient care (West *et al.*, 2009).

A recent study found that medical students, medical residents, and fellows have five to eight times higher rates of depression and anxiety when compared to age-matched individuals in the general population (Mousa *et al.*, 2016). Studies have suggested that depression amongst medical students is chronic and persistent rather than episodic (Rosal *et al.*, 1997). One longitudinal year-long study with 61 internal medicine residents found that over the course of the internship year, "enthusiasm at the beginning of internship soon gave way to depression, anger, and fatigue," Bellini *et al.*, 2002, p. 3143). This study also found an increase in personal distress coupled with a reduction in empathic concern (Bellini *et al.*, 2002). Unfortunately in this population, rates of seeking help are low (e.g. Tjia *et al.*, 2005; Tyssen *et al.*, 2004; Givens and Tjia, 2002), and alcohol is reported as the preferred method of relieving stress (Mousa *et al.*, 2016). It has been noted that for medical trainees, stigma, privacy concerns, accessibility of services, and lack of time are some of the barriers to seeking help (Guille *et al.*, 2010).

When compared to the general population, medical trainees report higher rates of suicidal ideation and suicide attempts (e.g. Cornette *et al.*, 2009; Goebert *et al.*, 2009). According to the American Foundation for Suicide Prevention, (2017), on average in the USA, 300-400 physicians commit suicide each year, approximately one physician every day. These rates are 2.27 times higher than the general female population and 1.141 times higher than the general male population. There has been a call for a national response to this epidemic (Goldman *et al.*, 2015), and it has been suggested that programs aimed at addressing physician mental health should be implemented throughout the entire course of medical training (Khan *et al.*, 2015). Interestingly, a survey with 155 second- and third-year medical residents suggested that residents believe their own personal health struggles helps enhance their compassion for their patients (Roberts *et al.*, 2011).

When considering medical education, Geary *et al.* (2014) describe the following: "excellence in compassion and empathy require repeated practice. Instead of providing this practice, medical school curriculums emphasize data acquisition and regurgitation, test performance, and competition" (p. 203). Of course this is not unique to the medical field as Gerdy (2008) writes: "like legal education, medical education has struggled with the questions of if, when, and how empathy and compassion should be taught" (pp. 37-38). When surveyed, patients themselves are unsurprisingly enthusiastic about compassion training for healthcare providers (Sinclair, Torres, Raffin-Bouchal, Hack, McClement, Hagen and Chochinov, 2016).

Physicians face challenging patient circumstances that require compassion for oneself as well as compassion for the person they are treating (e.g. Dhawan *et al.*, 2007). While some interventions have been created and tested for medical students and interns (e.g. web-based CBT; Guille *et al.*, 2015), in general, interventions aimed at this population have been slow to take hold. When considering interventions to train compassion in medical students, the literature is largely nonexistent. Shapiro *et al.* (2006) write that medical education is "guilty of continually exhorting students to maintain compassion and composure while providing little actual training and practice in how to do so" (p. 30). Nevertheless, the Association of American Medical Colleges' (1998) "Learning objectives for medical student education: guidelines for medical schools" specifically addresses one aspect of compassion, compassion

for patients, and requires that students demonstrate competency in this area – "Physicians must be compassionate and empathetic in caring for patients [...] For its part the medical school must ensure that before graduation a student will have demonstrated, to the satisfaction of the faculty, the following [...] compassionate treatment of patients [...]" (pp. 4-5). In fact, the section where these statements appear is entitled "Physicians must be altruistic." While there are some efforts in getting attending physicians involved in educating medical students and residents in treating patients with compassion and respect (Burack *et al.*, 1999), these efforts do not appear to be widespread; a survey of 800 patients and 510 physicians suggested that both groups agreed that compassionate care is "very important" and yet only 53 percent of patients and 58 percent of physicians said that the healthcare system actually provides compassionate care (Lown *et al.*, 2011).

While not compassion specifically, Roodt and Wanjogu (2015) have suggested using "Technology-Enhanced Teaching Techniques (TETT) to improve the levels of empathy in the final year of students of medicine" (p. 307). When thinking about practicing physicians, formal compassion training programs have been explored within the context of a physician well-being initiatives. While data are not published from these courses, these initiatives and preliminary interest in bringing in compassion as part of a physician's well-being is encouraging in terms of working toward the eventual adaptation of compassion training for medical students.

Nursing students. A survey of 59 second-year doctor of nursing practice students indicated moderate to high levels of burnout (81 percent of respondents), moderate to high levels of secondary traumatic stress (74 percent of respondents), and moderate to high levels of "compassion satisfaction," defined as "the sense of pleasure associated with doing a job well" (71 percent of respondents) (Sheppard, 2015). These data suggest that while student nurses feel burnt out and experience secondary traumatic stress, they also reap satisfaction from being effective in their work. While not compassion specifically, longitudinal studies of nursing students has suggested that empathy is on the decline (Ward *et al.*, 2012).

Compassionate nursing practice has been defined as comprising of the "enactment of personal and professional values through behaviour that demonstrates the emotional dimension of caring about another person and the practical dimension of caring for them, in a way to recognize and alleviate their suffering" (Curtis, 2014, p. 212). The Chief Nursing Officer for England Jane Cummings has indicated that "all nurses are expected to provide compassionate care and promote a culture in which compassion can thrive" (Curtis, 2014, p. 211; Department of Health, 2012). While the value of compassion in nursing seems to be widespread (e.g. in 2001, The Norwegian Nurses' Association approved a new code of ethics that specifically included compassion as one of the basic values in nursing care), observational case study research has suggested that nurses are often not guided by compassion in their work with patients (Hem and Heggen, 2004). As the authors write, while "traces of compassion" can be found, "the inclusion of the idea of compassion in the [ethics] code does not immediately improve nursing practice in the sense of making it more compassionate" (p. 28).

The term "compassion fatigue" was first introduced to the nursing literature by Carol Joinson (1992) and has been widely used since (e.g. Boyle, 2011). While the term "compassion fatigue" is up for debate[3], what is not debatable is the high rates of burnout amongst practicing nurses which has consequences for emotion (e.g. depression, anxiety, stress), job satisfaction, quality of patient care, and retention (e.g. Aiken *et al.*, 2002; Erickson and Grove, 2007; Drury *et al.*, 2014; Hegney *et al.*, 2014; Pellico *et al.*, 2009).

Compassion in nursing has been said to be a "radical concept" and there have been concerns that "compassion might obscure the objectivity that must be expected of a professional nurse" (Hem and Heggen, 2004, p. 20). The field of nursing requires high-level

skills including the ability to think clearly on one's feet, solve problems, and attend to the person right in front of you. There is a little room for error. Research suggests that "compassionate care" is not a "one-size-fits-all" model but in fact differs between patient to patient, depending on the health issue – there are different interventions at different levels that require various forms of attention, care, and adjustment (Kvangarsnes *et al.*, 2013).

With regards to compassion in nursing education, it has been said that "there is currently an international concern that student nurses are not being adequately prepared for compassion to flourish and for compassionate practice to be sustained upon professional qualification" (Curtis, 2013, p. 746). A study with five nursing teachers indicated the concern that the "role of the RN was changing and was not always conducive to compassionate engagement through knowing patients as individuals and understanding their suffering in a way to be able to relieve that suffering" (Curtis, 2013, p. 749). Thus, while compassion seems to be "valued" and "part of the job" of nursing, from a nursing education perspective, with a few exceptions (see Adam and Taylor, 2014; Adamson and Dewar, 2011; Bauer-Wu and Fontaine, 2015; Fontaine and Keeling, 2017), the explicit nature of how these important themes of compassion, compassionate care, and compassionate behavior are taught (and measured) in academic settings is still unclear.

Finally, while compassion is sometimes considered to be a "soft skill" or a "nice to have," empirical research has made a business case for compassion practices in hospitals. For example, McClelland and Vogus (2014) examined 260 acute care hospitals in the USA and found that "when a hospital explicitly rewards compassionate acts by its staff and supports its staff during tough times, it is associated with patients more highly rating the care experience and being more likely to recommend the hospital" (p. 1677); which again reinforces the notion that compassion in hospital settings is not just beneficial for employees but also patients.

Counselors and therapists-in-training. To be effective in their professions, mental health clinicians (e.g. psychologists, therapists, counselors, etc.) require preparation on both the professional and personal levels. While burnout is common amongst mental health professionals more generally, mental health professionals in particular report higher levels of burnout (Morse *et al.*, 2012). The consequences of burnout are present both for the clinician (e.g. negative attitudes toward patients; Holmqvist and Jeanneau, 2006) and the patient (e.g. experiencing poor satisfaction with services; Garman *et al.*, 2002).

In particular, novice counselors and therapists face many struggles – "the requirements for the novice to access, integrate, synthesize and adapt information are exhausting" (Skovholt and Rønnestad, 2003, p. 45). Self-awareness has been said to be a critical component of therapy and can be helpful for clinicians-in-training (e.g. Fauth and Williams, 2005). Professor and Clinician Charles Figley (1995) wrote that "the capacity for compassion and empathy seems to be at the core of our ability to do the work and at the core of our ability to be wounded by the work" (p. xv).

Qualitative data with 30 mental health consumers indicated that compassion was a major factor in whether the person would become engaged in their own healthcare (Lloyd and Carson, 2011). Similar to the empirical research on compassion (e.g. Jazaieri *et al.*, 2013), a qualitative study of 14 psychotherapists (who were nominated by their peers for being compassionate) endorsed the notion that "compassion was innate" and could also be further enhanced. One of the findings from this research indicated that one of the ways of facilitating compassion in therapy is to approach the clients' suffering (rather than avoiding) (Vivino *et al.*, 2009). Furthermore, it has been suggested that "additional attention should focus on the positive aspects of working, such as the process by which mental health workers experience compassion, joy, meaning, and fulfillment in their jobs"

(Morse *et al.*, 2012, p. 350). Given the evidence of burnout and empathy fatigue in clinicians (e.g. Stebnicki, 2007), it stands to reason that various forms of compassion (for oneself, for others) may help buffer against some of the stress and fatigue involved in being a clinician.

4. A review of empirical literature on compassion with students

In this section, I briefly review some of the published empirical literature on the trait levels of compassion (which at times has been enhanced through mindfulness training programs rather than compassion) as well as various forms of compassion-specific trainings for PK-20 students. Specifically, I examine the empirical literature on compassion with preschoolers, K-12 students including elementary school and middle school, junior high, and high school students, college students, and graduate students including law, medical, nursing, and counselors and therapists-in-training. It should be noted that formal "proposals concerning contemplative practices in education are speculative, and there is little evidence of their effectiveness" (Davidson *et al.*, 2012, p. 151). Given this caveat, I now turn to examining the literature on compassion in PK-20 students.

Preschool students

There is a robust empirical literature examining empathy and prosociality in infants and toddlers (e.g. Eisenberg *et al.*, 1999; Warneken and Tomasello, 2006; Svetlova *et al.*, 2010; Roth-Hanania *et al.*, 2011). When considering compassion specifically, given the intentional and motivational components, it is difficult to examine and accurately measure compassion within preschool children. While not compassion specifically, one study looked at a 12-week mindfulness-based kindness curriculum with 68 preschool children and while the curriculum included "concepts related to kindness and compassion," and the student's prosocial behavior was rated by the teacher (and did improve through the intervention compared to control group); however, no explicit measure of compassion was used in the research (Flook *et al.*, 2015).

Measuring compassion in this population is complicated. Given that parents must consent for any intervention and teachers are likely also aware of whether the student is in a special curriculum, parent or teacher ratings of the student have the potential to be biased. Traditional self-report measures of compassion (e.g. Gilbert *et al.*, 2011; Neff, 2003b) are also not an option at this age. Behavioral measures are generally tapping into the constructs of prosociality or altruism rather than compassion. This is an important puzzle for developmental contemplative scientists to address. For example, one avenue for future research to explore is whether peer rating of compassion with preschoolers is feasible. Given that almost half of three- and four-year-old children in the USA attend early education programs (Davis and Bauman, 2013), there is a great opportunity to start measuring compassion and teaching compassion at an early age.

K-12 students

When considering K-12, it is useful to separately examine elementary, middle school/junior high, and high schools.

Elementary school students. In terms of formal compassion training programs, as mentioned prior, CBCT has been modified for children. The early childhood CBCT program for children five to fight years of age is an eight- to ten-week-long group intervention that follows the same conceptual sequence as the original adult program with "age-appropriate modifications." These classes meet twice a week for 25-30 minutes during the school day. The structure of the classes is as follows: a short meditation practice, brief overview or introduction to the topic of the week, and an activity, story, or game that facilitates learning and engagement. Unlike the adult program, children are not asked to practice

between classes. As the authors write, when doing the initial classroom assessments for the pilot program, "the first few weeks did not immediately lead us to believe that teaching compassion meditation to children would be possible" (Ozawa-de Silva and Dodson-Lavelle, 2011, p. 13). However, once age-appropriate ways of presenting the CBCT material were made (e.g. breaking down the eight topics into subcomponents) and students were engaged through stories, plays, and games (rather than adult-style lectures), the authors found that "the children were able to grasp the essentials of all of the concepts we put forward" (Ozawa-de Silva and Dodson-Lavelle, 2011, p. 14). Aside from qualitative reports from the authors and teachers (Ozawa-de Silva and Dodson-Lavelle, 2011), there is currently no other published data on the CBCT adaptation for children five to eight years of age. In general, there is very little research on compassion (self or other) within elementary school children. This is a fruitful area for continued research, particularly when examining the developmental aspects of compassion.

Middle school/junior high/high school students. When considering compassion within middle school, junior high, and high school students, at a trait level, Neff and McGehee (2010) examined one form of compassion (compassion for oneself) in a sample of 235 adolescents (average age: 15.2 years old (range 14-17 years), 52 percent female, 79 percent Caucasian) in a large private high school in a large southwestern city in the USA. There were no differences in self-compassion based on gender. There were significant positive associations between self-compassion and connectedness ($r = 0.51$), maternal supports ($r = 0.28$), family functioning ($r = 0.33$), and secure attachment ($r = 0.24$). In these adolescents, there were also significant negative or inverse relationships between self-compassion and depression ($r = -0.60$), anxiety ($r = 0.73$), preoccupied attachment ($r = -0.22$), fearful attachment ($r = -0.18$), and personal fable ("believing that their experiences are unique and that others cannot possibly understand what they are going through") ($r = -0.28$). Given the cross-sectional design of this research, it is not possible to make interpretations about potential causation. Another cross-sectional study with 117 youths (45.3 percent males) who were receiving child protection services found that there was an inverse relationship between trait levels of self-compassion and various forms of maltreatment (emotional abuse, emotional neglect, and physical abuse). Compared to youths with high self-compassion, youths who reported lower self-compassion were also more likely to report psychological distress, alcohol use, and a serious suicide attempt (Tanaka *et al.*, 2011).

Karen Bluth and colleagues have also examined self-compassion in adolescents in a series of studies. In Bluth and Blanton's (2014) cross-sectional study, they examined 67 adolescents in an urban high school and found self-compassion was positively related to life satisfaction and negatively related to negative affect and perceived stress. While cross-sectional, the authors reported some preliminary data that suggest potential mediation of mindfulness and self-compassion on emotional well-being. Bluth and Blanton (2015) looked at cross-sectional self-compassion data with 90 students (age range: 11-18 years old). The findings included no differences in self-compassion in early adolescents but in later adolescence (high school), an interesting finding emerged. Specifically, "high-school females reported being more self-judging, feeling more isolated, and having more difficulty maintaining a balanced perspective in the midst of challenging circumstances than either males of the same phase of adolescence or younger adolescent females" (p. 11). Furthermore, the researchers found that the developmental phase of adolescence (instead of gender) was a moderator, such that for older adolescents, the inverse relationship between self-compassion and negative affect was stronger ($\beta = -0.65$, $t(83) = -2.62$, $p = 0.01$).

In terms of compassion interventions, Bluth *et al.* (2016) conducted a randomized controlled trial of a six-week mindful self-compassion program for teens (an adaptation of

the adult mindful self-compassion program). In total, 34 students between the ages of 14 and 17 enrolled in this study. The program was found to be acceptable and feasible in terms of increasing self-compassion in adolescents. Compared to the wait-list control condition ($n = 18$), the teens in the self-compassion program ($n = 16$) reported greater self-compassion ($\beta = 0.24$, $p = 0.049$), life satisfaction ($\beta = 0.30$, $p = 0.04$), and lower depression ($\beta = -0.27$, $p = 0.004$). The authors also reported finding non-significant but marginal increases in mindfulness ($\beta = 0.20$, $p = 0.08$), social connectedness ($\beta = 0.21$, $p = 0.097$), and reductions in anxiety ($\beta = -0.20$, $p = 0.098$). When collapsing the groups' data together ($n = 29$), there were small to medium (0.37-0.58) effect sizes on all variables of interest, suggesting that the original RCT design was likely underpowered which yielded the marginal findings on mindfulness, social connectedness, and anxiety. Furthermore, regression analyses indicated that when controlling for baseline self-compassion, self-compassion predicted increase in life satisfaction ($\beta = 0.61$, $p = 0.001$), reductions in anxiety ($\beta = -0.48$, $p = 0.01$), and reductions in stress ($\beta = -0.49$, $p = 0.02$). Finally, the authors found increases in self-compassion marginally predicted increases in social connectedness ($\beta = 0.31$, $p = 0.09$).

In a separate study, Bluth and Eisenlohr-Moul (2017) examined an eight-week mindful self-compassion course with 47 adolescents. The eight-week course covered: an introduction to mindful self-compassion, paying attention on purpose/mindfulness, loving-kindness for oneself, an introduction to self-compassion, comparing and contrasting self-esteem vs self-compassion, living deeply through art and writing aimed at identifying core values, working with difficult emotions, and embracing one's life with gratitude. With regards to self-compassion, the researchers found that self-compassion covaries with stress, depression, curiosity/exploration, as well as resilience. In terms of demographic measures and self-compassion, "high school students, as compared to middle school students, demonstrated greater increases in self-compassion. There was also a trend for females to show greater increases in self-compassion than males" (p. 116). This study provides additional evidence of the efficacy of training self-compassion in this adolescent population.

Other compassion interventions have also been examined within adolescents. For example, a six-week (one hour, twice a week, 12 total classes) CBCT program has been examined within the context of 71 adolescents (average age: 14.7 years old (SD: 1.14), 56 percent female, 78.8 percent African-American) who reside in the foster care system. The participants were randomized to twice weekly CBCT or a wait-list condition. When compared to the wait-list control condition, CBCT did not demonstrate improvements on the self-report measures of depressive symptoms, anxiety, hope, emotion regulation, or self-other four immeasurables. Qualitative data found that the adolescents found the program to be useful in dealing with life stressors and would recommend the program to a friend. No longer-term follow-up was reported (Reddy *et al.*, 2013). Within this same sample of participants, salivary concentrations of C-reactive protein (CRP) were measured and while there were no differences between the two groups, in the CBCT group, meditation practice sessions during the study were related to reduced CRP (Pace *et al.*, 2013).

In a separate study by Galla (2016), 132 self-selected adolescents (average age: 16.76 years old, 61 percent female, 64 percent had prior meditation experience) took part in a five-day meditation retreat (with up to four to five hours of silent meditation per day). Following the retreat, adolescents reported increased self-compassion ($d = 0.49$) and this increase was sustained at the three-month follow-up period (T1-T3: $d = 0.62$). Self-compassion was also found to be a strong predictor of emotional well-being (perceived stress, rumination, depressive symptoms, negative affect, positive affect, and life satisfaction). Without a comparison group or a more general adolescent population (without such a keen interest in meditation), the generalizability of this study is unclear.

Given that adolescence is often a time where stress and emotional reactivity are high, and the preliminary evidence suggests that compassion training with adults may be effective in increasing positive emotion and affect, reducing negative emotion and affect, and regulating emotion and affect (e.g. Jazaieri *et al.*, 2014, 2018), future research with adolescents would benefit from explicitly examining emotion (or affect more generally) and the relationship between trait compassion as well as examining the trajectories of affect and ability to regulate affect in adolescent compassion training programs. Furthermore, research with adolescents would benefit from moving beyond simply examining compassion for oneself and exploring the feasibility of cultivating different forms of compassion at this age.

College students

The majority of published research has been conducted with college students as they are an easily accessible population for academics within university settings to study. In terms of college students, research has examined trait levels of self-compassion (e.g. Crocker and Canevello, 2008; Hope *et al.*, 2014; Neff *et al.*, 2005; Sirois, 2014; Wasylkiw *et al.*, 2012; Wayment *et al.*, 2016; Wei *et al.*, 2011), experimental manipulations of self-compassion (e.g. Breines and Chen, 2012, 2013; Leary *et al.*, 2007; Odou and Brinker, 2014), compassion, self-compassion, and loving-kindness meditation (LKM) interventions. Reviewing the empirical literature on compassion in college students could be a separate empirical investigation on its own. Here, I will briefly describe some of the findings with college students in compassion interventions specifically.

Compassion training with college students. In a study by Pace *et al.* (2009), 61 healthy undergraduate students (average age: 18.5 years old, 56 percent women) were randomized to either six weeks of 50 minutes, twice a week (12 total sessions plus daily taped meditation practices) of CBCT ($n = 33$) or a health discussion group ($n = 28$). College students in the CBCT group who did the meditation practices reported reduced emotional upset in response to stress, as well as lower levels of plasma concentrations of interleukin (IL)-6. While this research does not explicitly report results on compassion outcomes, it does suggest that compassion training can have an influence on college students' well-being and physiology, beyond simply self-report questionnaires.

Another study by Plante *et al.* (2009) examined whether a community-based learning immersion trip could enhance compassion. Immersion trips lasted approximately one week, included groups of 10-15 students, and varied in location (e.g. rebuilding houses in New Orleans in the wake of Hurricane Katrina, visiting Pueblo, Mexico and staying with host families to learn about the culture, challenges, and marginalization of the community). When examining immersion students vs comparison students, the immersion students reported greater compassion after the trip. To my knowledge, this is the first study to explicitly show that community-based learning experiences (which increase engagement and connection) can also increase compassion. As the authors note, given that this is a self-selected group of students that chose to engage in an immersion trip (rather than students randomly assigned to the immersion experience), it is possible that these groups of students received a greater "compassion boost" from their service-learning experiences (compared to the average student). Nevertheless, this study is important to consider as researchers address the issue of loneliness that creates suffering for many individuals in the twenty-first century.

Koopmann-Holm *et al.* (2013) looked at results from 74 female college students (average age: 21.13 years old) who were randomized to either compassion meditation ($n = 17$; two-hour weekly sessions for eight weeks plus daily taped practice), mindfulness meditation ($n = 19$; based on Kabat-Zinn's (1990) book *Full Catastrophe Living*), improvisational theater class ($n = 16$; emphasis was on being spontaneous and cooperative rather than funny), and no intervention ($n = 22$). In order to be adequately powered for the statistical analyses, the

authors collapsed the two meditation groups (compassion and mindfulness) and the two control groups (improvisional theater and no intervention). While an explicit measure of compassion was not included, the researchers found that following the interventions, participants in the two meditation groups reported that they valued low arousal positive states more than those students in the two control groups. There were no between group differences in: actual affect (high/low, positive/negative states), ideal negative affect, or well-being (as indexed by the satisfaction with life scale; Diener *et al.*, 1985). While the small sample size and no explicit measure of compassion make the findings difficult to interpret, this research is important in that it goes beyond simply using a wait-list control condition for comparison purposes and also addresses the important question of valuing specific affective states (high/low, positive/negative) vs actually experiencing changes in specific affective states.

Smeets *et al.* (2014) looked at a three-week (1.5 hours for the first two weeks followed by a third 45-minute closing session) self-compassion course for female college students. The participants were randomized to either the self-compassion group ($n = 27$) or an active control intervention on time management ($n = 25$). According to pre- to post-self-report surveys, when compared to the active control condition, the three-week self-compassion course yielded increases in self-compassion, mindfulness, optimism, and self-efficacy, and reductions in rumination. Interestingly, both interventions increased life satisfaction and connectedness and no differences were reported for worry and mood outcomes. This brief intervention's immediate effects are promising. Future research would benefit from generalizing this training to a larger and more diverse sample (e.g. including male students) and gathering follow-up data to examine whether benefits are sustained after the intervention.

A novel study by Wong and Mak (2016) looked at the effectiveness of a self-compassion writing intervention with 65 participants (average age: 20.5 years old (SD: 1.43), 53.8 percent female) Chinese college students. The participants were randomized to either a self-compassion writing ($n = 33$) or control writing intervention ($n = 32$) – students were given instructions to write three times a week and to self-report positive and negative affects after writing. Specifically, in the self-compassion intervention, the participants were asked to: "write about a recent event that was painful or about which they felt bad, or any time that they had judged themselves, and then to use an accepting and self-compassionate attitude to process the experience. Three prompts, each centered on the concept of mindfulness, common humanity, and self-kindness, were given to participants" (p. 77). These three prompts can be downloaded from the authors here: http://supp.apa.org/psycarticles/supplemental/aap0000041/aap0000041_supp.html. In the control condition, the participants were asked to: "write about their daily activities in a factual and unemotional manner: Day 1, what they did over the last week; Day 2, what they did over the last 24 hr; and Day 3, what they plan to do over the coming 24 hr" (p. 77). The participants also provided self-report questionnaires (depression, physical symptoms, self-compassion, and emotion regulation) before the study and at one and three months after the study. When compared to the control intervention, the self-compassion journaling group did not report any improvements on depressive symptoms, self-compassion, or emotion regulation; however, the self-compassion group did report a reduction in physical symptoms at the two follow-up periods. Given that writing has many benefits (e.g. Wing *et al.*, 2006), is cost effective and carries little stigma, compassion writing and journaling exercises should continue to be explored within the diverse college student populations.

LKM with college students. LKM (sometimes referred to as *metta*) is a practice aimed at increasing the feelings of warmth and caring for oneself and/or others (Salzberg, 1995). Generally in LKM, the meditation practice is first directed toward oneself, then familiar others, and finally all beings. Several studies have looked at single session and multi-session LKM

with college students. For example, Feldman *et al.* (2010) randomly assigned 190 female college students (average age: 19.83 years old, 72.6 percent Caucasian) to one of three audio-recorded inductions of: LKM, mindful breathing, or a progressive muscle relaxation. The inductions consisted of a single 15-minute session (as the authors describe this included "12 minutes of guided instruction in the technique followed by a three minute period of silence before which participants were instructed to continue with self-guided practice" (p. 6)) While compassion was not explicitly measured, the researchers examined decentering, repetitive thoughts, and negative emotions to the thoughts immediately following the brief inductions. Comparing the three inductions to each other, the participants randomized to mindful breathing reported greater frequency of repetitive thoughts and greater decentering. There were no differences between the three inductions on negative emotions. While it is difficult to interpret longer-term effects from a single 15-minute induction, the study design employed here (three different induction techniques) helps address the potential differential effects that may be present in various meditation techniques.

One study examined the effects of LKM on novel dependent variable – affective learning (making positive or negative associations with neutral stimuli through repeated pairing), as well as cognition (Hunsinger *et al.*, 2013). Researchers randomly assigned 97 undergraduate students (average age: 20.5 years old, 65 percent female) to either a control condition or a three-session (20 minutes per session within a single week) lab-based LKM intervention. Following the three-session practice, when compared to the control condition, with regards to affective learning the LKM group reported greater positive associations with neutral stimuli, and no between group differences in negative associations. In terms of cognitive control, using a color-naming Stroop task, when compared to the control condition the LKM group had greater accuracy and faster reaction times to correctly categorize words on compatible and also incompatible trials. This data provides preliminary evidence that even brief (60 minutes total, for three sessions, in one week) LKM can influence affective learning and cognitive control in college students.

Others have looked at longer-term LKM in college students. May and colleagues (2014) randomly assigned 31 freshman students (71 percent female) to five weeks of either concentration meditation ($n = 15$) or LKM ($n = 16$). The participants had one 20-minute guided meditation as instruction and then were asked to practice 15 minutes at home per day, three days a week, over the course of five weeks. While an explicit measure of compassion was not used, the authors utilized hierarchical linear modeling for analyses and found that individual differences (e.g. trait mindfulness, presence, acceptance, positive and negative affects) were responsible for 48-71 percent of the total variance explained. Compared to baseline, following the concentration meditation, the participants reported increases in mindfulness and acceptance; following LKM, the participants reported increases in mindfulness, presence, and positive affect. The researchers followed up with the mediators after the five-week programs and found that those in the concentration meditation condition declined in mindfulness, acceptance, and positive affect (in other words the benefits were not sustained) and the participants in the LKM group showed a decrease in presence and also continued reduction in negative affect. These results, while limited by the small sample size, provide additional information on the differential effects of meditation types as well as evidence regarding the sustainability of changes through brief meditation programs.

This research also begs the question of additional examination of potential moderating variables that predict for whom these programs may work best.

When employing a larger sample of undergraduate students (average age: 19.1 years old, 77 percent female, 78 percent Caucasian) who were randomized to either four sessions of LKM ($n = 38$) or a wait-list condition ($n = 33$), the researchers found that when compared to the control participants, LKM intervention participants reported greater compassionate love

and self-compassion at post-treatment and higher self-kindness at the eight-week follow-up. Anxiety did not differ between the two groups. It is important to note that the LKM sessions were delivered in a group format (rather than assigned for homework) with 10-14 participants per group and sessions were 90 minutes in length (for a total of 360 minutes in the program). This study is important in that it was delivered in the psychology department of a university (providing feasibility of LKM in an education setting), was adequately powered, and also explicitly measured compassion.

Graduate students

Compared to the college student population briefly reviewed above, research on compassion with graduate students is fairly sparse. It is fair to say that graduate students are less of a "captured audience" in terms of researchers' accessibility, given that many graduate students do not reside on campus (some commuting far distances), often have part-time or even full-time jobs in addition to school, and family commitments. Below, I will review the published literature on compassion with law students, medical students, nursing students, and counselors and therapists-in-training.

Law students. It has been suggested that "compassion can help nurture a service orientation in some lawyers and law students and connect them with service-oriented motivations that brought them into the profession" (Riskin, 2002, p. 65). In one study, Guinier *et al.* (1994) interviewed students enrolled at an elite law school. Some of the qualitative self-report survey data regarding compassion from women included the following: "I feel that [compassion is something that is eradicated in law school [...] We are taught that compassion is a bad thing" (p. 49). Another woman shared that: "I changed so much. I used to be much more compassionate person, much more tolerant of different choices, in terms of lifestyle, in terms of personality. I just feel like law school has put huge blinders on my eyes" (p. 50). While qualitative, these students report lower levels of trait compassion. In terms of formal compassion interventions or trainings with law students, I am unaware of any published empirical data.

Medical students. There are several potential causes of distress for medical students (e.g. adjustment to the medical school environment, ethical conflicts, exposure to death and human suffering, abuse, personal life events, education debt) and severe consequences associated with medical student distress (e.g. impaired academic performance, cynicism, academic dishonesty, substance abuse, suicide, etc.) (Dyrbye *et al.*, 2005). While a fair amount of research has examined physician compassion (e.g. creating in the Barriers to Physician Compassion questionnaire (Fernando and Consedine, 2014)), a recent review by Sinclair, Norris, McConnell, Chochinov, Hack, Hagen, and Bouchal (2016) suggests that we have a limited empirical understanding of compassion in healthcare. Others have stated the issue clearly – "our assumption that compassion and other virtues can be 'taught' is so firmly embedded in the medical school curriculum that we fail to question or examine it" (Wear and Zarconi, 2008, p. 948). After a string of medical student suicides, Mount Sinai's Icahn School of Medicine has been looking for ways to change the school's culture to "make training more compassionate" (Lagnado, 2017).

In terms of medical students, research has examined trait levels of self-compassion (for a comprehensive review see Sinclair *et al.*, 2017). Several studies have looked at enhancing compassion in medical students through a variety of interventions. For example, Deloney and Graham (2003) report using the humanities to expose students to the aspects of compassion.

Utilizing the well-known Pulitzer Prize-winning drama *Wit* (about a story of a woman dying of cancer and her experiences with medical professionals), first-year medical students watched the play and then participated in post-play discussions (or "talk backs") with cast

members and reflected on their experience through an e-mail dialogue with the clinical faculty. While data were collected (e.g. regarding overall performance, emotions, quality of care, usefulness of *Wit* as a learning tool, etc.), there were no questions or quantitative measures of compassion. As the authors share, qualitative comments did indicate student concern regarding the medical education suppressing their compassion – for example, one student wrote: "I sincerely hope the medical school experience will not desensitize me to the point where I lose my feelings of compassion for those who are suffering" (p. 249). Other studies (e.g. Saab and Usta, 2006) have similarly utilized the *Wit* with medical students and while various measures were gathered, there were no explicit measures of compassion (e.g. trait compassion as a moderator of outcomes following *Wit*).

Shapiro *et al.* (2006) designed an elective course for third- and fourth-year medical students called "The Art of Doctoring." The course was two weeks over an eight-month period, and included 25 small group contact hours, 15 hours of reading (including on the topic of compassion), and 80 hours of completing assignments which included self-monitoring, writing assignments, and a personal project of application of course skills during clinic. The course also makes use of poetry and short stories to assist in generating affective states such as those associated with compassion. While the course had several goals, it also included helping students develop "empathy and compassion towards patients." While quantitative and qualitative student evaluations indicated a "favorable response to the course," no data were reported on changes in compassion. The authors conclude that "when students are given the time and guidance to attend to the process as well as the content of medicine, they report becoming more empathic, compassionate and caring, more self-aware, and better able to learn from their ongoing clinical experience" (p. 34).

As described by Geary *et al.* (2014), the University of Texas Medical Branch, Galveston (UTMB-Health) implemented a new track called "The Physician Healer Track," designed to help students "maintain their innate compassion and humanity and to grow these personal skills in relation to clinical care" (p. 203, for more details on the program, see: www.utmb.edu/pedi_ed/PHT/default.asp). Given that 2014 was the first year of the program, the authors write that "it is too early to evaluate its impact" though they do report that "student enthusiasm has been high" as the program had 40 students sign up and the ultimately limited enrollment to 24 students (10 percent of the class). In their paper, the authors included qualitative comments from two second-year students who reported this track as being an important aspect of their medical school training.

Nursing students. It has been said that "compassion for others is surely a motivating factor for most that join the nursing profession. Indeed it could be argued that nursing care is synonymous with compassion. However, the degree to which nurses balance this care by extending compassion and care to themselves is given little attention" (Mills *et al.*, 2015, p. 791). There has been a fair amount of research on compassion in practicing nurses (e.g. Armstrong *et al.*, 2000; Fry *et al.*, 2013; Heffernan *et al.*, 2010; Horsburgh and Ross, 2013; Kret, 2011; Smith *et al.*, 2014; van der Cingel, 2011). However, when examining nursing students specifically, the empirical literature is a bit sparse.

In-depth interviews with 19 student nurses in the UK indicated that students had "concerns about their ability to engage in and maintain compassionate practice as they progressed towards undertaking the role of Registered Nurse" (Curtis, 2014, p. 214). Specifically, with regards to compassionate practice, students had concerns regarding things such as professional boundaries for emotional engagement, emotional vulnerability, and potential emotional distress (for both nurse and patient), to name a few (Curtis, 2014). While these concerns of students exist regarding balancing compassion with professional boundaries, one qualitative study examined 24 clinicians (10 practicing nurses plus 14 other medical professionals) who were nominated by hospital administrators as being particularly

compassionate and found that these clinicians reported not distancing themselves in the face of their patients' suffering (essentially choosing to approach rather than avoid or suppress) and would instead "develop warm, empathic relationships with patients" (Graber and Mitcham, 2004, p. 87). This data are encouraging in that it suggest that it is possible to strike a balance between professional boundaries (as these were individuals who were nominated by hospital administrators) and compassion for patients.

When considering compassionate behavior, the data suggest that amongst nursing students, caring behaviors differs between first-year ($n = 80$) and third-year ($n = 94$) students, such that first-year students report engaging in more caring behaviors when compared to third-year students.

While not a perfect comparison since this was not a within-person longitudinal study, the authors described this data as evidence that the nursing educational process may reduce caring behaviors (Murphy *et al.*, 2009). Additional longitudinal data following the students from the beginning of their first year in nursing programs, at the half-way point in the program, and at the end of the program (at least three data points) would be beneficial in terms of examining the trajectory of compassion in nursing students.

When considering self-compassion specifically within nursing students, Şenyuva *et al.*, 2014 examined data from 571 nursing students (average age: 20.65 years old, 83.4 percent women) and found a significant moderate relationship ($r = 0.40$) between self-compassion and emotional intelligence (which includes self-awareness, self-management, self-motivation, empathy, and social awareness). Given the importance of emotional intelligence in the workplace (for reviews see Joseph and Newman, 2010; Zeidner *et al.*, 2004), it would be beneficial to examine whether compassion training programs could influence nursing student's emotional intelligence. A separate study by Crary (2013) also looked at trait self-compassion in a sample of 153 (90 percent female, 93 percent Caucasian, 79 percent between the ages of 20 and 24) undergraduate nursing students. A number of interesting relationships emerged from the battery of self-report questionnaires: self-compassion was significantly inversely related to perceived stress in general ($r = -0.59$; $p < 0.001$), perceived stress related to nursing school ($r = -0.46$; $p < 0.001$), negative mood ($r = -0.48$; $p < 0.001$), physical symptoms ($r = -0.35$; $p < 0.001$), and avoidant coping ($r = -0.34$, $p < 0.001$). Self-compassion was significantly *positively* related to positive mood ($r = 0.38$; $p < 0.001$) as well as four other interesting dimensions: supportiveness of educator in theory courses ($r = 0.29$; $p < 0.01$), supportiveness of educator in clinical courses ($r = 0.18$; $p < 0.05$), perceived competence in theory courses ($r = 0.0.21$; $p < 0.01$), and perceived competence in clinical courses ($r = 0.18$; $p < 0.05$). While the cross-sectional correlation design of this study with a sample that is fairly homogenous in nature makes it difficult to make conclusive interpretations, the correlational data on compassion and perceived competence as well as the students' perceptions of support from their teachers are fascinating for educators to consider.

Recently, a two-week online compassion module has been explored with undergraduate nursing students (Hofmeyer *et al.*, 2016). This online program is intended to help nursing students gain an understanding of the importance of: compassion in healthcare, being compassionate toward others (patients and colleagues), compassion toward oneself, cultivating resilience, and identifying factors that may hinder or enable compassionate care. Three hundred and sixty two nursing students took part in a compulsory course that contained the online compassion module and were invited to take part in the study that contained five open-ended questions (e.g. "What does compassion mean to you?" "Can you give an example of you acting compassionately toward a client or patient?") before the intervention and 12 open-ended questions (e.g. "What does compassion mean to you now?" "Can you give an example of you acting compassionately toward a colleague at work?")

after the intervention. Seventeen nursing students responded to the pre-intervention survey questions and 25 responded to the post-intervention survey (Hofmeyer *et al.*, in press). Preliminary exploratory analyses of qualitative data suggest that four major themes emerge when considering how compassion is understood and practiced by nursing students – these themes were: being present (e.g. putting yourself in others' shoes, taking time to listen carefully); acting to relieve suffering (e.g. small actions to convey compassion, doing things that really matter, acting to help colleagues thrive); getting the basics right (e.g. being resilient to achieve goals, making positive lifestyle choices to be better prepared to care for others, setting boundaries and having good support networks in place); and going forward (e.g. new insights gained will influence their work and self-care as a nurse, mindfulness and greater awareness will influence their work). While this data contain a small, non-randomized sample, and is qualitative in nature, it is encouraging in that it provides a feasible way to bring compassion into the classroom. We will likely see additional research examining compassion and compassion training (online and in person) for nursing students in the years to come.

Counselors and therapists-in-training. Several studies have looked at trait levels of compassion as well as various methods for enhancing compassion in counselors and therapists-in-training. While many of these studies have employed small, homogenous, samples with cross-sectional or single group designs, they provide initial information regarding the role of compassion in counselors and therapists-in-training.

At the trait level, one study examined social work interns ($n = 111$; average age: 32.17 years old, 92.5 percent female) and found a positive relationship between mindfulness and "compassion satisfaction," or the enjoyment one obtains from work ($r = 0.46, p < 0.001$), and an inverse relationship between mindfulness and "compassion fatigue" ($r = -0.53$, $p < 0.001$) (Decker *et al.*, 2015). Another study examined trait self-compassion in 66 entering MSW students (average age: 29.74 years old, 90.9 percent female, 66.7 percent Caucasian) and found that self-compassion (but not religiosity or spirituality) was inversely related with the severity of reported stressors ($r = -0.26$, $p = 0.03$) and positively related to satisfaction with coping ($r = 0.24$, $p = 0.03$). Follow-up regression analyses showed that overidentification (considered to be a negative component of self-compassion) was associated with increased stress, while common humanity (considered to be a positive component of self-compassion) was associated with effective coping (Ying and Han, 2009). In a separate study, Ying (2009) again examined self-compassion subcomponents (mindfulness, common humanity, self-kindness, overidentification, isolation, and self-judgment) in 65 master's of social work (MSW) students (average age: 38.12 years old, 89 percent female, 69.2 percent Caucasian). The results indicated that the self-compassion subscale of overidentification directly and indirectly (mediated by decreased coherence) affected depressive symptoms in the MSW students. While the correlational design and small sample size are limits to this research, it does suggest that looking at specific components of compassion may be a fruitful endeavor.

Several mindfulness and MBSR-type interventions have examined the influence of these trainings on compassion in counselors and therapists-in-training. For example, Shapiro *et al.*, 2007 employed an non-randomized, cohort-controlled MBSR study for therapists-in-training (average age: 29.2 years old, 88.9 percent female, 76.9 percent Caucasian) and found that the compared to the cohort controls ($n = 32$, enrolled in research methods or a psychological theory course), the MBSR program for therapists-in-training ($n = 22$) increased positive affect and self-compassion and reduced negative affect, stress, rumination, as well as state and trait anxiety. In a longer-term mindfulness training, Felton *et al.* (2015) looked at a 15-week mindfulness course loosely based on MBSR with 41 counseling students (93 percent female). The course was comprised of 75 minutes, twice a week, in-class mindfulness practices as well

as out-of-class practice for 45 minutes, four times a week. The students responded to research questions in journal format and responses were then coded. In terms of self-compassion specifically, the authors reported that the students "endorsed a new degree of self-compassion gleaned from mindfulness practice," which included "increased acceptance and non-judgmental attitude toward their clinical abilities and limits" (p. 166). Similarly, Dorian and Killebrew (2014) examined a ten-week (four hours in length with 30 minutes of mindfulness practice plus 30 minutes of home mindfulness practice five days a week) elective mindfulness course for 21 therapists-in-training (age range: 22-41 years old, 90.4 percent female, 66.6 percent Caucasian). Qualitative comments reflected experiences with increased compassion for self and others. While qualitative reports are important, quantitative reports of outcomes (such as different forms of compassion) and a comparison condition would help in understanding and evaluating the effectiveness on such program.

Newsome *et al.* (2012) examined an eight-week mindfulness group (content based on MBSR with weekly 90-minute sessions and recommended home practice of 45 minutes, four days a week) in 31 students (average age: 29.26 years old, 87 percent female, 54.8 percent Latino) who were intending on entering the helping professions. The results indicated that participants in the mindfulness training reported an increase in mindfulness and self-compassion (and reduction in perceived stress) after the intervention. From post-treatment to one-month follow- up there were no changes in self-compassion. Without randomization to a comparison condition, it is again difficult to convincingly interpret these results; however, this study provides some preliminary evidence of potential benefits of mindfulness trainings influencing self-compassion in students in the helping professions.

When thinking about compassion trainings specifically for counselors and therapists-in-training, Boellinghaus *et al.* (2013) had 12 therapists-in-training (who had previously attended a mindfulness-based cognitive therapy course) take part in a six-session LKM course.

Qualitative reports from the participants indicated that while LKM was emotionally challenging at times, the students perceived an increase in self-awareness, compassion for self and others, and therapeutic presence and skills. Short-term LKM meditations (utilizing larger samples and randomized designs) are worthy of continued investigation with therapists-in-training. A recent study by Finlay-Jones *et al.* (2017) looked at a novel online six-week self-compassion training program (detailed outlines of the specific components of the six modules are available in the original paper) for Australian psychology trainees ($n = 37$; average age: 32.61 years old, 89 percent female). Researchers found increases in self-compassion and happiness and reductions in depression, stress, and difficulties regulating emotions. Encouragingly, when examining the three-month follow-up, from baseline to three-month post-intervention, the majority of changes on the outcomes of interest were maintained (aside from happiness and depression). This study is encouraging in that it provides preliminary efficacy of training self-compassion online for counselors and therapists-in-training. Additional research utilizing larger sample sizes and a randomized design will provide more conclusive evidence.

Recommendations for future research on compassion with students

While there is a growing body of evidence in adults highlighting the benefits of trait compassion and compassion training programs in regulating attention and emotion, enhancing positive affect, reducing negative affect, and altering brain function and structure (see Seppälä *et al.*, 2017), rigorous research is still needed to understand the effects of trait levels of compassion and compassion training programs in children, adolescents, and young adults. I have a few recommendations for future research within this domain to consider.

First, similar to research on mindfulness and SEL, research on compassion has been largely based on self-report, particularly with children and adolescents. Within self-report much of the

research has relied on qualitative rather than quantitative reports. Future research should aim to examine the effects of compassion training in students using a multi-method approach, including valid and reliable quantitative self-report measures, when possible physiological measurement (e.g. fMRI, EEG, cortisol), objective behavioral measures of cognition, affect, and attention, physical health outcomes, academic performance (e.g. GPA, standardized test scores, absences), and outside reports (e.g. from peer students, teachers, parents) of the student's behavior and interpersonal experiences. It is only through a more rigorous multi-method approach that research can accurately understand the effects of various training programs on students' compassion.

Relatedly, many of the studies presented above are cross-sectional studies. Future research should examine longitudinally the effects of various compassion interventions on students throughout the course of their education. This follow-up data will provide evidence to whether any benefits gained are sustained. Additionally, whenever possible, research should employ randomized controlled trial designs (e.g. randomizing one classroom or section to the compassion intervention and the other classroom or section to no intervention or a placebo intervention). Having a comparison group will help address some of the internal validity issues (e.g. ruling out changes being due to history or maturation).

Additionally, it will be important for future research to address the external validity issues by increasing the sample sizes of students so that studies are well powered to find effects. Studies should consider limitations to interpretations regarding compassion (trait and intervention based) when there is a lack of diversity (e.g. gender, ethnicity, SES). Given the increasing interest in meditation more generally, studies should assess whether prior meditation experience moderates any of the compassion effects. Examining various potential moderators of these compassion interventions is a fruitful endeavor for future research to consider (see Goldin and Jazaieri, 2018).

Finally, given that the majority of empirical research on compassion has focused on one form of compassion (compassion for oneself), future research with students would benefit by exploring other forms of compassion including: compassion for others such as loved ones, neutral individuals, disliked individuals, unknown individuals, receiving compassion from others such as from those who you consider to be peers, those who you consider to be "above" or "below" you in the social hierarchy, and the effects on students when witnessing compassion between others (e.g. seeing compassion between a teacher and a student, or a supervisor, and a patient). It is important for future research to examine the relationship between trait levels of different forms of compassion and outcomes of interest as well as examining the effects of compassion trainings on these different forms of compassion within student populations.

5. Recommendations for cultivating compassion in the classroom

In this section, I provide some recommendations for cultivating compassion within the classroom in PK-20 education. Of course, there are some important practical concerns that must be addressed regarding how to teach and evaluate compassion in the classroom. I agree that compassion training programs in education settings must be "thoroughly secular, developmentally and culturally appropriate, and predicated on evidence-based practices" (Davidson *et al.*, 2012, p. 150). It is important for schools to partner with experienced compassion teachers as well as developmental psychologists when considering bringing compassion into the classroom.

There are some general classroom recommendations that can be considered by all teachers (PK-20):

(1) Educators can integrate attention and awareness practices into the classroom, as many of the formal compassion training programs start with a foundation of mindfulness. Teachers can help students notice where their attention is (past, present, future),

and redirect their attention back to the present moment. These can be structured or formal mindfulness exercises and activities or informal activities (e.g. intermittent attention checks when students hear a bell).

(2) Given that the word "compassion" is not well understood and often confused with similar terms, educators can help students understand what compassion is and what it is not. This can take form in small or large group discussions, journaling, drawing, etc. It is important to get clear about the construct as many "myths" about compassion exist and these myths may be barriers for students in experiencing compassion.

(3) Teachers can help students identify the four components of compassion (cognitive, affective, intentional, and motivational) within themselves. Again, this can be interactive – helping students identify when they have (or do not have) recognition of suffering, feel emotionally moved by suffering, wish for an end to that suffering, and feel motivated to take action to relieve that suffering. Teachers can also help students develop within the classroom skills and resources to cultivate aspects of compassion (cognitive, affective, intentional, motivational) within themselves.

(4) All of us (teachers included!) have limits to our compassion. It is important for us to recognize these limits as it influences the way that we show up in the world. Specifically, educators can help students identify the barriers/limits to their compassion (e.g. who is it easier to have compassion for and who is it harder to have compassion for and why might that be the case?). It is only through recognizing our limits that we can work toward cultivating compassion toward all.

(5) To support these endeavors, teachers can allow for classroom time (e.g. small groups or as a larger group) for students to check-in and share about their own experiences with compassion – whether it be sharing compassion successes or failures around the various forms of compassion (e.g. compassion for self, compassion for others, receiving compassion from others, witnessing compassion between others, etc.).

(6) Related to compassion, it is important for educators to acknowledge when there is "breaking news" that may relate to experiences of compassion. Of course, there is always suffering going on in the world, even right now as you read this; however, for example, in my own experience as an educator, I have taught a graduate-level research methods class on a day when a tragic school shooting occurred, and I have taught a compassion class at Stanford University's School of Medicine on the evening of a controversial presidential election. While it is reasonable to want to bypass these uncomfortable and potentially polarizing conversations and just stick with the pre-planned class agenda, these are opportunities for educators to model making a bit of space and time in the classroom context to briefly attend to the suffering that may be on the minds of some of the students in the classroom.

(7) Remember that as an educator, you are a powerful role model of compassion. Perhaps in some students' lives, you are the role model of compassion. Whether it is the student arguing about a grade or a student sharing suffering s/he is experiencing at home, teachers have the opportunity to meet the student with compassion and model for the student what compassion looks like in difficult situations. Remembering that compassion does not mean giving the student what they want (e.g. changing their grade or solving the problems that are going on at home), but compassion, as defined in this paper, has the opportunity to foster greater connection and understanding in the midst of suffering.

(8) Finally, as a teacher, consider measuring your classroom, department, or school's compassion. There is a short and free quiz available on the Greater Good Science

Center website (https://greatergood.berkeley.edu/quizzes/take_quiz/11) that has been informed by over a decade of research from organizations including CompassionLab and the Center for Positive Organizational Scholarship at the University of Michigan's Ross School of Business. At the end of the quiz, you will get your organization's compassion score along with suggestions for ways to enhance compassion within the organization.

While the questions still remain whether compassion training programs can be modified in effective and developmentally appropriate fashions for children and adolescents and whether we have valid and reliability methods to measure these differences (see Roeser and Eccles, 2015), I believe it is still worthwhile to cultivate compassion in various ways in the classroom setting. What is likely required of educators is integrating somewhat of a socialization toward compassion in education – educators are key to bringing formal and informal practices around compassion into the classroom. I now turn to making some suggestions for bringing compassion into the classroom from preschool to graduate school.

Preschool students

For some students, preschool is part of their initial "education of the mind." With the help of teachers, preschool can also be a time of "education of the heart." In his 1993 book, Charles Smith includes "compassion activities" for preschoolers (organized by various skills and ages – three, four, and five years old), which is a great resource for preschool teachers. Below, I provide a few suggestions for different ways that teachers can help the seeds of compassion to continue to grow within each child.

Observe and describe non-judgmentally. A foundational skill to compassion is mindfulness or the ability to pay attention. Teachers can use objects around the classroom to practice observe and describe skills (in an effort to cultivate mindfulness and non-judgment). For example, teachers can make a game out of this by having a student look at an object in the classroom (e.g. a plant) and asking the student to observe the object and then practice describing the plant accurately so that other students can guess what they are looking at.

Talking about compassion. Teachers can encourage circle time or round-robin style reporting so students can share about experiences of giving or receiving compassion in order to encourage recognizing these states within ourselves and others. During these times, we can encourage children to use their observe and describe skills to share what they experienced (cognitive component), share how they felt (and recognize the felt sense within their physical bodies) (affective component), share if they had a wish for the other person (in the case of compassion for others) (intentional component), and whether they felt like they wanted to do something to help (motivational component).

Acknowledging suffering right in front of us. It is useful to help children to explicitly acknowledge the suffering of other students in the classroom through specific intentions or well wishes for others (e.g. a child is crying because s/he feels left out and in our own mind thinking about well-wishes for that child) or specific behaviors (e.g. "Tommy's dog died, what if we drew a picture for him?", "Sara is home sick this week, what if we wrote a get well card to send her?"). By acknowledging suffering, children have opportunities to get in touch with what compassion feels like in their bodies and physiology.

Compassionate behaviors. At this age, teachers can encourage students to engage in compassionate behaviors. Specifically, a great place to start is getting young children involved in volunteer activities in the classroom – considering that elderly individuals in nursing homes may be lonely and choosing to draw pictures and/or write cards to randomly send out. If the classroom allows pets, considering options for the class to rescue the pet (e.g. hamsters, guinea pigs, gerbils) from a local shelter. If there is a local park in walking

distance, teachers can schedule regular visits (with gloves and supervision!) to pick up litter in the area. While compassion does not necessarily need to always include a prosocial or altruistic behavior, for young children, engaging in concrete behaviors can be a useful way of learning about the process of compassion.

K-12 students

Here, I make some recommendations for K-12 education in terms of teaching/training compassion and assessing compassion. Given the developmental considerations, I make separate recommendations for students in elementary school and for students in middle school/junior high/high school.

Elementary students. Below I make five recommendations for teachers of elementary students to consider – compassion journaling, compassionate images, interdependence, compassion body maps, and tracking compassionate behaviors.

Compassion journaling. There is a lot of research to support journaling as a useful skill (e.g. Ullrich and Lutgendorf, 2002), though most of this research is with adults, some forms of journaling (e.g. a few sentences for younger kids up to a few paragraphs for older kids) may be useful in terms of reflecting privately on one's experience of compassion. Some potential journaling prompts include: "What does compassion mean to you?", "Write about experiencing compassion for someone else," "Write about experiencing compassion for yourself," "Write about receiving compassion from someone else," "Write about witnessing compassion between other people," "Write about times when I did *not* experience compassion (for self or others)," "Write about other people that I am choosing to *exclude* from my circle of compassion (and why)," etc. As is age appropriate, teachers can encourage students to include details such as "how did you know/not know it was compassion?", "what did it feel like in your body?," "how long did this experience last?", etc.

Compassionate images. What does compassion look like? Have the student visualize a "compassionate image" – an image that represents the qualities of compassion to them. Students can come up with very creative and inspirational visualizations for their compassionate images. For example, an image of oneself at the beach with the warm sun shining down, providing warmth and light, or an image of oneself holding an umbrella over a baby fawn while it is raining. Elementary school teachers can encourage students to draw what compassion means to them. Not only is this a fun and interactive project that can spark meaningful discussion, these pictures can then be saved and bound into an individual compassion book for each student to keep (at school, at home, etc.).

Interdependence. In my opinion, interdependence is one of the most important concepts that are taught in formal compassion training programs. Interdependence is recognizing that in order to live the lives we do, we rely on countless other people – both known and unknown to us. Teachers can encourage students to consider interdependence in a variety of contexts from food (e.g. where does this tomato come from? – seed, water, sun, farmer, the food that fuels the farmer, trucks, the gas in the trucks, the store, employees, etc.), to clothing (e.g. where is this cardigan from? – reading the label on where it was made (finding it on the globe if necessary), the person who grew the cotton plant, the person who sewed the buttons on it, etc.), to the objects in the classroom (e.g. where did this chair come from? – the architect who designed it, the person who built it, the money that was used to buy it, the person who placed it in this classroom, etc.). By acknowledging the countless people that are involved in making our lives run smoothly (from teachers and parents to farmers in far away countries), we can cultivate a greater sense of connection with others and also a sense of appreciation for others.

Compassion body map. There is now a fair amount of research that suggests that emotions show up in our bodies fairly rapidly (see Nummenmaa *et al.*, 2014). Teachers can

begin to encourage students to pay attention to how and where emotions show up in their bodies. For example, each student can be given a generic body map and can work on noticing where in their body they experience physical sensations when they are experiencing compassion (e.g. in the heart and chest). An equally useful exercise would be to notice what their bodies feel like (e.g. specific physiological sensations such as clenched fists) when experiencing (or not experiencing) compassion.

Track compassionate behaviors. Research suggests that when we track behaviors, it helps move the behavior in the favorable direction (Kazdin, 1989). One way to assess growth in students' compassion is to have students track their compassionate behaviors (frequency and the specific behavior) each day. Not only does this tracking bring attention to the intention (of acting on our innate compassionate instincts), students or classrooms can be positively reinforced for engaging in compassionate behaviors (e.g. students or classroom can receive praise for their efforts or the "process" (Dweck, 2006) around compassionate behaviors). When learning and encouraging new behaviors positive reinforcement such as praising efforts or the process can be a useful for some students.

Middle school/junior high/high school students. Below I make four recommendations for teachers of middle school, junior high, and high school students to consider – compassionate listening with others, being with suffering, compassion for oneself, and loving-kindness for oneself.

Compassionate listening with others. It is often said that one of the greatest gift that you can give another is the gift of your undivided attention and listening. Often when listening to another person speaking, we interrupt them, start problem solving for them, think about what we are going to say next, etc. Essentially, we are doing everything aside from truly listening.

Teachers can encourage compassionate listening through specific dyadic exercises designed to tap into compassionate listening. Students can pair up on their own (deciding who's person A and who's person B) and one person will share for three minutes about something in their lives that they are experiencing that is difficult and the other person practices mindful and compassionate listening (without interrupting, problem solving, asking questions, etc.). Then the pair switches roles and repeats the exercise again for three minutes. Afterwards, the pair can discuss for three minutes what that experience was like for them (both as the person sharing and as the person listening). This exercise gives each person an opportunity to share something difficult with someone else and the opportunity to give the gift of attention, listening, and non-judgment. It is important for teachers to review what compassionate listening looks like in terms of non-verbal behaviors and body language (e.g. nothing in hands, soft eye contact, open body posture, etc.). It is also important to set the rules for confidentiality – this dyadic exercise can only work if both parties agree to keep the contents of the exercise confidential and agree to not continue the conversation at a later point in time (e.g. when seeing the person at lunch not bringing up the contents from the exercise again).

Choosing to be with suffering. For many, the daily life creates opportunities to be with suffering on some level – the person with the sign asking for help at the stoplight, the neighbor down the street who recently lost her spouse, the late night Facebook post of a classmate describing experiences with loneliness. Teachers can encourage students to really be with suffering – any suffering. For example, high school seniors at The Harley School in Rochester, New York have the opportunity to take an elective course called "hospice." In this course, the students have the opportunity to be with people who are at the end of their lives (Campbell, 2016). Qualitative comments from students suggest that this can be a powerful lesson in compassion. While hospice may not be the right fit for all students, other local options may be available such as animal shelters, food banks, homeless or

women's shelters, etc. When possible, integrating these types of opportunities directly into the classroom curriculum allows students to receive course credit as well as broaden their personal horizons for growth in compassion.

Compassion for oneself. For middle school, junior high, and high school students, given the rampant self-criticism (which is often paired with peer and/or parent criticism), it is worthwhile to help students recognize when they are suffering. This awareness of one's own suffering and taking one's suffering seriously is an important entry point into compassion for oneself. This does not mean over-identifying with one's suffering, or pushing away or holding onto one's suffering, it is simply a non-judgmental acknowledgment of one's own suffering.

Upon this recognition, the students can recognize that while they may feel alone and "the only one in the world" at this time, in reality, many other people are likely feeling a similar way.

Acknowledging that this experience of suffering is not something that is necessarily unique about "me" or an experience that only "I" have, but rather suffering is part of being human. Everyone experiences suffering. This allows the student to adopt a "common humanity" approach over an "isolation" approach to their suffering (Neff, 2003a). Finally, this compassion for oneself approach also includes choosing to be kind, warm, and understanding toward oneself, even in the midst of failure. Recognizing that whatever the shortcoming, it is a communication of and an opportunity to reorient back toward one's core values (engaging in a bit of self-mentoring). Rather than judging or punishing oneself, the student can instead choose to be a bit gentle with ourselves. In a classroom, when hearing students judge themselves negatively or beat themselves up, educators can help coach students through having a more self-compassionate response to the situation.

Loving-kindness for oneself. Often, people walk around thinking about their failures and shortcomings. With adolescents, perceived failures may include things like ruminating about the B+ on the exam, the party they were not invited to, the text that never got a reply, the Snap that was never opened, and so on. Loving-kindness for oneself means to acknowledge the "other side of the coin" – as we often discount the positives and only see the negatives in our lives. While grounded in mindfulness (observing and describing things that are true, not making up things that are not true), we might choose to also think about some of our strengths, the things that we do that positively contribute to the lives of others, or things that we appreciate about ourselves. While most report that this feels uncomfortable initially (it certainly is not a skill that we are well versed in practicing!), people often report that it feels good to acknowledge this other aspects of themselves. In a classroom setting, educators can invite students to privately write down or pair up and consider these other aspects of themselves that perhaps rarely get acknowledged.

College students

Educators of college students generally have a shorter period of time with students (e.g. if on the quarter system maybe as short as ten weeks). Below, I make a few general recommendations to consider. First, with college students, educators can notice suffering and notice compassionate behaviors and bring explicit attention to this. As Compassion Expert Paul Gilbert once wrote that "attention is like a spotlight – whatever it shines on becomes brighter in the mind. This knowledge can help us build compassion" (Gilbert, 2013). Educators can help students "keep compassion on their minds." Second, college students may also benefit from taking one of the many interventions that have been empirically validated to enhance compassion. Given that college is a time in adulthood with fewer responsibilities in general, it may be feasible for students to spend eight weeks learning, the skills and tools presented in these compassion courses before entering the

workforce or going on to graduate school. Specifically, educators can have lists available to provide students with on campus or community courses that are designed to enhance compassion. Third, educators can encourage students to take self-report assessments to examine their own compassion (e.g. Gilbert *et al.*, 2011; Neff, 2003b) – these assessments are freely available online (and educators can make photocopies available to students and even allow for a few minutes of class time to complete) and can be taken at multiple time points in order to examine any changes (increases, decreases) in various forms of compassion within oneself. These questions will allow for time for important introspection about how compassion does and does not show up in the student's life.

Graduate students

As educators, it is important to recognize the humanity (which includes suffering) of students who are currently or will soon be entering into the workforce. As Frost *et al.* (2000) clearly state, "pain and compassion are not separate from 'being a professional' and the 'doing of work' in organizations. They are a natural and living representation of people's humanity in the workplace" (p. 25). Similar to teachers of college students, teachers of graduate students often have a shorter period of time with students (i.e. one class throughout their entire education). Below, I make some general recommendations to consider for law students, medical students, nursing students, and counselors and therapists-in-training. In the classroom with graduate students, my personal preference falls along the lines of open communication and dialogue in the classroom about compassion, personal reflection on compassion, and opportunities for experiential learning.

Law students. Interestingly, some mission statements of law schools include the term "compassion" (e.g. the mission statement at the Santa Clara University's School of Law describes being "dedicated to educating lawyers of competence, conscience and compassion" (see Polden, 2008). It has been suggested that in order for students to develop compassion, they need to "see examples of empathic and compassionate behavior, particularly in the lawyering context. But simply understanding and observing is not sufficient to cause real development; students must also practice the behavior they wish to develop and receive feedback from their teacher" (Gerdy, 2008, p. 39). Thus, it may be a worthwhile endeavor to not just talk about what compassion (for self and others) looks like in the lawyer context but to actually have the opportunities to practice these skills and receive feedback from peers and professors.

Further, it is important for law students to be able to explicitly make the connection between compassion and their work as lawyers. As Lawrence Krieger (2005), a Professor of Law at the Florida State University writes, "I present professionalism to law students as a combination of developed legal skills and various personal virtues that we typically seek in lawyers: broad vision/wisdom, integrity and honesty, compassion, respect for others and for differences, unselfishness, the desire to serve others and one's community, self-confidence, individualism, and a real commitment to justice" (2005, p. 427). Examining some of the myths around being compassionate (for self and others) in the field of law, making time for reflection on one's compassion (or lack of), and classroom discussions and experiential exercises around compassion can be beneficial for law students.

Medical students. Teaching compassion to medical students is not simply about compassion for patients or "bedside manner." When thinking about how compassion shows up with patients, one study of 23 oncologists systematically catalogued conversations with advanced cancer patients ($n = 49$) and through analysis of the audio-recorded office visits found that similar to the definition of compassion proposed here, three elements emerged: recognition of the patient's suffering (cognitive component), which included verbal and non-verbal acknowledgment, emotional resonance (affective component), which included

direct and indirect verbal expression and various forms of paralinguistic expression (e.g. silence, softening of tone, emphasis/animation, long sounds), and movement toward addressing suffering (motivational component), which included personalization, affirmation, reassurance, action, supplementary humor, non-abandonment, and presence (Cameron *et al.*, 2015) (the intentional component from our working definition likely cannot be assessed solely through linguistic examination and would likely need additional probing to examine if present). This study provides some empirical support for what compassion between a doctor and patient might look like. In medical school, it may be useful to explicitly train students in recognizing these four components of compassion within themselves. One explicit way of doing this (with patient consent) would be to spend time audio or video recording one's own interactions with patients and playing back the recordings and reflecting on instances where different components of compassion were (or were not) showing up. Students could then use their own audio/video data to reflect and learn to shift their behavior and responses for future patients. Small group and larger group classroom discussions around the students' reflections of their own audio recordings would likely be a rich learning experience.

In a qualitative study with 52 fourth-year medical students, the participants were asked to write a two to three-page essay reflecting on "how their medical education had 'fostered and hindered' their conceptions of compassion, altruism, and respect for patients" (Wear and Zarconi, 2008, p. 949). Data were organized around three main themes – foundational influences (early life factors), preclinical education influences (classroom and curriculum before med school), and clinical education influences (including role models and the clinical environment). Based on this research, concrete recommendations emerge for medical student education – first, the influence of role models – "how clinical faculty treat and talk about patients, how they interact with others providing care, how they characterize a life in medicine – all these have profound effects on students. But a few positive role models in any clinical setting will not do the trick" (Wear and Zarconi, 2008, p. 952). Educators of medical students play a powerful role in the continued development of skills such as compassion. Second, students need time and space for such self-reflection. It is important for students to have explicit time to reflect and journal on their education, experiences, strengths, and areas for growth. This must be an ongoing reflection, not a one-time event, and space must be created where students can freely talk to peers and faculty about their reflections, if they wish.

For medical students, it is equally important to help cultivate compassion for oneself during times of suffering, as well as one's patients, even difficult patients – as Mills and Chapman (2016) state: "compassion is necessary […] Even for unappreciative or 'difficult' patients, and doctors who, of course, are only human" (p. 88). Finally, Dyrbye *et al.* (2005) also make several suggestions for educators of medical students, including: creating a nurturing learning environment, identifying and assisting students who are suffering, explicitly teaching skills for stress management, promoting self-awareness skills, and helping students promote personal heath and well-being in a preventative fashion.

Nursing students. It has been said that compassion in nursing is a "radical idea, with a critical potential" (Hem and Heggen, 2004, p. 28), a notion that the majority of nurses, and perhaps even patients, would likely agree with. In terms of nursing education, it has been acknowledged that, "there is currently a lack of clarity in how student nurses can be best supported to achieve and sustain compassionate practice as they move through their education programmes and into future nursing careers" (Curtis, 2014, p. 220). It is important for educators of nursing students to bring the topic of compassion (for oneself and others) to the forefront. For example, educators could have students periodically throughout the year reflect on the questions such as: "what does compassion for yourself look like?" – checking-in

to ensure that the students are describing things that a specific, achievable, and consistent with what self-compassion truly is (it is not letting oneself off the hook or engaging in behaviors that move one away from their goals and values). Educators can encourage students to reflect on additional questions such as: "what makes for a compassionate caregiver relationship?" Research by Sanghavi (2006) suggests that three major categories may emerge: communication, common ground, and respect for individuality. Classrooms and cohorts of nursing students could examine what majority categories emerge and come up with behaviorally specific and objectively measurable methods for examining within oneself whether the student is engaging in compassionate caregiving. Other research has suggested that one of the ways that nurses communicate compassion is through paying "attention to the little things" (Perry, 2009). As an exercise, nursing cohorts can get clear about what paying "attention to the little things" really means in the contexts in which they are, or will be soon practicing in.

Additionally, nursing students may benefit from department sponsored and organized "fireside chats" of sorts with the nursing faculty whereby the faculty have an opportunity to share regarding their own experiences with compassion for oneself and for patients. Students could also submit anonymous questions (in the event students feel uncomfortable asking directly) prior to the forum regarding questions/concerns they have around compassion for oneself, patients, colleagues, etc. This would provide students with the opportunity to hear how faculty and their peers think about and respond to some of the challenges in the profession around compassion. More generally, it is crucial for educators to create classroom environments where nursing students can feel comfortable speaking openly about challenges with compassion (for self, for patients, for colleagues, etc.).

Counselors and therapists-in-training. Suffering is a common topic that comes up in therapy. Many patients come to therapy reporting low self-esteem, rampant self-critical thoughts, perfectionistic tendencies, guilt, and shame about the past, difficulty forgiving oneself, and so on. Coinciding with these concerns is often a lack of compassion for oneself. Many patients also come to therapy reporting an inability to get along with or empathize with others, difficulty moving on from past hurts, unwillingness to forgive others, negative judgments about others, and so on. Again, coinciding with these concerns is often a lack of compassion for others.

From a professional standpoint, it would be beneficial for counselors and therapists-in-training to have explicit training with cultivating compassion through formal courses offered within the school or local community. With this context, students will be able to be of greater help to their patients who are suffering. When considering the student in training, from a personal standpoint these compassion programs can assist in managing the student's own suffering as a form of self-care. Relatedly, encouraging counselors and therapists-in-training to attend therapy themselves throughout their graduate careers in an effort to get in contact with their own suffering would be extremely beneficial.

6. Concluding comment

The seeds of compassion are already present within students. Teachers at various stages of a student's education trajectory have an opportunity to contribute to the growth of compassion within each student. Clearly more empirical work is needed to examine the feasibility of bringing compassion into the classroom at various stages of education. As highlighted throughout this review, there are many exciting avenues for developmental contemplative scientists to examine. With rigorous designs and longitudinal follow-up, we can better understand whether, when, how, and for whom compassion and compassion trainings (with age appropriate techniques that are culturally sensitive and amenable to careful scientific scrutiny) influences individual students, classrooms, and ultimately, societies.

Notes

1. While these programs are secular in nature, many of the practices included are derived from the Tibetan Buddhist tradition.
2. The term "compassion fatigue" is used here in an effort to be consistent with the terminology used by the original authors; however, the term itself is up for debate (see Klimecki and Singer, 2012).
3. It has been suggested that "empathy fatigue" is a more accurate description of the phenomenon given that empathic/personal distress lies at the heart of the experience (Klimecki and Singer, 2012).

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